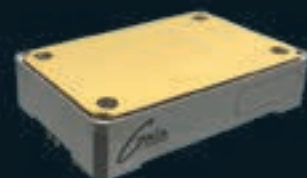
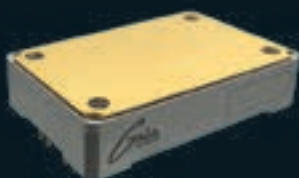




COTS MODULAR POWER SOLUTIONS FOR HIGH RELIABILITY AND INDUSTRIAL APPLICATIONS



2 GRADES OF PRODUCTS

3 TECHNOLOGY FAMILIES

GAIA Converter offers a complete range of more than 5 000 standard products from a few watt up to 500W power. Those products are organized through 2 grade of products : Hi-Rel grade and Industrial grade and within 3 technology families : LLP (Legacy Low Power), WLP (WiWoo Low Power) up to 100W power and BMP (Brick Medium Power) from 100W up to 500W power.

Hi-Rel Grade

Hi-Rel grade converters are designed for demanding applications in extreme environments such as aerospace, military and high-end industrial applications. The modules are potted with a military qualified thermal conductive compound and packaged in a five sided metallic case.

- **Tstorage** : -55°C to +125°C
- **Encapsulation** : Hi-Rel grade qualified potting
- **Qualified for avionics/military applications**
- **Extended control functions**
- **Stringent electrical tolerances**
- **High level tests and controls in production.**
- **Restrictive list of qualified suppliers**
- **Process tracability**
- **RoHS or leaded process available**
- **Option for -55°C start-up and MIL-STD-883C screening**

Industrial Grade

Where optimum trade-off between cost and performances is of the essence, industrial grade DC/DC converters is the solution of choice. GAIA Converter proposes two classes of modules, one with standard isolation or high/re-inforced isolation.

- **Tstorage** : -45°C to +105°C
- **Encapsulation** : Industrial grade potting
- **Qualified for industrial grade applications**
- **Standard tests and controls in production**
- **Option for high isolation up to 3KVdc and re-inforced isolation**
- **RoHS only**

Low Power Families : up to 100W

LLP Legacy Low Power Family

Legacy Low Power (LLP) Family

The Legacy Family "LLP" designates the first generation of GAIA Converter DC/DC converters with standard and wide input range (up to 5:1) with traditionnal single, bi and triple output voltages.

WLP WiWoo Low Power Family

WiWoo Low Power (WLP) Family

The «WiWoo» "WLP" family designates DC/DC converters with ultra wide input range (up to 12:1) with the concept of independant versatile and combinable dual output voltages.



Medium Power Families above 100W

BMP Brick Medium Power Family

Brick Medium Power (BMP) Family

The «Brick» "BMP" family designates DC/DC converters with medium power ranging from 100W in the traditionnal brick size package and available with single output voltage.





ISOLATED DC/DC CONVERTER MODULES

Power	Series	Family	Grade	Package	Permanent Input Range	Output
4 - 6 W	MGDM-04 / MGDI-04	LEGacy		DIL24	4.5-5.5V, 9-36V, 16-40V / 4.5-5.5V, 9-36V, 36-140V	Single, Bi, Triple
	MGDD-06 / MGDDI-06	WIWoo		1" x 0.75"	4.5-33V, 9-60V / 12-160V	Dual
8 - 10W	MGDM-10 / MGDI-10	LEGacy		1.6" x 1"	4.5-5.5V, 9-36V, 16-40V / 4.7-16V, 9-36V, 36-140V	Single, Bi, Triple
	MGDD-08	WIWoo		1" x 0.75"	4.5-33V, 9-60V	Dual
15 - 20W	MGDM-18 / MGDI-18	LEGacy		1.6" x 1"	4.5-5.5V, 9-36V, 16-40V / 4.7-16V, 9-36V, 36-140V	Single
	MGDM-20 / MGDI-20	LEGacy		2" x 2"	4.5-5.5V, 9-36V, 16-40V / 4.7-16V, 9-36V, 36-140V	Single, Bi, Triple
	MGDD-21 / MGDDI-20	WIWoo		1.25" x 1" / 1.6" x 1"	4.5-33V, 9-60V / 12-160V	Dual
25 - 40 W	MGDM-25 / MGDI-25	LEGacy		2" x 2"	9-36V, 16-40V / 9-36V, 18-75V	Single, Bi, Triple
	MGDM-26 / MGDI-26	LEGacy		2" x 2"	9-36V, 16-40V / 9-36V, 16-40V	Single
	CGDM-30 / CGDI-30	LEGacy		3" x 2"	9-36V, 16-40V / 4.7-16V, 9-36V, 36-140V	Up to six outputs
	MGDM-35 / MGDI-35	LEGacy		3.25" x 2"	9-36V, 16-75V / 9-36V, 18-75V, 36-140V	Single, Bi, Triple
	MGDD-40 / MGRDI-40	WIWoo		1.6" x 1.3"	4.5-33V, 9-60V / 12-160V	Dual
50 - 60W	MGDM-60 / MGDI-60	LEGacy		3.25" x 2"	14(55V) / 14-55V, 36-175V	Single
	MGDD-60 / MGDDI-60	WIWoo		3.25" x 2"	12-160V / 12-160V	Dual
75 - 100W	MGDM-75 / MGDI-75	BRick		1/4 Brick	9-45V, 16-80V, 155-480V / 9-36V, 18-75V	Single
	MGDD-80 / MGRDI-80	WIWoo		2" x 1.6"	9-60V / 12-160V	Dual
	MGDM-100 / MGDI-100	LEGacy		3.25" x 2"	10.7-100V / 14-55V, 36-140V	Single
120 - 160W	MGDI-124	BRick		1/4 Brick	9 - 36 V	Single
	MGDM-150 / MGDI-150	BRick		1/2 Brick	9-45V, 16-80V, 120-480V / 9-36V, 18-75V	Single
	MGDM-155	BRick		1/2 Brick	9-45V, 16-80V, 155-480V	Single
	MGDM-160 / MGDI-164	BRick		1/4 Brick	/9-36V	Single
200 - 250 W	MGDM-200	BRick		2/3 Brick	9-45V, 16-80V	Single
	MGDM-205 / MGDI-204	BRick		1/4 Brick	9-45V / 9-36V	Single
	MGDM-250 / MGDI-254	BRick		1/4 Brick	9-45V / 9-36V	Single
> 250W	MGDM-500	BRick		1/2 Brick	9-36V	Single

NON ISOLATED DC/DC POINT OF LOAD MODULES

Family	Grade	Package	Power	Permanent Input Range	Output
MPGS-14A		1" x 0.75"	260 W 14 A		Single





FRONT END MODULES

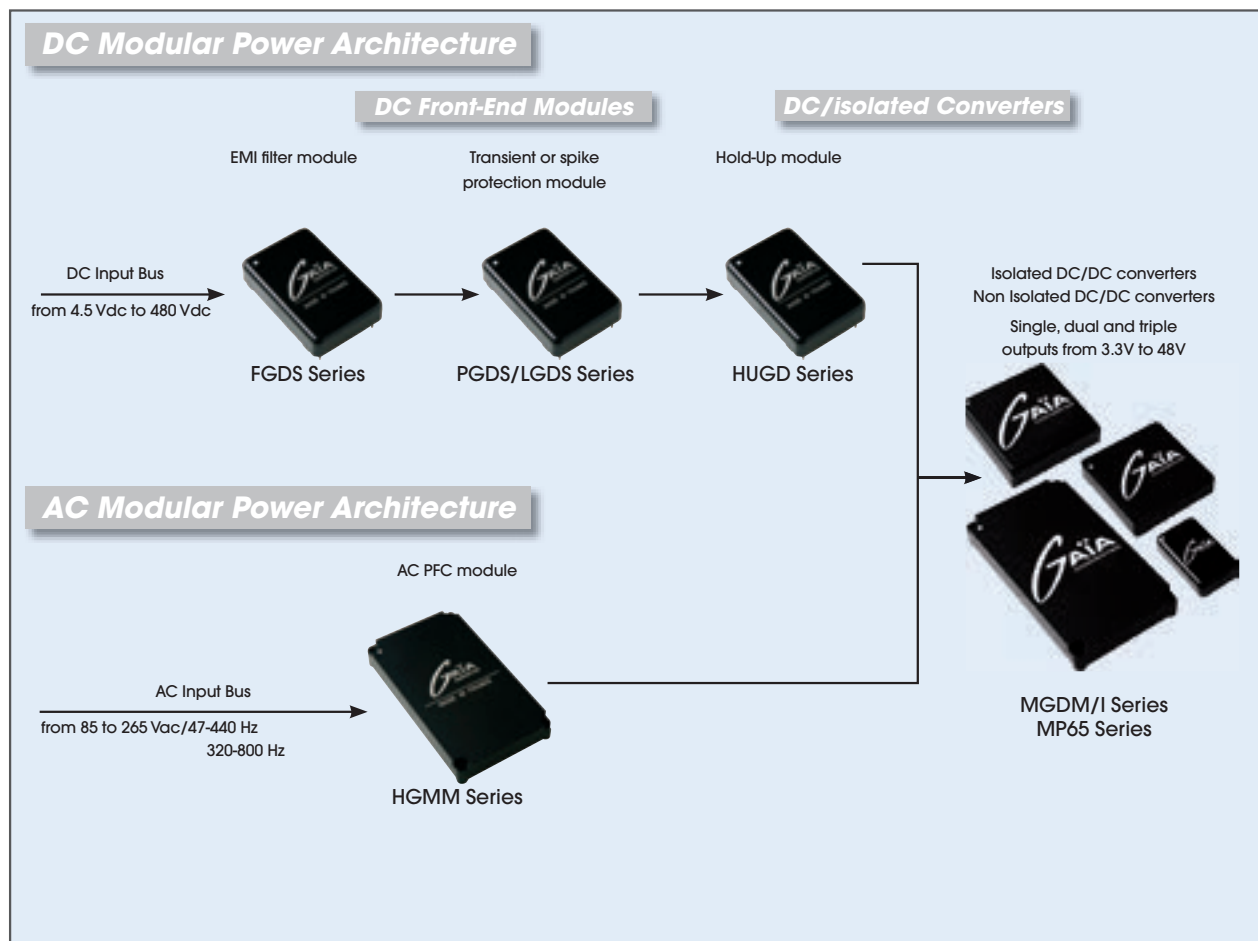
Power/Current	Family	Grade	Standards	Package
EMI FILTERS				
50 W / 2 A	FGDS - 2 A - 50 V	Hi-Rel Grade	MIL-STD-461, DO-160	Dil 24
150 W / 6 A	FGDS - 6 A - 100 V	Hi-Rel Grade	MIL-STD-461, DO-160	1" x 0.75"
150 W / 10 A	FGDS - 10 A - 50 V	Hi-Rel Grade	MIL-STD-461, DO-160	1.6" x 1"
175 W / 12 A	FGDS - 12 A - 100 V	Hi-Rel Grade	MIL-STD-461, DO-160	1.25" x 1"
300 W / 20 A	FGDS - 20 A - 50 V	Hi-Rel Grade	MIL-STD-461, DO-160	1.6" x 1"
500 W / 35 A	FGDS - 35 A - 50 V	Hi-Rel Grade	MIL-STD-461, DO-160	1.6" x 1"
HOLD UP AND BUS CONDITIONER MODULES				
50 W	HUGD - 50	Hi-Rel Grade	MIL-STD-704, DO-160	1.6" x 1"
150 W	LHUG - 150	Hi-Rel Grade	MIL-STD-704, DO-160	1.6" x 1.3"
300 W	HUGD - 300	Hi-Rel Grade	MIL-STD-704, DO-160	1.6" x 1"
AC / DC POWER FACTOR MODULES				
35 W	HGMB - 35		MIL-STD-704, DO-160	3.25" x 2"
50 W	HGMB-50		MIL-STD-704, DO-160	3.25" x 2"
150 W	HGMS - 150		MIL-STD-704, DO-160	1/2 brick
350 W	HGMS - 350		MIL-STD-704, DO-160	1/2 brick
TRANSIENT PROTECTION MODULES				
50 W	PGDS - 50	Hi-Rel Grade	MIL-STD-704, MIL-STD-1275	1.6" x 1"
50 W	LGDSI - 50	Industrial Grade	EN50155, RIA12	1.6" x 1"
75 W	LGDSI - 75	Industrial Grade	EN50155	1.6" x 1"
100 W	LGDS - 100	Hi-Rel Grade	MIL-STD-1275, DEF-STAN-61.5.6	1.6" x 1"
300 W	LGDS - 300	Hi-Rel Grade	MIL-STD-704, MIL-STD-1275	1.6" x 1"

MODULAR POWER ARCHITECTURES

GAÏA Converter Modular Power Architecture feeds your exact need with one of the most comprehensive range of DC/DC, AC/DC converters and bus adaptation modules. Whether you need basic power or advanced power management, you will find everything you need with GAÏA Converter to meet your sophisticated power supply requirements.

This “building block” approach using off-the-shelf products provides unprecedented advantages to ease design, simplify qualification and reduce time to market.

Modular Power Architecture



- **The Experience of a Leader in Hi-Rel Environments**
- **The Most Comprehensive Range of Products with more than 5000 References from 4W to 350W Power**
- **Local Support Worldwide**
- **ISO9001 Quality certified**

GAIA Converter was founded in 1993. Since that time the company has provided one of the most comprehensive range of modular power components in the market place. GAIA Converter has also brought to the market its well known concept of Modular Power Architecture to allow simple design of complex power supplies.

With more than 5000 standard power component references serving the Hi-Rel industrial, transportation, aerospace and military markets, GAIA Converter is recognized as one of the world's leaders for "power module" solutions.

Strongly focused on power modules, GAIA Converter can concentrate all its efforts to propose innovative solutions and a complete comprehensive suite in this field. More than 300 new products are completed every year by our engineering team to cope with new technologies and market trends.

GAIA Converter dedicates continuously important R&D investment in order to maintain a state of the art product range.

The company sustains large expertise in:

- New soft switching high frequency topologies using digital controls
- Material for harsh environment
- Proprietary magnetic and ASIC design
- Behaviour in thermal environment

The skill and innovative spirit of our design team is supported by a full suite of computer aided engineering tools. These tools include electrical simulation, mechanical design, thermal analysis and optimization, reliability prediction, circuit board layout and manufacturing instructions. This CAE system is used extensively to ensure design performance, traceability and integrity from prototyping to mass production.

With a presence in 25 countries around the world through subsidiaries and local distributors, GAIA Converter is a global company. In three major markets (The Americas, Europe and Asia), Gaia Converter maintains a strong presence with Sales and Technical Support Offices for its distributor network and customers.

GAIA controls the entire manufacturing cycle from the definition of the processes and their qualifications to the controls on the repeatability and traceability of the manufacturing processes.

The processes developed as well as the choice of components comply with and are adapted to the perennity requirements and to the industrial cycle of each field of application of our products.

GAIA Converter products have a long and successful record of projects around the world from Aerospace, Military, Transportation and Hi-End Industrial applications and among them:

AEROSPACE/MILITARY APPLICATIONS INCLUDE :

- **Commercial aircrafts :**
 - Airbus : A320/A330/A340/A380/A350
 - Boeing : B737NG/B777/B787
 - Bombardier : CRJ 100/200/700/900
 - Embraer:ERJ 135/140/145/170/190/195
 - Dassault : F50/F900/F2000/F7X/F8X
 - Various: Learjet 60/85, Gulfstream G550/650
- **Military aircrafts :**
 - Fighters : M2000, Rafale, Typhoon, JAS39, Tornado, F-16 Falcon, F/A-18 Hornet, F-35 JSF
 - Cargos : C130 Hercules, C160, C27J, A400M
 - Missions : Awacs, Nimrod MR4A, P3C Orion
- **Commercial & military helicopters :**
 - Eurocopter : HAPEC120/135/155/175, NH-90
 - AgustaWestland : A109/129, AW139, EH101
 - Bell : B206/212, V22, B407/427/430, AH-64
 - Sikorsky : S76, S92, UH-60, RAH-66
- **Military Ground Borne :**
 - Tanks : Leclerc, Leopard, Puma, Bradley
 - Vehicles : LandWarrior, Humvee, VBCI
 - Groundborne : COMM, MMR, MLS,...
- **Naval :**
 - PAN, SNLE, FREMM Frigate, Aegis Destroyer
- **Missiles, Torpedoes & UAV's :**
 - Milan, Eryx, Stinger, Crotale, MLRS, Aster, Exocet, Marte, Sea Wolf, Meteor, Taurus KEPD, Stingray, MU90

TRANSPORTATION APPLICATIONS INCLUDE :

- **Intercity trains and locomotives :**
 - Alstom : TGV, TGV2N, KTX, ET423, AGV
 - Siemens : ICE2, ICE3, ES64, S252
 - Ansaldo : ETR400/500, E402, TAF
 - Bombardier : AGC, Talent, ICN
 - GE Transport : AC6000, Dash
 - Various: locomotives T13, ES65, Euro4000
- **Urban subways & tramways :**
 - Subways : Meteor, MF77, MF2000, M7, Lisboa, NY
 - Tramways : Citadis, Combino, Sirio, Flexity C/E, Icentro, Eurotram
- **Local Rolling stock :**
 - LRV : Arlanda, Gatwick, Frankfurt, OrlyVal, CdGVal
 - Buses/trolleys : Civis, Cristalis, Cito, Agora
- **Signaling equipments :**
 - Positioning systems, TPWS, ETCS
 - ERTMS, Video, Data transmission, GPS-R

INDUSTRIAL APPLICATIONS INCLUDE :

- **Power station & energy controls :**
 - Power generation : VHV, MHV, LV
 - Propulsion node, Heat exchangers
- **Security systems**
 - Pumps and valves controls, gas and stream controls, petrochemical regulators
- **Environmental control systems :**
 - Seismic acquisition, hydro controls
 - Oil drilling, down hole instrumentation
 - Deep sea exploration



GAIA Converter has always operated a quality system in accordance to ISO 9001 standards and has been certified to the latest ISO 9001 standard. This standard is now used as a platform for

developing a greater appreciation of the quality required by our customers. Our success in this area is recognized by independent approval Authorities such as Underwriters Laboratories (UL) and has resulted in approved and preferred supplier status at major electronics companies. However quality is not a static objective and GAIA Converter is continuously improving in this field and is particularly active with :

Design for Product Reliability :

In order to provide reliable products, GAIA Converter has always maintained stringent specifications with the aid of the most advanced theoretical and experienced feedback tools including :

- **Stress analysis** : GAIA Converter products undergo stress analysis and charged factors for each single component used in our products.
- **MTBF** : GAIA Converter calculations are done according to the MIL-HDBK-217F, RDF 2000, IEC-62380-TR methods with conservative quality and environmental factors.
- **Accelerated stress analysis** : all GAIA Converter's new designs are submitted to accelerate stress (thermal and shocks, thermal cycling and humidity) to analyze reliability.

- **Failure Analysis** : every product returned for failure during operation is carefully analyzed and failure root causes are monitored.

Manufacturing with Statistical Method for Prevention :

To manufacture high-quality products, the monitoring at the end of the production process is not enough.

Quality has also to be " designed-in " during process and production process. This is achieved by means of appropriate measurements and tools; among them GAIA Converter has implemented :

- **Statistical Process Control (SPC)** : for key process parameters all along the manufacturing flow GAIA Converter can establish very quickly deviations from process goal. This allows control over parameters and ensures process durability.
- **Average Outgoing Quality (AOQ)** : All products manufactured are 100 % tested for acceptance or rejection. The results of this inspection are recorded and monitored carefully.
- **Statistical Product Monitoring (SPM)** : All product parameters are recorded to statistically monitor the average deviation.

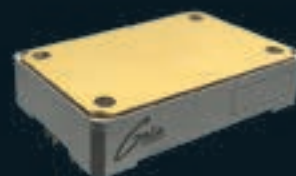
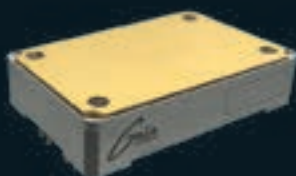
Customer Audit Quality :

GAIA Converter welcomes customer quality audits or independent quality audits on behalf of customers.

We have already been audited by independent organization such as Qualifas acting for European Aerospace companies, LCIE acting for UL approval, and major electronics companies from around the world.



HI-REL GRADE POWER MODULES



www.gaia-converter.com



FRONT-END MODULES

DC EMI FILTER 2A



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

FGDS-2A - 50V / ■

Option **IT** : Screening -55°C start-up temperature
Option **IS** : Screening and serialization

INPUT SPECIFICATIONS

INPUT RANGE

9-50 Vdc transient : 80 Vdc / 100 ms
: 100 Vdc / 50 ms

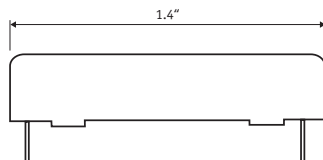
INPUT SPECIFICATIONS

INPUT CURRENT

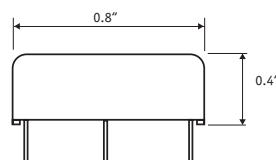
2A

PACKAGE AND PIN-OUT

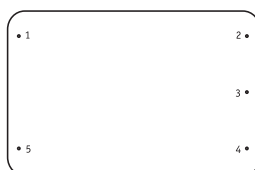
Dimensions in inches



Pin dimensions : Ø 0.03"



Plastic case black solder plated pin



Bottom view

Pin	Single Output
1	+Input (Vi)
2	+Output (Vo)
3	Ground (Gnd)
4	-Output (Go)
5	-Input (Gi)

KEY FEATURES

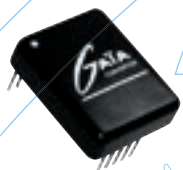
- EMI filter for Avionics/Defense
- MIL-STD-461C/D/E/F compliant
- DO-160C/D/E/F/G compliant
- Input immunity to MIL-STD-1275A/B/C/D
- Input immunity to MIL-STD-704A/D/F

GENERAL CHARACTERISTICS

- Nominal power up to : 50 W
- Wide input range 9-50 Vdc
- Input current up to 2A
- Galvanic isolation input/output : non isolated

FRONT-END MODULES

DC EMI FILTER 6A



REDEFINING THE SOURCES OF POWER

KEY FEATURES

- EMI filter for Avionics/Defense
- MIL-STD-461D/E/F compliant
- DO-160C/D/E/F/G compliant
- Input immunity to MIL-STD-1275A/B/C/D
- Input immunity to MIL-STD-704A/D/F

GENERAL CHARACTERISTICS

- Nominal power up to : 150 W
- Wide input range 9-100 Vdc
- Input current up to 6A
- Galvanic isolation input/output : non isolated

PART NUMBERING

SINGLE OUTPUT

FGDS-6A - 100V / ■

Option **1** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

INPUT SPECIFICATIONS

INPUT RANGE

4.5-100 Vdc

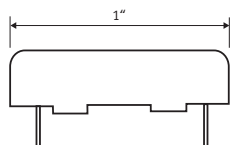
INPUT SPECIFICATIONS

INPUT CURRENT

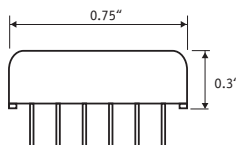
6A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions : square pin 0.025"



Metallic case black anodized coating gold plated pin

1	12
2	11
3	10
4	9
5	8
6	7

Bottom view

Pin	Single Output
1,6	Ground in (Gndin)
2,3	- Input (Gi)
4,5	+Input (Vi)
7,12	Ground out (Gndout)
8,9	+ Output (Vo)
10,11	- Output (Go)

FRONT-END MODULES

DC EMI FILTER 10A



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

FGDS-10A - 50V / ■

Option **/T** : Screening -55°C start-up temperature
Option **/S** : Screening and serialization

INPUT SPECIFICATIONS

INPUT RANGE

9-50 Vdc transient : 80 Vdc / 100 ms
: 100 Vdc / 50 ms

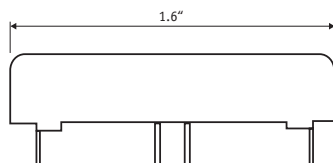
INPUT SPECIFICATIONS

INPUT CURRENT

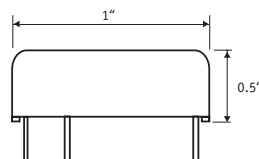
10A

PACKAGE AND PIN-OUT

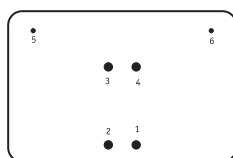
Dimensions in inches



Pin dimensions : 1, 2, 3, 4 : Ø 0.05"
Pin dimensions : 5, 6 : Ø 0.03"



Metallic case black anodized coating solder plated pin



Bottom view

Pin	Single Output
1	+Input (Vi)
2	- Input (Gi)
3	- Output (Go)
4	+ Output (Vo)
5	Ground (Gnd)
6	Ground (Gnd)

KEY FEATURES

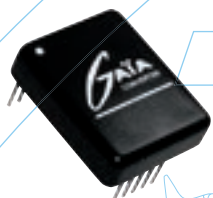
- EMI filter for Avionics/Defense
- MIL-STD-461D/E/F compliant
- DO-160C/D/E/F/G compliant
- Input immunity to MIL-STD-1275A/B/C/D
- Input immunity to MIL-STD-704A/D/F

GENERAL CHARACTERISTICS

- Nominal power up to : 150 W
- Wide input range 9-50 Vdc
- Input current up to 10A
- Galvanic isolation input/output : non isolated

FRONT-END MODULES

DC EMI FILTER 12A



REDEFINING THE SOURCES OF POWER

KEY FEATURES

- EMI filter for Avionics/Defense
- MIL-STD-461D/E/F compliant
- DO-160C/D/E/F/G compliant
- Input immunity to MIL-STD-1275A/B/C/D
- Input immunity to MIL-STD-704A/D/F

GENERAL CHARACTERISTICS

- Nominal power up to : 175 W
- Wide input range 9-100 Vdc
- Input current up to 12A
- Galvanic isolation input/output : non isolated

PART NUMBERING

SINGLE OUTPUT

FGDS-12A - 100V / ■

Option **1** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

INPUT SPECIFICATIONS

INPUT RANGE

4.5-100 Vdc

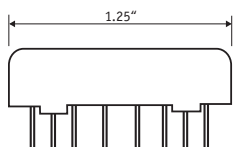
INPUT SPECIFICATIONS

INPUT CURRENT

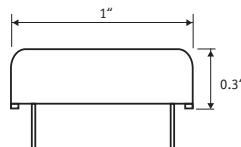
12A

PACKAGE AND PIN-OUT

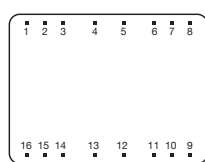
Dimensions in inches



Pin dimensions : square pin 0.025"



Metallic case black anodized coating gold plated pin



Bottom view

Pin	Single Output
1, 2, 3	- Input (Gi)
4, 5	Ground (Gnd)
6, 7, 8	- Output (Go)
9, 10, 11	+ Output (Vo)
12, 13	Ground (Gnd)
14, 15, 16	+Input (Vi)

FRONT-END MODULES

DC EMI FILTER 20A



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

FGDS-20A - 50V / ■

Option **/T** : Screening -55°C start-up temperature

Option **/S** : Screening and serialization

INPUT SPECIFICATIONS

INPUT RANGE

9-50 Vdc transient : 80 Vdc / 100 ms
: 100 Vdc / 50 ms

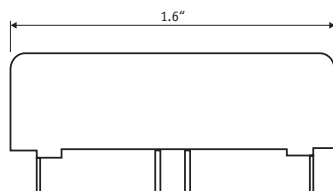
INPUT SPECIFICATIONS

INPUT CURRENT

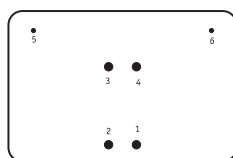
20A

PACKAGE AND PIN-OUT

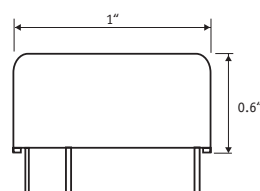
Dimensions in inches



Pin dimensions : 1, 2, 3, 4 : Ø 0.05"
Pin dimensions : 5, 6 : Ø 0.03"



Bottom view



Metallic case black anodized coating solder plated pin

Pin	Single Output
1	+Input (Vi)
2	- Input (Gi)
3	- Output (Go)
4	+ Output (Vo)
5	Ground (Gnd)
6	Ground (Gnd)

KEY FEATURES

- EMI filter for Avionics/Defense
- MIL-STD-461D/E/F compliant
- DO-160C/D/E/F/G compliant
- Input immunity to MIL-STD-1275A/B/C/D
- Input immunity to MIL-STD-704A/D/F

GENERAL CHARACTERISTICS

- Nominal power up to : 300 W
- Wide input range 9-50 Vdc
- Input current up to 20A
- Galvanic isolation input/output : non isolated

FRONT-END MODULES

DC EMI FILTER 35A



REDEFINING THE SOURCES OF POWER

KEY FEATURES

- EMI filter for Avionics/Defense
- MIL-STD-461D/E/F compliant
- DO-160C/D/E/F/G compliant
- Input immunity to MIL-STD-1275A/B/C/D
- Input immunity to MIL-STD-704A/D/F

GENERAL CHARACTERISTICS

- Nominal power up to : 560 W
- Wide input range 9-50 Vdc
- Input current up to 35A
- Galvanic isolation input/output : non isolated

PART NUMBERING

SINGLE OUTPUT

FGDS-35A - 50V / ■

Option **A** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

INPUT SPECIFICATIONS

INPUT RANGE

9-50 Vdc transient : 80 Vdc / 100 ms
: 100 Vdc / 50 ms

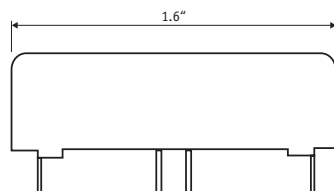
INPUT SPECIFICATIONS

INPUT CURRENT

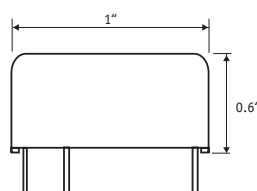
35A

PACKAGE AND PIN-OUT

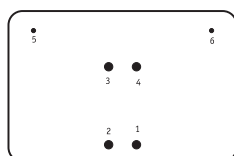
Dimensions in inches



Pin dimensions : 1, 2, 3, 4 : Ø 0.05"
Pin dimensions : 5, 6 : Ø 0.03"



Metallic case black anodized coating solder plated pin



Bottom view

Pin	Single Output
1	+Input (Vi)
2	- Input (Gi)
3	- Output (Go)
4	+ Output (Vo)
5	Ground (Gnd)
6	Ground (Gnd)

FRONT-END MODULES

DC TRANSIENT/DROP-OUT PROTECTION 50W



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

PGDS-50 - ■ - ■ / ■

Option **T** : Screening -55°C start-up temperature

Option **S** : Screening and serialization

For leaded process add - L after reference - Contact factory for availability

KEY FEATURES

- Transient suppressor & brown out for Avionics/Defense
- MIL-STD-704A/D/E/F, EN2282, AIR2021E
- DO160C/D/E/F cat A, B and Z
- MIL-STD-1275A/B/C/D
- Dedicated for Avionics/Military Applications

GENERAL CHARACTERISTICS

- Transient suppressor 60 Vdc, 80 Vdc, 100 Vdc
- Power range : from 4 W to 50 W
- Galvanic isolation input/output : non isolated
- Protections : input undervoltage lockout

INPUT SPECIFICATIONS

INPUT RANGE

N : 17-37 Vdc brown out : 10 Vdc / 15 s transient : 80 Vdc / 100 ms
Q : 12-37 Vdc brown out : 6 Vdc / 1 s transient : 100 Vdc / 50 ms

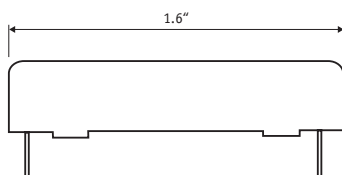
OUTPUT SPECIFICATIONS

OUTPUT VOLTAGE

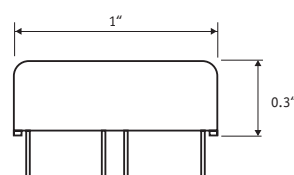
K : 28 Vdc

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions : Ø 0.03 "



Metallic case black anodized coating solder plated pin



Bottom view

Pin	Single Output
1	+Input (Vi)
2	Input measure (VIMES)
3	On/Off
4	-Input (Gi)
5	Common (Go)
6	Output (Vo)

FRONT-END MODULES

DC TRANSIENT PROTECTION 100W



REDEFINING THE SOURCES OF POWER

KEY FEATURES

- Transient suppressor for Avionics/Defense
 - DEF-STAN-61,5 issue 6
 - MIL-STD-704A/D/E/F, EN2282, AIR2021E
 - DO160C/D/E/F cat A, B and Z
 - MIL-STD-1275A/B/C/D

GENERAL CHARACTERISTICS

- Transient suppressor 60, 80, 100, 202 Vdc
- Power range : from 4 W to 100 W
- Galvanic isolation input/output : non isolated
- Protections : output over current, over temperature
- Additional functions : adjustable inrush current drive

PART NUMBERING

SINGLE OUTPUT

LGDS-100 - ■ - ■ / ■

Option **T** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

INPUT SPECIFICATIONS

INPUT RANGE

P : 9-42 Vdc transient : 202 Vdc / 350 ms

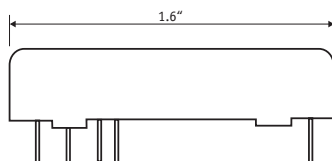
OUTPUT SPECIFICATIONS

OUTPUT VOLTAGE

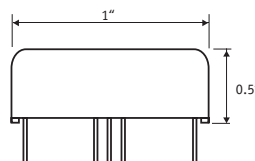
K : 28 Vdc

PACKAGE AND PIN-OUT

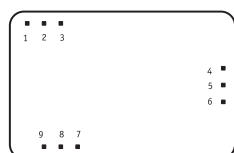
Dimensions in inches



Pin dimensions : square pin 0.025"



Metallic case black anodized coating solder plated pin



Bottom view

Pin	Single Output
1,2,3	+Input (Vin)
4	Drive
5	Common (Gin)
6	Do not connect
7,8,9	Output (Vo)

FRONT-END MODULES

DC TRANSIENT PROTECTION 300W



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

LGDS-300 - ■ - ■ / ■

Option **T** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

INPUT SPECIFICATIONS

INPUT RANGE

☉ : 9-42 Vdc transient : 100 Vdc / 50 ms

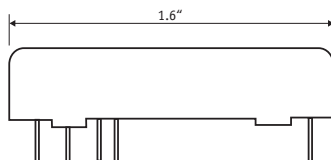
OUTPUT SPECIFICATIONS

OUTPUT VOLTAGE

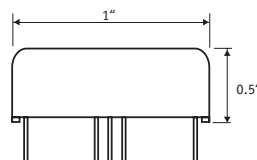
K : 28 Vdc

PACKAGE AND PIN-OUT

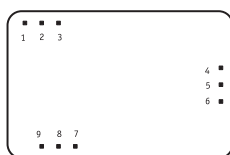
Dimensions in inches



Pin dimensions : square pin 0.025"



Metallic case black anodized coating solder plated pin



Bottom view

Pin	Single Output
1,2,3	+Input (Vin)
4	Drive
5	Common (Gin)
6	Do not connect
7,8,9	Output (Vo)

KEY FEATURES

- Transient suppressor for Avionics/Defense
 - MIL-STD-704A/D/E/F, EN2282, AIR2021E
 - DO160C/D/E/F cat A, B and Z
 - MIL-STD-1275A/B/C/D

GENERAL CHARACTERISTICS

- Transient suppressor 60 Vdc, 80 Vdc, 100 Vdc
- Power range : from 4 W to 300 W
- Galvanic isolation input/output : non isolated
- Protections : output over current, over temperature
- Additional functions : adjustable inrush current drive

FRONT-END MODULES

DC HOLD UP 50W



REDEFINING THE SOURCES OF POWER

KEY FEATURES

- Unique product for hold-up solutions
- Compliant with DO-160, MIL-704
- Reduce capacitance size by 80%
- Compatible with 9-36 or 16-40 Vdc converters

GENERAL CHARACTERISTICS

- Power range : from 4 W to 50 W
- Galvanic isolation input/output : non isolated
- Charger switching frequency : 200 KHz
- Protections : reverse polarity
- Additional fonctions : monitoring signals, programmable charging current limitation, programmable power fail threshold

PART NUMBERING

SINGLE OUTPUT

HUGD-50 / ■

Option **A** : Screening -55°C start-up temperature

Option **S** : Screening and serialization

For leaded process add - L after reference - Contact factory for availability

INPUT SPECIFICATIONS

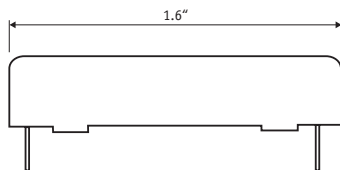
INPUT RANGE

9-45 Vdc

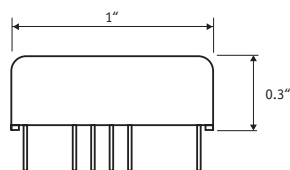
transient : 50 Vdc / 100 ms

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions : Ø 0.03 "



Metallic case black anodized coating solder plated pin



Bottom view

Pin	Single Output
1	+Input (Vi)
2	Power Fail Set (Vth)
3	Voltage Current Level (Vcl)
4	-Input (Gi)
5	Common (Go)
6	Output (Vo)
7	Voltage Capacitor
8	Power Fail Signal (PF)
9	Capacitor charged signal (CC)
10	Capacitor discharged signal (CD)

FRONT-END MODULES

DC BUS CONDITIONER



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

LHUG-150N / ■

Option **[I]** : Screening -55°C start-up temperature

Option **[S]** : Screening and serialization

For leaded process add - L after reference - Contact factory for availability

INPUT SPECIFICATIONS

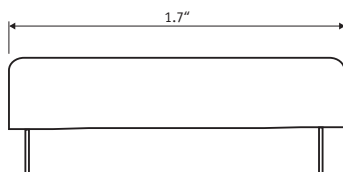
INPUT RANGE

9-45 Vdc

transient : 50 Vdc / 100 ms

PACKAGE AND PIN-OUT

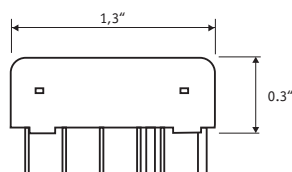
Dimensions in inches



Pin dimensions :
1, 10, 11 : $\varnothing$ 0,079"
other pin : $\varnothing$ 0,039"

• 11	1 •
• 10	2 •
• 9	3 •
• 8	4 •
• 7	5 •
	6 •

Bottom view



Metallic case black anodized coating solder plated pin

Pin	Function
1	+Input (Vi)
2	Capacitor charged (CC)
3	Over_power_set (Opp_set)
4	On/Off
5	Ground (G)
6	Sync_in (Sync)
7	Sync_out2 (PH2)
8	Sync_out1 (PH2)
9	Charger-disable Ch-d)
10	H-up Cap (Vc)
11	+ output (Vo)

KEY FEATURES

- Unique product for hold-up and limiter solutions
- Compliant with DO-160, MIL-704
- Reduce capacitance size by 80%
- Compatible with 9-36 or 16-40 Vdc converters

GENERAL CHARACTERISTICS

- Transient suppressor 60 Vdc, 80 Vdc, 100 Vdc
- Power range : from 4 W to 150 W
- Galvanic isolation input/output : non isolated
- Charger switching frequency : 200 KHz
- Protections : reverse polarity, power protection, current limitation
- Additional fonctions : monitoring signals, synchronization, programmable power fail threshold

FRONT-END MODULES

DC HOLD UP 300W



REDEFINING THE SOURCES OF POWER

KEY FEATURES

- Unique product for hold-up solutions
- Compliant with DO-160, MIL-704
- Reduce capacitance size by 80%

GENERAL CHARACTERISTICS

- Power range : from 4 W to 300 W
- Galvanic isolation input/output : non isolated
- Charger switching frequency : 700 KHz
- Protections : reverse polarity
- Additional functions : monitoring signals, programmable capacitor charge voltage from 31 to 80 Vdc, programmable power fail threshold

PART NUMBERING

SINGLE OUTPUT

HUGD-300 / ■

Option **T** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

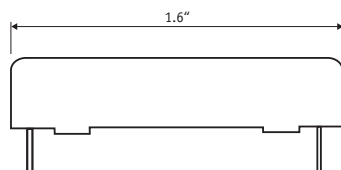
INPUT SPECIFICATIONS

INPUT RANGE

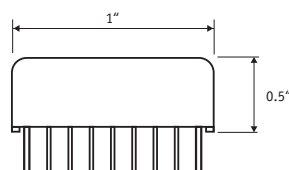
8-100 Vdc

PACKAGE AND PIN-OUT

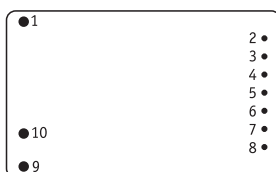
Dimensions in inches



Pin dimensions :
Pins : 2, 3, 4, 5, 6, 7, 8 : Ø 0.03"
Pins : 1, 9, 10 : Ø 0.06"



Metallic case black anodized coating solder plated pin



Bottom view

Pin	Single Output
1	+Input (Vi)
2	Power Fail Set (Vth)
3	Capacitor Charge Voltage Set (Vcset)
4	Common (Go)
5	Common (Go)
6	Power Fail Signal PF
7	Capacitor discharged signal (CD)
8	Capacitor charged signal (CC)
9	Output (Vo)
10	Voltage Capacitor (Vc)

FRONT-END MODULES

AC ISOLATED PFC 35W



REDEFINING THE SOURCES OF POWER

PART NUMBERING

DUAL OUTPUT

HGMB-35 - ■ - ■ / ■

Option **T** : Screening -55°C start-up temperature

Option **S** : Screening and serialization

For leaded process add - L after reference - Contact factory for availability

KEY FEATURES

- Dedicated for 115 Vac airborne applications
- Standard 3" x 2" package
- Active PFC : MIL-STD-704, DO-160, ABD100 compliant
- Low input current harmonic distortion < 10%

GENERAL CHARACTERISTICS

- Nominal power up to : 35 W
- Galvanic isolation input/output : 1 500 Vrms
- Switching frequency : 160 KHz
- Protections : output short circuit, output over voltage
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off

INPUT SPECIFICATIONS

PERMANENT INPUT RANGE

W : 95-140 Vac transient 71-180 Vac / 100 ms frequency 320-800 Hz

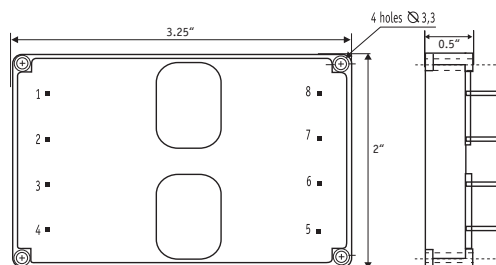
OUTPUT SPECIFICATIONS

DUAL OUTPUT

17 : 2 x 17 Vdc / 2 x 1.05 A

PACKAGE AND PIN-OUT

Dimensions in inches



Bottom view

Pin dimensions : $\square$ 0.035"

Metallic case black anodized coating solder plated pin

Pin	Bi-outpout
1	Phase
2	Neutral
3	On/Off
4	On/Off Ref
5	Common 1 (Go1)
6	Output 1 (Vo1)
7	Common 2 (Go2)
8	Output 2 (Vo2)

FRONT-END MODULES

AC ISOLATED PFC 50W



REDEFINING THE SOURCES OF POWER

KEY FEATURES

- Dedicated for 115 Vac airborne applications
- Standard 3" x 2" package
- Active PFC : MIL-STD-704, DO-160, ABD100 compliant
- Low input current harmonic distortion < 10%

GENERAL CHARACTERISTICS

- Nominal power up to : 50 W
- Galvanic isolation input/output : 1 500 Vrms
- Switching frequency : 225 KHz
- Protections : output short circuit, output over voltage
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off

PART NUMBERING

DUAL OUTPUT

HGMB-50 - ■ - ■ / ■

Option **A** : Screening -55°C start-up temperature

Option **S** : Screening and serialization

For leaded process add - L after reference - Contact factory for availability

INPUT SPECIFICATIONS

PERMANENT INPUT RANGE

W : 95-140 Vac transient 71-180 Vac / 100 ms frequency 320-800 Hz

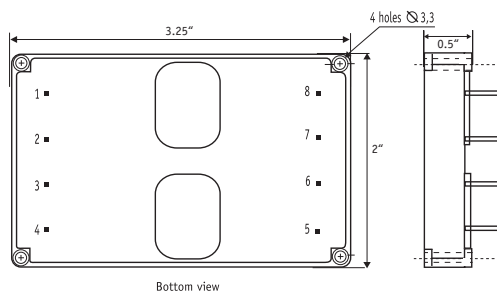
OUTPUT SPECIFICATIONS

DUAL OUTPUT

17 : 2 x 17 Vdc / 2 x 1.45 A

PACKAGE AND PIN-OUT

Dimensions in inches



Bottom view

Pin dimensions : $\square$ 0.035"

Metallic case black anodized coating solder plated pin

Pin	Bi-output
1	Phase
2	Neutral
3	On/Off
4	On/Off Ref
5	Common 1 (Go1)
6	Output 1 (Vo1)
7	Common 2 (Go2)
8	Output 2 (Vo2)

FRONT-END MODULES

AC NON ISOLATED PFC 150W



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

HGMS-150 - ■ - ■ / ■

Option **T** : Screening -55°C start-up temperature

Option **TS** : Screening and serialization

Leaded process add - L after reference

KEY FEATURES

- Dedicated for 115 Vac applications
- Standard half brick package
- Active PFC : MIL-STD-704, DO-160, ABD100 MIL-STD-1399 compliant
- Low input current harmonic distortion < 10%

GENERAL CHARACTERISTICS

- Nominal power up to : 150 W
- Galvanic isolation input/output : non isolated
- Switching frequency : 250 KHz
- Protections : output short circuit, over power, over temperature
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off, reference voltage, companion module drive control

INPUT SPECIFICATIONS

INPUT RANGE

W : 95-140 Vac transient 71-180 Vac / 100 ms frequency 320-800 Hz

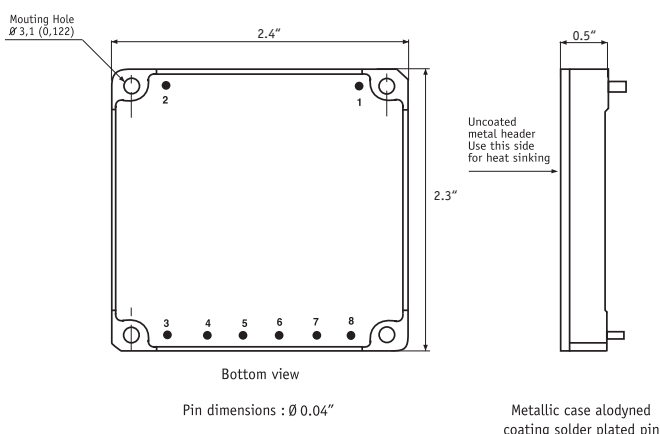
OUTPUT SPECIFICATIONS

SINGLE OUTPUT

T : 375 Vdc / 0.4 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin	Bi-outpout
1	Phase
2	Neutral
3	Output(Vo)
4	On/Off
5	Ref
6	Do not connect
7	Drive
8	Common (Go)

Metallic case alodined
coating solder plated pin

FRONT-END MODULES

AC NON ISOLATED PFC 350W



REDEFINING THE SOURCES OF POWER

KEY FEATURES

- Dedicated for 115 Vac applications
- Standard half brick package
- Active PFC : MIL-STD-704, DO-160, ABD100 MIL-STD-1399 compliant
- Low input current harmonic distortion < 10%

GENERAL CHARACTERISTICS

- Nominal power up to : 350 W
- Galvanic isolation input/output : non isolated
- Switching frequency : 250 KHz
- Protections : output short circuit, over power, over temperature
- Trim adjustment : consult factory
- External synchronization range : no synchro
- Additional functions : on/off, reference voltage, companion module drive control

PART NUMBERING

SINGLE OUTPUT

HGMS-350 - ■ - ■ / ■

Option **/T** : Screening -55°C start-up temperature
Option **/S** : Screening and serialization

Leaded process add - L after reference

INPUT SPECIFICATIONS

INPUT RANGE

W : 95-140 Vac transient 71-180 Vac/100 ms frequency 320-800 Hz
X : 95-140 Vac transient 71-180 Vac/100 ms frequency 47-440 Hz
Y : 85-265 Vac - frequency 50/60 Hz

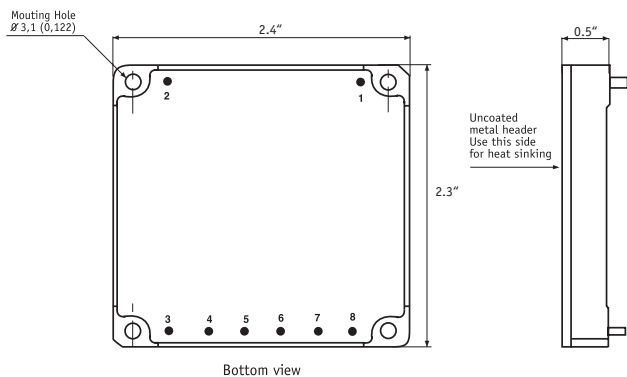
OUTPUT SPECIFICATIONS

SINGLE OUTPUT

T : 375 Vdc / 0.9 A (420 Vdc for **Y** input)

PACKAGE AND PIN-OUT

Dimensions in inches



Pin	Bi-output
1	Phase
2	Neutral
3	Output(Vo)
4	On/Off
5	Ref
6	PFCsh
7	Drive
8	Common (Go)

DC/DC CONVERTERS

DC NON ISOLATED CONVERTER 260W



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

MPGS-14 - E - B / ■

Option **T** : Screening -55°C start-up temperature

Option **S** : Screening and serialization

INPUT SPECIFICATIONS

INPUT RANGE

E : 4.5-36 Vdc transient 42 Vdc/100 ms

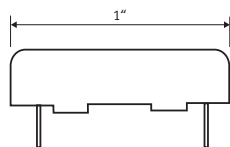
OUTPUT SPECIFICATIONS

SINGLE OUTPUT

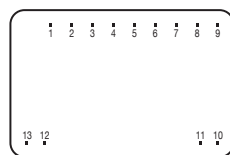
B : 3.3 Vdc / adjustable 1.2 to 24 Vdc

PACKAGE AND PIN-OUT

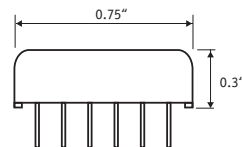
Dimensions in inches



Pin dimensions : square pin 0.025"



Bottom view



Metallic case black anodized coating gold plated pin

Pin	Single Output
1	Tracking
2	CM / Share
3	ITrim
4	Sync
5	SD / UVLO
6	Vtrim
7	Sense +
8, 9	Ground (Gnd)
10, 11	Output (Vo)
12, 13	Input (Vi)

KEY FEATURES

- Point of load buck converter
- Single output
- Adjustable soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 260 W or current 14A
- Galvanic isolation input/output : non isolated
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 1.2V to 24V
- External synchronization range : 200 to 460 KHz
- Additional functions : on/off, sense, parallelization

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 4W



LLP
Legacy
Low
Power
Family

REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

MGDS-04 - ■ - ■ / ■

BI OUTPUT

MGDB-04 - ■ - ■ / ■

TRIPLE OUTPUT

MGDT-04 - ■ - ■ / ■

Option **T** : Screening -55°C start-up temperature

Option **S** : Screening and serialization

For leaded process add - L after reference. Contact factory for availability

INPUT SPECIFICATIONS

INPUT RANGE

C : 4.5-5.5 Vdc

H : 9-36 Vdc transient 40 Vdc/100 ms

J : 16-40 Vdc transient 50 Vdc/100 ms

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 1 A

C : 5 Vdc / 0.8 A

E : 12 Vdc / 0.33 A

F : 15 Vdc / 0.26 A

BI OUTPUT

C : ± 5 Vdc / ± 0.4 A

E : ± 12 Vdc / ± 0.165 A

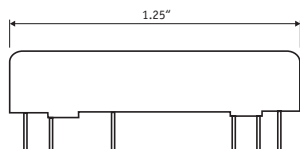
F : ± 15 Vdc / ± 0.13 A

TRIPLE OUTPUT

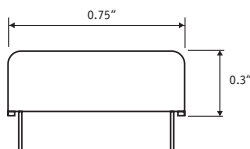
CF : 5 Vdc & ± 15 Vdc / 0.5 A & ± 0.05 A

PACKAGE AND PIN-OUT

Dimensions in inches



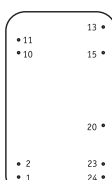
Pin dimensions : $\varnothing 0.02$ "



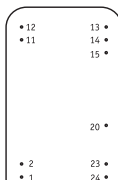
Metallic case black anodized coating solder plated pin



Single output model



Bi output model
Bottom view



Triple output model

Pin	Single Output	Bi Output	Triple Output
1	+Input (Vi)	+Input (Vi)	+Input (Vi)
2	+Input (Vi)	+Input (Vi)	+Input (Vi)
10	No pin	Common (Go)	No pin
11	Common (Go)	Common (Go)	Common (Go)
12	Common (Go)	No pin	Common (Go)
13	Output (Vo)	Output - (-Vo)	Output 2- (-Vo2)
14	Output (Vo)	No pin	Output 1+ (+Vo1)
15	No pin	Output + (+Vo)	Output 2+ (+Vo2)
20	On/Off (option)	On/Off (option)	On/Off (option)
23	-Input (Gi)	-Input (Gi)	-Input (Gi)
24	-Input (Gi)	-Input (Gi)	-Input (Gi)

KEY FEATURES

- Low profile 0.3" package
- Single, bi or triple outputs
- Soft start
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 4 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 480 KHz
- Protections : output short circuit
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 8W



WLP
WiWoo
Low
Power
Family

REDEFINING THE SOURCES OF POWER

PART NUMBERING

DUAL OUTPUT

MGDD-08 - ■ - ■ / ■

Option **T** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

INPUT SPECIFICATIONS

ULTRA WIDE INPUT

N : 9-60 Vdc transient : 80 Vdc / 1 s
E : 4.5-33 Vdc transient : 45 Vdc / 0.1 s

OUTPUT SPECIFICATIONS

DUAL ISOLATED OUTPUT*

B : 2 X 3.3 Vdc / 2 x 0.8 A
C : 2 X 5 Vdc / 2 x 0.8 A
E : 2 x 12 Vdc / 2 x 0.33 A

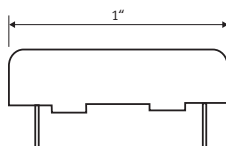
DUAL ISOLATED OUTPUT*

F : 2 x 15 Vdc / 2 x 0.26 A
I : 2 x 24 Vdc / 2 x 0.16 A

* Possible unbalanced power
up to 10% / 90%

PACKAGE AND PIN-OUT

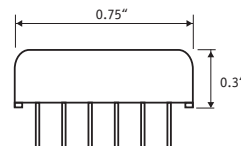
Dimensions in inches



Pin dimensions : square pin 0.025"



Bottom view



Metallic case black anodized coating gold plated pin

Pin	Dual Output
1	Syncho / On Off
2	UVLO
3	- Input (Gi)
4	VIF
5	+ Input (Vi)
6	+ Output 2 (Vo2)
7	- Output 2 (Go2)
8	+ Output 1 (Vo1)
9	- Output 1 (Go1)
10	Vtrim

KEY FEATURES

- Ultra wide input 9-60 Vdc , 4.5-33 Vdc
- Flexible isolated dual outputs
- Soft start
- No load to full load operation
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 8 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation
- Trim adjustment : 80% to 110%
- External synchronization range : 270 to 360 KHz
- Additional functions : on/off, input current ripple reduction, adjustable undervoltage lockout

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 10W



LLP
Legacy
Low
Power
Family

REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT	MGDS-10 - ■ - ■ / ■
BI OUTPUT	MGDB-10 - ■ - ■ / ■
TRIPLE OUTPUT	MGDT-10 - ■ - ■ / ■

Option **T** : Screening -55°C start-up temperature

Option **S** : Screening and serialization - Option **M** : On/Off function

For leaded process add - L after reference. Contact factory for availability

KEY FEATURES

- Low profile 0.33" package
- Single, bi or triple outputs
- Soft start
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 10 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 480 KHz
- Protections : output short circuit
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off on option

INPUT SPECIFICATIONS

INPUT RANGE

C : 4.5-5.5 Vdc

H : 9-36 Vdc transient 40 Vdc/100 ms

J : 16-40 Vdc transient 50 Vdc/100 ms

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 2 A

C : 5 Vdc / 2 A

E : 12 Vdc / 0.8 A

F : 15 Vdc / 0.65 A

BI OUTPUT

C : ± 5 Vdc / ± 1 A

E : ± 12 Vdc / ± 0.4 A

F : ± 15 Vdc / ± 0.325 A

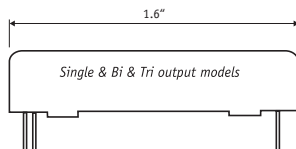
TRIPLE OUTPUT

CE : 5 Vdc & ± 12 Vdc / 1 A & ± 0.2 A

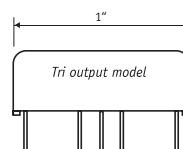
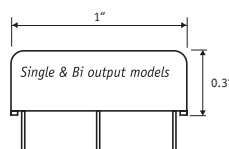
CF : 5 Vdc & ± 15 Vdc / 1 A & ± 0.15 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions : $\varnothing 0.03$ "



Metallic case black anodized coating solder plated pin



Single & Bi output models



Tri output models

Bottom view

Pin	Single Output	Bi Output	Triple Output
1	+Input (Vi)	+Input (Vi)	+Input (Vi)
2	Gate*	No pin	No pin
3	-Input (Gi)	-Input (Gi)	-Input (Gi)
4	Output (Vo)	Output+ (+Vo)	Output 1 (V1)
5	No Pin	Common (Go)	No pin
6	Common (Go)	Output- (-Vo)	Common (Go)
7	No pin	No pin	Output 2+ (+V2)
8	No pin	No pin	Output 2- (-V2)
A	On/Off (option)	On/Off (option)	On/Off (option)



DC/DC CONVERTERS

DC ISOLATED CONVERTERS 20W



WLP
WiWoo
Low
Power
Family

REDEFINING THE SOURCES OF POWER

PART NUMBERING

DUAL OUTPUT

MGDD-21 - ■ - ■ / ■

Option **/I** : Screening -55°C start-up temperature
Option **/S** : Screening and serialization

INPUT SPECIFICATIONS

ULTRA WIDE INPUT

N : 9-60 Vdc transient : 80 Vdc / 1 s
E : 4.5-33 Vdc transient : 45 Vdc / 0.1 s

OUTPUT SPECIFICATIONS

DUAL ISOLATED OUTPUT*

B : 2 X 3.3 Vdc / 2 x 2 A
C : 2 X 5 Vdc / 2 x 2 A
E : 2 x 12 Vdc / 2 x 0.825 A

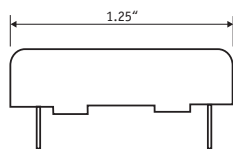
DUAL ISOLATED OUTPUT*

F : 2 x 15 Vdc / 2 x 0.65 A
I : 2 x 24 Vdc / 2 x 0.42 A

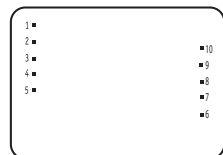
* Possible unbalanced power
up to 10% / 90%

PACKAGE AND PIN-OUT

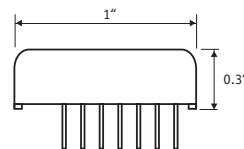
Dimensions in inches



Pin dimensions : square pin 0.025"



Bottom view



Metallic case black anodized coating gold plated pin

Pin	Dual Output
1	Synchro / On Off
2	UVLO
3	- Input (Gi)
4	VIF
5	+ Input (Vi)
6	+ Output 2 (Vo2)
7	- Output 2 (Go2)
8	+ Output 1 (Vo1)
9	- Output 1 (Go1)
10	Vtrim

KEY FEATURES

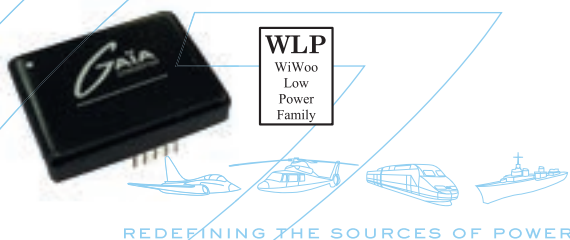
- Ultra wide input 9-60 Vdc, 4.5-33 Vdc
- Flexible isolated dual outputs
- Soft start
- No load to full load operation
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 20 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation
- Trim adjustment : 80% to 110%
- External synchronization range : 270 to 360 KHz
- Additional functions : on/off, input current ripple reduction, adjustable undervoltage lockout

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 40W



KEY FEATURES

- Ultra wide input 9-60 Vdc, 4.5-33 Vdc
- Flexible isolated dual outputs
- Soft start
- No load to full load operation
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 40 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation
- Trim adjustment : 80% to 110%
- External synchronization range : 270 to 360 KHz
- Additional functions : on/off, input current ripple reduction, adjustable undervoltage lockout

PART NUMBERING

DUAL OUTPUT

MGDD-40 - ■ - ■ / ■

Option **T** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

INPUT SPECIFICATIONS

ULTRA WIDE INPUT

N : 9-60 Vdc transient : 80 Vdc / 1 s
E : 4.5-33 Vdc transient : 45 Vdc / 0.1 s

OUTPUT SPECIFICATIONS

DUAL ISOLATED OUTPUT*

B : 2 X 3.3 Vdc / 2 x 4 A
C : 2 X 5 Vdc / 2 x 4 A
E : 2 x 12 Vdc / 2 x 1.65 A

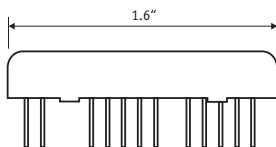
DUAL ISOLATED OUTPUT*

F : 2 x 15 Vdc / 2 x 1.30 A
I : 2 x 24 Vdc / 2 x 0.85 A

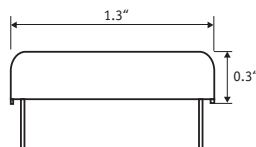
* Possible unbalanced power up to 10% / 90%

PACKAGE AND PIN-OUT

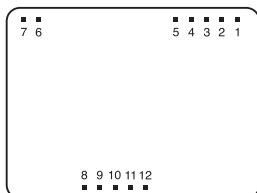
Dimensions in inches



Pin dimensions : square pin 0.025"



Metallic case black anodized coating gold plated pin

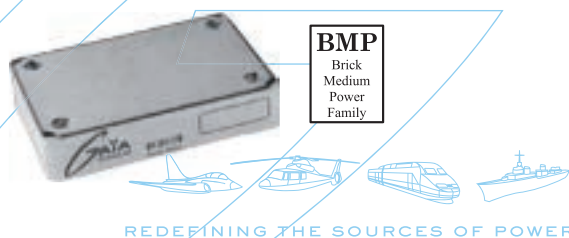


Bottom view

Pin	Dual
1	Synchro-SD
2	UVLO
3	- Input (Gi)
4	- Input (Gi)
5	VIF
6	+ Input (Vi)
7	+ Input (Vi)
8	+ Output 2 (Vo2)
9	- Output 2 (Go2)
10	+ Output 1 (Vo1)
11	- Output 1 (Go1)
12	Vtrim

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 75W



PART NUMBERING

SINGLE OUTPUT

MGDS-75 - ■ - ■ / ■

Option **T**: Screening -55°C start-up temperature
Option **TS**: Screening and serialization
Leaded process for low input H and O series add - L after reference

INPUT SPECIFICATIONS

INPUT RANGE

H: 9-45 Vdc
O: 16-80 Vdc
S: 155-480 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT*

B: 3.3 Vdc / 15 A
C: 5 Vdc / 15 A
E: 12 Vdc / 6.25 A

SINGLE OUTPUT*

F: 15 Vdc / 5 A
I: 24 Vdc / 3.125 A*
26: 26 Vdc / 2.85 A*

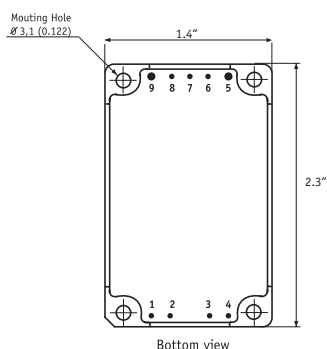
SINGLE OUTPUT*

J: 28 Vdc / 2.7 A*

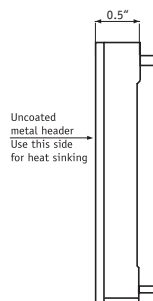
* MGDM-75-S Series exist in 26 Vdc output while MGDM-75-H Series and MGDM-75-O Series exist in 24 Vdc and 28 Vdc output.

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions :
Pins : 1, 2, 3, 4, 7, 8 : Ø 0.04"
Pins : 5, 9 : Ø 0.06"



Metallic case alodined coating solder plated pin

Pin	Single Output
1	-Input (Gi)
2	Synchro (Sync)
3	On/Off
4	+Input (Vi)
5	+Output (Vo)
6	Sense + (S+)
7	Trim (Trim)
8	Sense - (S-)
9	-Output (Go)

KEY FEATURES

- Standard quarter brick package
- Single output
- Soft start
- No load to full load operation
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 75 W
- Galvanic isolation input/output : 1 500 Vdc (2 200 Vdc for S input)
- Switching frequency : 420 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 80% to 110%
- External synchronization range : 420 to 480 KHz
- Additional functions : on/off, sense

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 80W



WLP
WiWoo
Low
Power
Family

REDEFINING THE SOURCES OF POWER

KEY FEATURES

- Ultra wide input 9-60 Vdc
- Flexible isolated dual outputs
- Soft start
- No load to full load operation
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 80 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation; over temperature
- Trim adjustment : 80% to 110%
- External synchronization range : 270 to 360 KHz
- Additional functions : on/off, input current ripple reduction, adjustable undervoltage lockout, over temperature shut down.

PART NUMBERING

DUAL OUTPUT

MGDD-80 - ■ - ■ / ■

Option **T** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

INPUT SPECIFICATIONS

ULTRA WIDE INPUT

N : 9-60 Vdc transient : 80 Vdc / 1 s

OUTPUT SPECIFICATIONS

DUAL ISOLATED OUTPUT*

B : 2 x 3.3 Vdc / 2 x 8 A
C : 2 x 5 Vdc / 2 x 8 A
E : 2 x 12 Vdc / 2 x 3.3 A

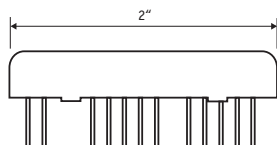
DUAL ISOLATED OUTPUT*

F : 2 x 15 Vdc / 2 x 2.6 A
I : 2 x 24 Vdc / 2 x 1.7 A

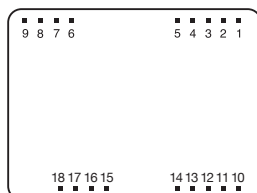
* Possible unbalanced power up to 10% / 90%

PACKAGE AND PIN-OUT

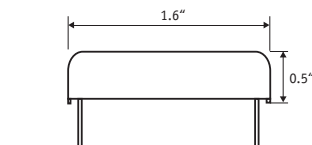
Dimensions in inches



Pin dimensions : square pin 0.025"



Bottom view



Metallic case black anodized coating gold plated pin

Pin	Dual
1	Synchro-SD
2	UVLO
3	BS
4, 5	- Input (Gi)
6, 7	VIF
8, 9	+ Input (Vi)
10	Vtrim
11, 12	- Output 1 (Go1)
13, 14	+ Output 1 (Vo1)
15, 16	- Output 2 (Go2)
17, 18	+ Output 2 (Vo2)

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 150W



BMP
Brick
Medium
Power
Family



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

MGDS-155 - ■ - ■ / ■

Option **/T** : Screening -55°C start-up temperature

Option **/S** : Screening and serialization

Leaded process for low input H and O series add - L after reference

INPUT SPECIFICATIONS

INPUT RANGE

H : 9-45 Vdc

O : 16-80 Vdc

S : 155-480 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

C : 5 Vdc / 30 A

E : 12 Vdc / 12.5 A

SINGLE OUTPUT

F : 15 Vdc / 10 A

I : 24 Vdc / 6.25 A

26 : 26 Vdc / 5.8 A

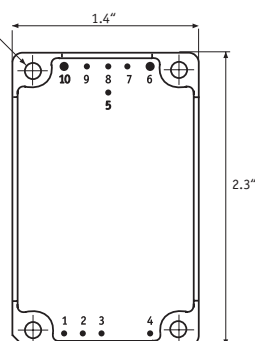
SINGLE OUTPUT

J : 28 Vdc / 5.3 A

PACKAGE AND PIN-OUT

Dimensions in inches

Mouting Hole
Ø 3.1 (0.122)



Bottom view

Pin dimensions :
Pins : 1, 2, 3, 4, 5, 7, 8, 9 : Ø 0.04"
Pins : 6, 10 : Ø 0.06"



Metallic case alodined
coating gold plated pin

Pin	Single Output
1	-Input (Gi)
2	Syncro (Sync)
3	On/Off
4	+Input (Vi)
5	Share*
6	+Output (Vo)
7	Sense + (S+)
8	Trim (Trim)
9	Sense - (S-)
10	-Output (Go)

*Only on high input series

KEY FEATURES

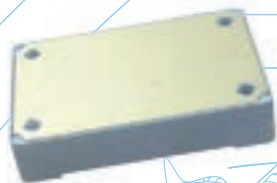
- Standard quarter brick package
- Single output
- Soft start
- No load to full load operation
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 150 W
- Galvanic isolation input/output : 1 500 Vdc (2 200 Vdc for S input)
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 90% to 110%
- External synchronization range : 330 to 370 KHz
- Additional functions : on/off, sense

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 160W



BMP
Brick
Medium
Power
Family



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

MGDS-160 - ■ - ■ / ■

Option **F**: Synchronization function
Option **S**: Screening and serialization
Option **T**: Screening -55°C start-up temperature

KEY FEATURES

- Standard quarter brick package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 160 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 90% to 110%
- External synchronization range : synchro on option
- Additional functions : on/off, sense

INPUT SPECIFICATIONS

INPUT RANGE

H : 9-45 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

C : 5 Vdc / 32 A
E : 12 Vdc / 13.3 A

SINGLE OUTPUT

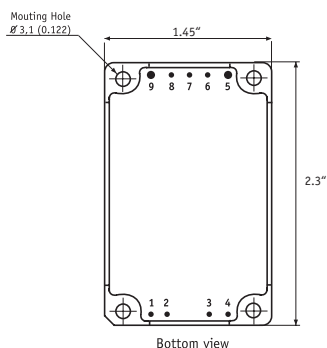
F : 15 Vdc / 10.6 A
I : 24 Vdc / 6.6 A

SINGLE OUTPUT

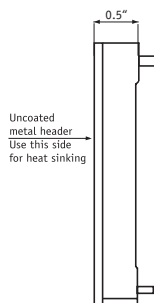
J : 28 Vdc / 5.7 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions :
Pins : 1, 2, 3, 4, 7, 8 : Ø 0.04"
Pins : 5, 9 : Ø 0.06"

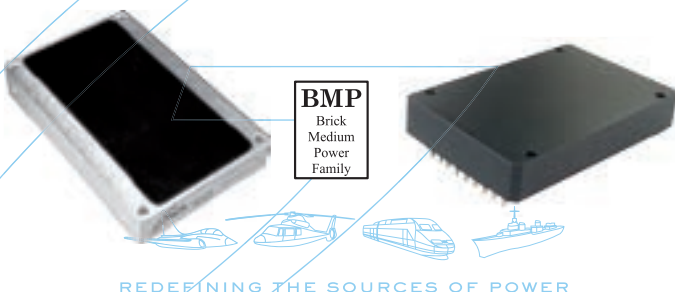


Metallic case alodined
coating solder plated pin

Pin	Single Output
1	-Input (Gi)
2	On option : Synchro (Sync)
3	On/Off
4	+Input (Vi)
5	+Output (Vo)
6	Sense + (S+)
7	Trim (Trim)
8	Trim (Trim)
9	-Output (Go)

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 200W



PART NUMBERING

SINGLE OUTPUT

MGDS-200 - ■ - ■ / ■

SINGLE OUTPUT

MGDS-201 - ■ - ■ / ■

Option **T** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

INPUT SPECIFICATIONS

INPUT RANGE

H : 9-45 Vdc

Q : 16-80 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 35 A

C : 5 Vdc / 35 A

E : 12 Vdc / 16.5 A

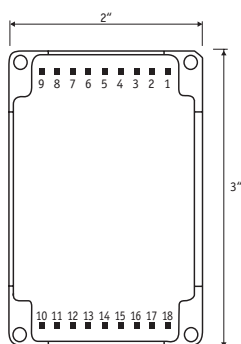
SINGLE OUTPUT

F : 15 Vdc / 13.3 A

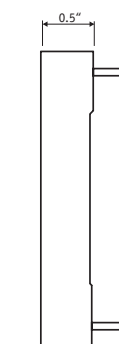
I : 24 Vdc / 8.4 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions : □ 0.025"



Metallic case alodined
coating gold plated pin

Pin	Single Output
1	Syncro (Sync)
2	On/Off
3	5 Vdc
4	Vif
5	Gia
6	-Input (Gi)
7	-Input (Gi)
8	+Input (Vi)
9	+Input (Vi)
10	+Output (Vo)
11	+Output (Vo)
12	-Output (Go)
13	-Output (Go)
14	Itrim
15	Share
16	Sense + (S+)
17	Trim
18	Sense - (S-)

KEY FEATURES

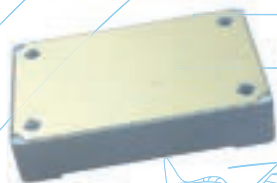
- Unique product with heat dissipation on side
- Single output
- Soft start
- No load to full load operation
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 200 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 270 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 10% to 110%
- External synchronization range : 285 to 310 KHz
- Additional functions : on/off, sense, parallelization, reference voltage, input current ripple reduction

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 200W



BMP
Brick
Medium
Power
Family



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

MGDS-205 - ■ - ■ / ■

Option **/F** : Synchronization function
Option **/S** : Screening and serialization
Option **/T** : Screening -55°C start-up temperature

INPUT SPECIFICATIONS

INPUT RANGE

H : 9-45 Vdc

OUTPUT SPECIFICATIONS

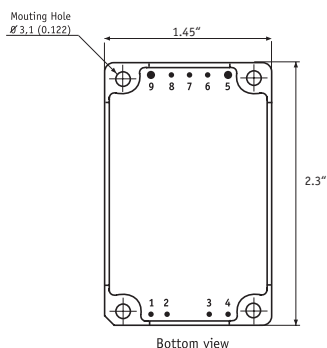
SINGLE OUTPUT

C : 5 Vdc / 40 A

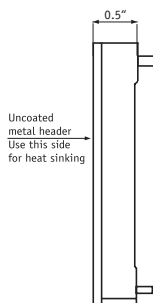
E : 12 Vdc / 16.6 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions :
Pins : 1, 2, 3, 4, 7, 8 : $\varnothing$ 0.04"
Pins : 5, 9 : $\varnothing$ 0.06"



Metallic case alodined
coating solder plated pin

Pin	Single Output
1	-Input (Gi)
2	On option : Synchro (Sync)
3	On/Off
4	+Input (Vi)
5	+Output (Vo)
6	Sense + (S+)
7	Trim (Trim)
8	Trim (Trim)
9	-Output (Go)

KEY FEATURES

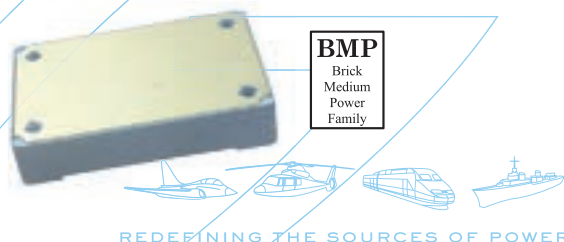
- Standard quarter brick package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 200 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 90% to 110%
- External synchronization range : synchro on option
- Additional functions : on/off, sense

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 250W



BMP
Brick
Medium
Power
Family

PART NUMBERING

SINGLE OUTPUT

MGDS-250 - ■ - ■ / ■

Option **/F** : Synchronization function
Option **/S** : Screening and serialization
Option **/T** : Screening -55°C start-up temperature

INPUT SPECIFICATIONS

INPUT RANGE

I : 9-45 Vdc

OUTPUT SPECIFICATIONS

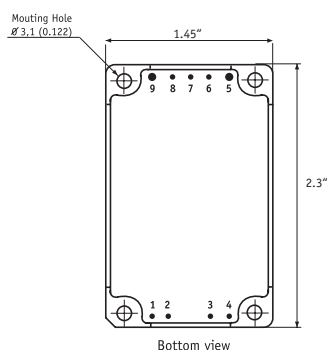
SINGLE OUTPUT

E : 12 Vdc / 20.8 A

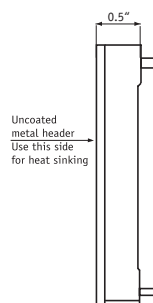
F : 15 Vdc / 16.7 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions :
Pins : 1, 2, 3, 4, 7, 8 : Ø 0.04"
Pins : 5, 9 : Ø 0.06"



Uncoated
metal header
Use this side
for heat sinking

Metallic case alodined
coating solder plated pin

Pin	Single Output
1	-Input (Gi)
2	On option : Synchro (Sync)
3	On/Off
4	+Input (Vi)
5	+Output (Vo)
6	Sense + (S+)
7	Trim (Trim)
8	Trim (Trim)
9	-Output (Go)

KEY FEATURES

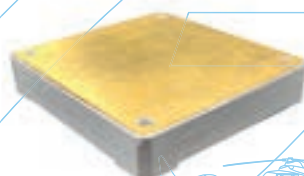
- Standard quarter brick package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 250 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 90% to 110%
- External synchronization range : synchro on option
- Additional functions : on/off, sense

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 500W



BMP
Brick
Medium
Power
Family

REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

MGDS-500 - ■ - ■ / ■

Option **/F** : Synchronization function
Option **/S** : Screening and serialization
Option **/T** : Screening -55°C start-up temperature

INPUT SPECIFICATIONS

INPUT RANGE

H : 9-36 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

E : 12 Vdc / 41.7 A
F : 15 Vdc / 33.4 A

SINGLE OUTPUT

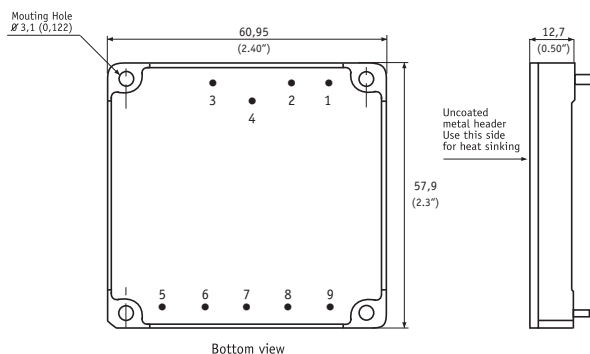
I : 24 Vdc / 20.8 A
J : 28 Vdc / 17.8 A

SINGLE OUTPUT

P : 48 Vdc / 9.4 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions :
1, 4, 5, 9 : $\varnothing 0,079"$
2, 3, 6, 7, 8 : $\varnothing 0,039"$

Metallic case alodined
coating solder plated pin

Pin	Single Output
1	-Input (Gi)
2	Synchro
3	On/Off
4	+Input (Vi)
5	+Output (Vo)
6	Sense + (S+)
7	Trim
8	Sense - (S-)
9	-Output (Go)

KEY FEATURES

- Standard half brick package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 500 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 90% to 110%
- External synchronization range : synchro on option
- Additional functions : on/off, sense



MGDM-18 Series



LLP
Legacy
Low
Power
Family

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 18W

KEY FEATURES

- Small surface 1" x 1.5" package
- Single output
- Soft start
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 18 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 480 KHz
- Protections : output short circuit
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off on option

PART NUMBERING

SINGLE OUTPUT

MGDS-18 - ■ - ■ / ■

Option **[M]** : On/Off function
Option **[S]** : Screening -55°C start-up temperature
Option **[R]** : Screening and serialization
For leaded process add - L after reference. Contact factory for availability

INPUT SPECIFICATIONS

INPUT RANGE

[C] : 4.5-5.5 Vdc
[I] : 9-36 Vdc transient 40 Vdc/100 ms
[F] : 16-40 Vdc transient 50 Vdc/100 ms

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

[B] : 3.3 Vdc / 4 A
[C] : 5 Vdc / 4 A
[E] : 12 Vdc / 1.5 A
[F] : 15 Vdc / 1.2 A



MGDM-20 Series



LLP
Legacy
Low
Power
Family

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 20W

KEY FEATURES

- Standard 2" x 2" package
- Single, bi or triple outputs
- Soft start
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 20 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 480 KHz
- Protections : output short circuit
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off

PART NUMBERING

SINGLE OUTPUT

MGDS-20 - ■ - ■ / ■

BI OUTPUT

MGDB-20 - ■ - ■ / ■

TRIPLE OUTPUT

MGDT-20 - ■ - ■ / ■

Option **[S]** : Screening -55°C start-up temperature
Option **[R]** : Screening and serialization
For leaded process add - L after reference. Contact factory for availability

INPUT SPECIFICATIONS

INPUT RANGE

[C] : 4.5-5.5 Vdc
[I] : 9-36 Vdc transient 40 Vdc/100 ms
[F] : 16-40 Vdc transient 50 Vdc/100 ms

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

[B] : 3.3 Vdc / 4 A
[C] : 5 Vdc / 4 A
[E] : 12 Vdc / 1.6 A
[F] : 15 Vdc / 1.3 A

BI OUTPUT

[C] : ± 5 Vdc / ± 2 A
[E] : ± 12 Vdc / ± 0.8 A
[F] : ± 15 Vdc / ± 0.65 A

TRIPLE OUTPUT

[BE] : 3.3 Vdc & ± 12 Vdc / 2 A & ± 0.4 A
[BF] : 3.3 Vdc & ± 15 Vdc / 2 A & ± 0.3 A
[CE] : 5 Vdc & ± 12 Vdc / 2 A & ± 0.4 A
[CF] : 5 Vdc & ± 15 Vdc / 2 A & ± 0.3 A



MGDM-25 Series



LLP
Legacy
Low
Power
Family

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 25W

KEY FEATURES

- Standard 2" x 2" package
- Single, bi or triple outputs
- Soft start
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 25 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 250 KHz
- Protections : output short circuit
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off on option

PART NUMBERING

SINGLE OUTPUT

MGDS-25 - ■ - ■ / ■

BI OUTPUT

MGDB-25 - ■ - ■ / ■

TRIPLE OUTPUT

MGDT-25 - ■ - ■ / ■

Option **[M]** : On/Off function - Option **[S]** : Screening -55°C start-up temperature
Option **[R]** : Screening and serialization
For leaded process add - L after reference. Contact factory for availability

INPUT SPECIFICATIONS

INPUT RANGE

[I] : 9-36 Vdc transient 40 Vdc/100 ms
[F] : 16-40 Vdc transient 50 Vdc/100 ms

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

[B] : 3.3 Vdc / 6 A
[C] : 5 Vdc / 5 A
[E] : 12 Vdc / 2 A
[F] : 15 Vdc / 1.65 A

BI OUTPUT

[C] : ± 5 Vdc / ± 2.5 A
[E] : ± 12 Vdc / ± 1 A
[F] : ± 15 Vdc / ± 0.825 A

TRIPLE OUTPUT

[BE] : 3.3 Vdc & ± 12 Vdc / 2.5 A & ± 0.5 A
[BF] : 3.3 Vdc & ± 15 Vdc / 2.5 A & ± 0.4 A
[CE] : 5 Vdc & ± 12 Vdc / 2.5 A & ± 0.5 A
[CF] : 5 Vdc & ± 15 Vdc / 2.5 A & ± 0.4 A



www.gaia-converter.com



MGDM-26 Series



LLP
Legacy
Low
Power
Family

DC/DC CONVERTERS DC ISOLATED CONVERTERS 26W

KEY FEATURES

- Standard 2" x 2" package
- Single output
- Soft start
- No load to full load operation
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 25 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 1 MHz
- Protections : input undervoltage lockout, output short circuit
- Trim adjustment : 80% to 110%
- External synchronization range : 1.05 to 1.15 MHz
- Additional functions : on/off, sense parallelization

PART NUMBERING

SINGLE OUTPUT

MGDS-26 - ■ - ■ - ■ / ■

Option **A** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

For leaded process add - L after reference. Contact factory for availability

INPUT SPECIFICATIONS

INPUT RANGE

A : 9-36 Vdc transient 40 Vdc/100 ms
B : 16-40 Vdc transient 50 Vdc/100 ms

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 6 A
C : 5 Vdc / 5 A
E : 12 Vdc / 2 A
F : 15 Vdc / 1.65 A



CGDM-30 Series



LLP
Legacy
Low
Power
Family

DC/DC CONVERTERS DC ISOLATED CONVERTERS 30W

KEY FEATURES

- Low profile 0.33" package
- Highly configurable DC/DC converter
- Up to 6 outputs and 3 independent line regulations
- Soft start
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 30 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 480 KHz
- Protections : output short circuit, output overvoltage, over temperature
- Trim adjustment : 95% to 105%
- External synchronization range : no synchro
- Additional functions : on/off, sense

PART NUMBERING

SINGLE LINE OUTPUT

CGDM - ■ - ■ - 0 - 0 / ■

DUAL LINE OUTPUT

CGDM - ■ - ■ - 0 - ■ / ■

TRIPLE LINE OUTPUT

CGDM - ■ - ■ - ■ - ■ / ■

Option **A** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

For leaded process add - L after reference. Contact factory for availability

INPUT SPECIFICATIONS

INPUT RANGE

A : 9-36 Vdc transient 40 Vdc/100 ms
B : 16-40 Vdc transient 50 Vdc/100 ms

OUTPUT SPECIFICATIONS

OUTPUT

3 : 3.3 Vdc
5 : 5 Vdc
12 : 12 Vdc
15 : 15 Vdc

OUTPUT

5B : +/- 5 Vdc
12B : +/- 12 Vdc
15B : +/- 15 Vdc



MGDM-35 Series



LLP
Legacy
Low
Power
Family

DC/DC CONVERTERS DC ISOLATED CONVERTERS 35W

KEY FEATURES

- Standard 3" x 2" package
- Single, bi or triple outputs
- Soft start
- No load to full load operation
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 35 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 500 KHz
- Protections : input undervoltage lockout, output short circuit, output overvoltage
- Trim adjustment : 95% to 105%
- External synchronization range : 550 to 600 KHz
- Additional functions : on/off, reference voltage, adjustable undervoltage lockout

PART NUMBERING

SINGLE OUTPUT

MGDS-35 - ■ - ■ - ■ / ■

BI OUTPUT

MGDB-35 - ■ - ■ - ■ / ■

TRIPLE OUTPUT

MGDT-35 - ■ - ■ - ■ / ■

Option **A** : Screening -55°C start-up temperature
Option **S** : Screening and serialization

For leaded process add - L after reference. Contact factory for availability

INPUT SPECIFICATIONS

INPUT RANGE

A : 9-36 Vdc transient 40 Vdc/100 ms
B : 16-75 Vdc transient 80 Vdc/100 ms

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 7 A
C : 5 Vdc / 7 A
E : 12 Vdc / 2.9 A
F : 15 Vdc / 2.3 A

BI OUTPUT

C : ± 5 Vdc / ± 4 A
E : ± 12 Vdc / ± 1.7 A
F : ± 15 Vdc / ± 1.3 A

TRIPLE OUTPUT

BE : 3.3 Vdc & ± 12 Vdc / 4 A & ± 1.1 A*
BF : 3.3 Vdc & ± 15 Vdc / 4 A & ± 0.9 A*
CE : 5 Vdc & ± 12 Vdc / 4 A & ± 1.1 A*
CF : 5 Vdc & ± 15 Vdc / 4 A & ± 0.9 A*

*Indicated values are maximum current on each output with total power not exceeding 35W



www.gaia-converter.com



MGDD-60 Series

DC/DC CONVERTERS DC ISOLATED CONVERTERS 60W



LLP
Legacy
Low
Power
Family

PART NUMBERING

DUAL OUTPUT

MGDD-60 - ■ - ■ / ■

Option **1**: Screening -55°C start-up temperature
Option **2**: Screening and serialization

INPUT SPECIFICATIONS

ULTRA WIDE INPUT

1: 12-160 Vdc transient 10.5 Vdc/1 sec

OUTPUT SPECIFICATIONS

DUAL ISOLATED OUTPUT*

C: 2 X 5 Vdc / 2 x 5 A
E: 2 x 12 Vdc / 2 x 2.5 A
F: 2 x 15 Vdc / 2 x 2 A
I: 2 x 24 Vdc / 2 x 1.25 A

* Possible unbalanced power up to 10% / 90%

KEY FEATURES

- Ultra wide input 12-160 Vdc
- Flexible isolated dual outputs
- Soft start
- No load to full load operation
- No optocoupler for high reliability

GENERAL CHARACTERISTICS

- Nominal power up to : 60 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 270 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 80% to 110%
- External synchronization range : 285 to 310 KHz
- Additional functions : on/off, Input current ripple reduction, reference voltage, adjustable undervoltage lockout



MGDM-100 Series

DC/DC CONVERTERS DC ISOLATED CONVERTERS 100W



LLP
Legacy
Low
Power
Family

PART NUMBERING

SINGLE OUTPUT

MGDS-100 - ■ - ■ / ■

Option **1**: Screening -55°C start-up temperature
Option **2**: Screening and serialization

INPUT SPECIFICATIONS

INPUT RANGE

M: 10.7-100 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B: 3.3 Vdc / 20 A
C: 5 Vdc / 20 A
E: 12 Vdc / 8.5 A

SINGLE OUTPUT

F: 15 Vdc / 6.5 A
26: 26 Vdc / 4 A

KEY FEATURES

- Standard 3" x 2" package
- Single output
- Soft start
- No load to full load operation
- No optocoupler for high reliability

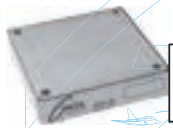
GENERAL CHARACTERISTICS

- Nominal power up to : 100 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 260 KHz
- Protections : input undervoltage lockout, input overvoltage lockout, output current limitation, over temperature
- Trim adjustment : 80% to 110%
- External synchronization range : 270 to 300 KHz
- Additional functions : on/off, sense, adjustable undervoltage lockout



MGDM-150 Series

DC/DC CONVERTERS DC ISOLATED CONVERTERS 150W



BMP
Brick
Medium
Power
Family

PART NUMBERING

SINGLE OUTPUT

MGDS-150 - ■ - ■ / ■

Option **1**: Screening -55°C start-up temperature
Option **2**: Screening and serialization
Leaded process add - L after reference

INPUT SPECIFICATIONS

INPUT RANGE

H: 9-45 Vdc
I: 16-80 Vdc
1: 120-480 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B: 3.3 Vdc / 30 A
C: 5 Vdc / 30 A
E: 12 Vdc / 12.5 A

SINGLE OUTPUT

F: 15 Vdc / 10 A
1: 24 Vdc / 6.25 A
J: 28 Vdc / 5.3 A

KEY FEATURES

- Standard half brick package
- Single output
- Soft start
- No load to full load operation
- No optocoupler for high reliability

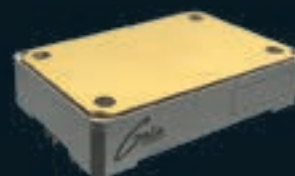
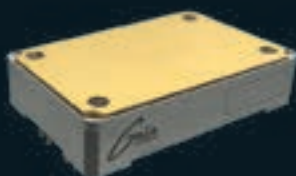
GENERAL CHARACTERISTICS

- Nominal power up to : 150 W
- Galvanic isolation input/output : 1 500 Vdc (2 000 Vdc for T input)
- Switching frequency : 420 KHz (210 KHz for T input)
- Protections : input undervoltage lockout, input overvoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 10% to 110%
- External synchronization range : 420 to 480 KHz (220 KHz to 235 KHz for T input)
- Additional functions : on/off, sense, parallelization





INDUSTRIAL GRADE POWER MODULES



FRONT-END MODULES

DC SPIKE PROTECTION 50W



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

LGDSI-50 - ■ - ■

KEY FEATURES

- Spike suppressor for Railway/Industrial
 - EN61000-4-5 level 4
 - EN50155 level 1800V & 8400V
 - RIA 12

GENERAL CHARACTERISTICS

- Power range from : 4 W to 50 W
- Galvanic isolation input/output : non isolated
- Protections : input reverse polarity
- Additional functions : on/off

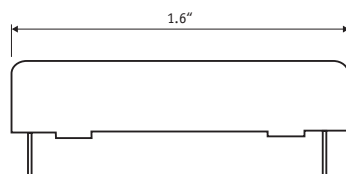
INPUT SPECIFICATIONS

INPUT RANGE

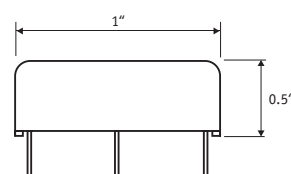
J : 10-36 Vdc transient : 40 Vdc / 1 s & 85 Vdc / 20 ms spike : 1800 Vdc / 50 μ s
Q : 36-154 Vdc transient : 165 Vdc / 1 s & 385 Vdc / 20 ms spike : 1800 Vdc / 50 μ s

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions : $\varnothing$ 0.03 "



Metallic case black anodized coating solder plated pin



Bottom view

Pin	Single Output
1	+Input (Vi)
2	On/Off
3	-Input (Gi)
4	Common (Go)
5	Output (Vo)

FRONT-END MODULES

DC SPIKE PROTECTION 75W



REDEFINING THE SOURCES OF POWER

KEY FEATURES

- Spike suppressor for Railway/Industrial
 - EN61000-4-5 level 4
 - EN50155 level 1800V & 8400V
 - RIA 12

GENERAL CHARACTERISTICS

- Power range from : 4 W to 75 W
- Galvanic isolation input/output : non isolated
- Protections : input reverse polarity
- Additional functions : on/off

PART NUMBERING

SINGLE OUTPUT

LGDSI-75 - ■ - ■

INPUT SPECIFICATIONS

INPUT RANGE

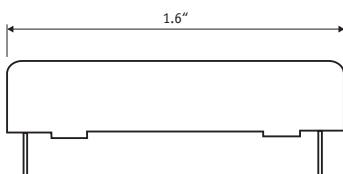
: 43-154 Vdc

transient : 165 Vdc / 1 s

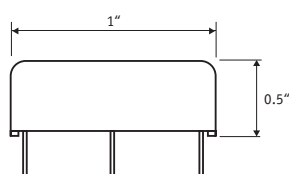
spike : 1800 Vdc / 50 μ s

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions : $\varnothing$ 0.03 "



Metallic case black anodized coating solder plated pin



Bottom view

Pin	Single Output
1	+Input (Vi)
2	On/Off
3	-Input (Gi)
4	Common (Go)
5	Output (Vo)

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 4W



LLP
Legacy
Low
Power
Family

REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT	MGDSI-04 - ■ - ■ / ■
BI OUTPUT	MGDBI-04 - ■ - ■ / ■
TRIPLE OUTPUT	MGDTI-04 - ■ - ■ / ■

Option **M**: On/Off function
Option **V**: High isolation 3 000 Vdc

INPUT SPECIFICATIONS

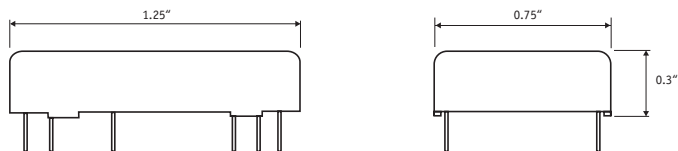
STANDARD INPUT	WIDE INPUT
C : 4.5-5.5 Vdc I : 18-36 Vdc	H : 9-36 Vdc J : 16-40 Vdc Q : 36-140 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT	BI OUTPUT	TRIPLE OUTPUT
B : 3.3 Vdc / 1 A C : 5 Vdc / 0.8 A E : 12 Vdc / 0.33 A F : 15 Vdc / 0.26 A	C : ± 5 Vdc / ± 0.4 A E : ± 12 Vdc / ± 0.165 A F : ± 15 Vdc / ± 0.13 A	CF : 5 Vdc & ± 15 Vdc / 0.5 A & ± 0.05 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions: $\varnothing 0.02$ "

Metallic case black anodized coating solder plated pin

(For 36-140 Vdc and triple output versions: length is 1.4", width is 0.8" and height is 0.4")

• 12 13 • • 11 14 • 20 • • 2 23 • • 1 24 •	• 11 13 • • 10 15 • 20 • • 2 23 • • 1 24 •	• 12 13 • • 11 14 • 15 • 20 • • 2 23 • • 1 24 •
Single output model	Bi output model	Triple output model

Bottom view

Pin	Single Output	Bi Output	Triple Output
1	+Input (Vi)	+Input (Vi)	+Input (Vi)
2	+Input (Vi)	+Input (Vi)	+Input (Vi)
10	No pin	Common (Go)	No pin
11	Common (Go)	Common (Go)	Common (Go)
12	Common (Go)	No pin	Common (Go)
13	Output (Vo)	Output - (-Vo)	Output 2- (-Vo2)
14	Output (Vo)	No pin	Output1+ (+Vo1)
15	No pin	Output + (+Vo)	Output 2+ (+Vo2)
20	On/Off (option)	On/Off (option)	On/Off (option)
23	-Input (Gi)	-Input (Gi)	-Input (Gi)
24	-Input (Gi)	-Input (Gi)	-Input (Gi)

KEY FEATURES

- Low profile 0.3" package
- Single, bi or triple outputs
- Soft start

GENERAL CHARACTERISTICS

- Nominal power up to : 4 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 480 KHz
- Protections : output short circuit
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off on option

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 6W



WLP
WiWoo
Low
Power
Family



REDEFINING THE SOURCES OF POWER

PART NUMBERING

DUAL OUTPUT

MGDDI-06 - ■ - ■ / ■

INPUT SPECIFICATIONS

ULTRA WIDE INPUT

R : 12-160 Vdc

OUTPUT SPECIFICATIONS

DUAL ISOLATED OUTPUT*

C : 2 X 5 Vdc / 2 x 0.6 A

E : 2 x 12 Vdc / 2 x 0.25 A

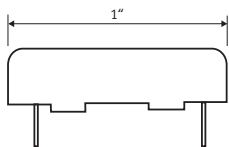
F : 2 x 15 Vdc / 2 x 0.2 A

I : 2 x 24 Vdc / 2 x 0.125 A

* Possible unbalanced power
up to 10% / 90%

PACKAGE AND PIN-OUT

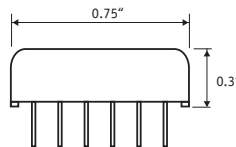
Dimensions in inches



Pin dimensions : square pin 0.025"



Bottom view



Metallic case black anodized coating gold plated pin

Pin	Dual Output
1	On Off
2	UVLO
3	- Input (Gi)
4	VIF
5	+ Input (Vi)
6	+ Output 2 (Vo2)
7	- Output 2 (Go2)
8	+ Output 1 (Vo1)
9	- Output 1 (Go1)
10	Vtrim

KEY FEATURES

- Ultra wide input 12-160 Vdc
- Flexible isolated dual outputs
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 6 W
- Galvanic isolation input/output : 2 250 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation
- Trim adjustment : 80% to 110%
- External synchronization range : no synchro
- Additional functions : on/off, input current ripple reduction

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 10W



LLP
Legacy
Low
Power
Family

REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT	MGDSI-10 - ■ - ■ / ■
BI OUTPUT	MGDBI-10 - ■ - ■ / ■
TRIPLE OUTPUT	MGDTI-10 - ■ - ■ / ■

Option **M** : On/Off function - Option **N** : High isolation 3 000 Vdc

INPUT SPECIFICATIONS

STANDARD INPUT

C : 4.5-5.5 Vdc
I : 18-36 Vdc

WIDE INPUT

D : 4.7-16 Vdc
H : 9-36 Vdc
J : 16-40 Vdc
Q : 36-140 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 2 A
C : 5 Vdc / 2 A
E : 12 Vdc / 0.8 A
F : 15 Vdc / 0.65 A

BI OUTPUT

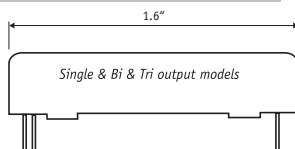
C : ± 5 Vdc / ± 1 A
E : ± 12 Vdc / ± 0.4 A
F : ± 15 Vdc / ± 0.325 A

TRIPLE OUTPUT

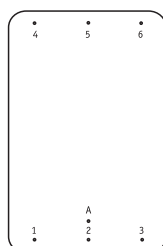
CE : 5 Vdc & ± 12 Vdc / 1 A & ± 0.2 A
CF : 5 Vdc & ± 15 Vdc / 1 A & ± 0.15 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions : $\varnothing$ 0.03"

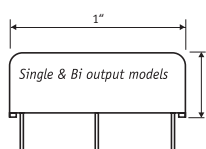


Single & Bi output models

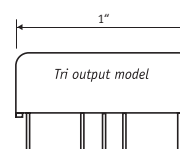


Tri output models

Bottom view



Metallic case black anodized coating solder plated pin



Pin	Single Output	Bi Output	Triple Output
1	+Input (Vi)	+Input (Vi)	+Input (Vi)
2	Gate*	No pin	No pin
3	-Input (Gi)	-Input (Gi)	-Input (Gi)
4	Output (Vo)	Output+ (+Vo)	Output 1 (V1)
5	No Pin	Common (Go)	No pin
6	Common (Go)	Output- (-Vo)	Common (Go)
7	No pin	No pin	Output 2+ (+V2)
8	No pin	No pin	Output 2- (-V2)
A	On/Off (option)	On/Off (option)	On/Off (option)

KEY FEATURES

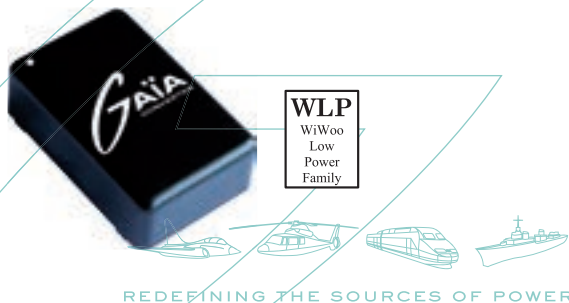
- Low profile 0.33" package
- Single, bi or triple outputs
- Soft start

GENERAL CHARACTERISTICS

- Nominal power up to : 10 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 480 KHz
- Protections : output short circuit
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off on option

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 20W



PART NUMBERING

DUAL OUTPUT

MGDDI-20 - ■ - ■

INPUT SPECIFICATIONS

ULTRA WIDE INPUT

R : 12-160 Vdc

OUTPUT SPECIFICATIONS

DUAL ISOLATED OUTPUT*

C : 2 X 5 Vdc / 2 x 2 A

E : 2 x 12 Vdc / 2 x 0.825 A

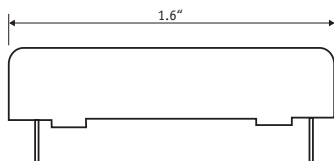
F : 2 x 15 Vdc / 2 x 0.65 A

I : 2 x 24 Vdc / 2 x 0.42 A

* Possible unbalanced power up to 10% / 90%

PACKAGE AND PIN-OUT

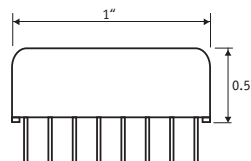
Dimensions in inches



Pin dimensions : square pin 0.025"



Bottom view



Metallic case black anodized coating gold plated pin

Pin	Dual Output	Pin	Dual Output
1	On/Off	9	+ Output 2 (Vo2)
2	Do not connect	10	- Output 2 (Go2)
3	UVLO	11	Do not connect
4	Do not connect	12	+ Output 1 (Vo1)
5	Do not connect	13	- Output 1 (Go1)
6	- Input (Gi)	14	Do not connect
7	VIF	15	Vtrim
8	+ Input (Vi)	16	Do not connect

KEY FEATURES

- Ultra wide input 12-160 Vdc
- Flexible isolated dual outputs
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 20 W
- Galvanic isolation input/output : 2 250 Vdc
- Switching frequency : 270 KHz
- Protections : input undervoltage lockout, output current, output over voltage
- Trim adjustment : 80% to 110%
- External synchronization range : no synchro
- Additional functions : on/off, input current ripple reduction, adjustable undervoltage lockout

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 20W



WLP
WiWoo
Low
Power
Family



REDEFINING THE SOURCES OF POWER

PART NUMBERING

DUAL OUTPUT

MGRDI-20 - ■ - ■

INPUT SPECIFICATIONS

ULTRA WIDE INPUT

R : 12-160 Vdc

OUTPUT SPECIFICATIONS

DUAL ISOLATED OUTPUT*

C : 2 X 5 Vdc / 2 x 2 A

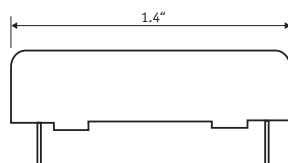
E : 2 x 12 Vdc / 2 x 0.85 A

F : 2 x 15 Vdc / 2 x 0.675 A

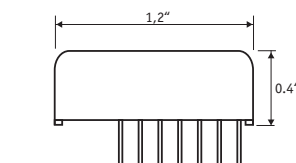
* Possible unbalanced power
up to 10% / 90%

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions : 0,025" x 0,025"



Metallic case black anodized coating.
Flash gold plating over nickel underplate.



Bottom view

Pin	Function
1	On Off
2	UVLO
3	- Input (Gi)
4	VIF
5	+ Input (Vi)
6	+ Output 2 (Vo2)
7	- Output 2 (Go2)
8	+ Output 1 (Vo1)
9	- Output 1 (Go1)
10	Vtrim

KEY FEATURES

- Ultra wide input 12-160 Vdc
- Reinforced isolation 3 KVRms
- Flexible isolated dual outputs
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 20 W
- Switching frequency : 270 KHz
- Protections : input undervoltage lockout, output current
- Trim adjustment : 80% to 110%
- External synchronization range : no synchro
- Additional functions : on/off, input current ripple reduction, adjustable undervoltage lockout

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 35W



LLP
Legacy
Low
Power
Family

REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

MGDSI-35 - ■ - ■

BI OUTPUT

MGDBI-35 - ■ - ■

TRIPLE OUTPUT

MGDTI-35 - ■ - ■

INPUT SPECIFICATIONS

WIDE INPUT

H : 9-36 Vdc

O : 18-75 Vdc

Q : 36-140 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 7 A

C : 5 Vdc / 7 A

E : 12 Vdc / 2.9 A

F : 15 Vdc / 2.3 A

BI OUTPUT

C : ± 5 Vdc / ± 4 A

E : ± 12 Vdc / ± 1.7 A

F : ± 15 Vdc / ± 1.3 A

TRIPLE OUTPUT

BE : 3.3 Vdc & ± 12 Vdc / 4 A & ± 1.1 A*

BF : 3.3 Vdc & ± 15 Vdc / 4 A & ± 0.9 A*

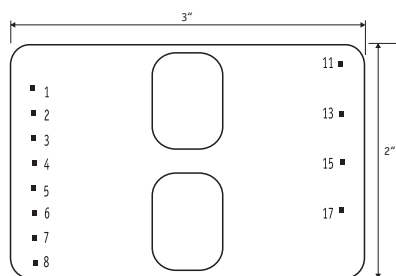
CE : 5 Vdc & ± 12 Vdc / 4 A & ± 1.1 A*

CF : 5 Vdc & ± 15 Vdc / 4 A & ± 0.9 A*

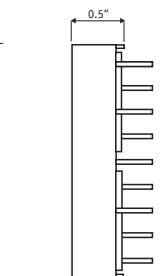
*Indicated values are maximum current on each output with total power not exceeding 35W

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions : $\square$ 0.035"



Metallic case black anodized
coating solder plated pin

Pin	Single Output	Bi Output	Triple Output
1	UVLO	UVLO	UVLO
2	-Input (Gi)	-Input (Gi)	-Input (Gi)
3	Do not connect	Do not connect	Do not connect
4	+Input (Vi)	+Input (Vi)	+Input (Vi)
5	Trim (Trim)	Trim (Trim)	Trim (Trim)
6	Synchro (Sync)	Synchro (Sync)	Synchro (Sync)
7	V Ref	V Ref	V Ref
8	On/Off	On/Off	On/Off
11	Do not connect	Output - (-Vo)	Output 2- (-Vo2)
13	Do not connect	Do not connect	Output 2+ (+Vo2)
15	Common (Go)	Common (Go)	Common (Go)
17	Output (Vo)	Output + (+Vo)	Output 1+ (+Vo1)

KEY FEATURES

- Standard 3" x 2" package
- Single, bi or triple outputs
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 35 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 500 KHz
- Protections : input undervoltage lockout, output short circuit, output overvoltage
- Trim adjustment : 95% to 105%
- External synchronization range : 550 to 600 KHz
- Additional functions : on/off, reference voltage, adjustable undervoltage lockout

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 40W



WLP
WiWoo
Low
Power
Family



REDEFINING THE SOURCES OF POWER

PART NUMBERING

DUAL OUTPUT

MGRDI-40 - ■ - ■

INPUT SPECIFICATIONS

ULTRA WIDE INPUT

R : 12-160 Vdc

OUTPUT SPECIFICATIONS

DUAL ISOLATED OUTPUT*

C : 2 X 5 Vdc / 2 x 4 A

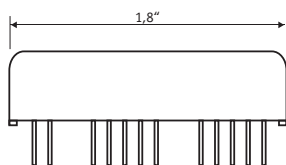
E : 2 x 12 Vdc / 2 x 1.7 A

F : 2 x 15 Vdc / 2 x 1.35 A

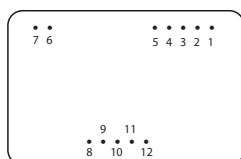
* Possible unbalanced power
up to 10% / 90%

PACKAGE AND PIN-OUT

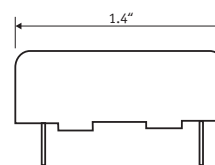
Dimensions in inches



Pin dimensions : 0,025" x0,025"



Bottom view



Metallic case black anodized coat
Flash gold plating over nickel under

Pin	Function	Pin	Function
1	On/Off	7	+Input (Vi)
2	UVLO	8	+ Output (Vo2)
3	-Input (Gi)	9	- Output 2 (Go2)
4	-Input (Gi)	10	+ Output 1 (Vo1)
5	VIF	11	- Output 1 (Go1)
6	+Input (Vi)	12	Vtrim

KEY FEATURES

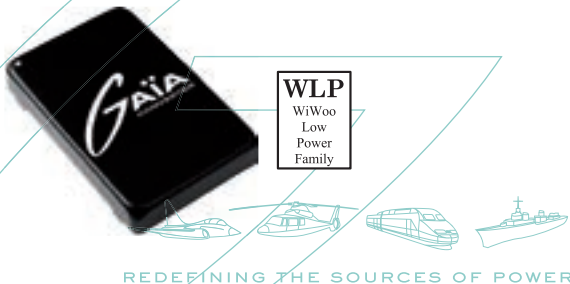
- Ultra wide input 12-160 Vdc
- Reinforced isolation 3 KVRms
- Flexible isolated dual outputs
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 40 W
- Switching frequency : 270 KHz
- Protections : input undervoltage lockout, output current, output over voltage
- Trim adjustment : 80% to 110%
- External synchronization range : no synchro
- Additional functions : on/off, input current ripple reduction, adjustable undervoltage lockout

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 60W



KEY FEATURES

- Wide input 14-55 Vdc, 36-175 Vdc, 12-160 Vdc
- Flexible isolated dual outputs
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 60 W
- Galvanic isolation input/output : 1 500 Vdc (2 250 Vdc for MGDDI)
- Switching frequency : 270 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 80% to 110%
- External synchronization range : 285 to 310 KHz
- Additional functions : on/off, Input current ripple reduction, adjustable undervoltage lockout

PART NUMBERING

SINGLE OUTPUT

MGDSI-60 - ■ - ■

DUAL OUTPUT

MGDDI-60 - ■ - ■

INPUT SPECIFICATIONS

WIDE INPUT

ULTRA WIDE INPUT

G : 14-55 Vdc
Q : 36-175 Vdc

R : 12-160 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

DUAL ISOLATED OUTPUT*

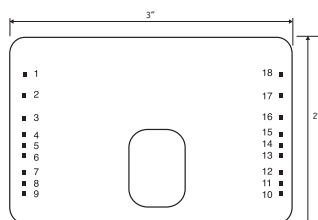
B : 3.3 Vdc / 15 A
C : 5 Vdc / 12 A
E : 12 Vdc / 5 A
F : 15 Vdc / 4 A
26 : 26 Vdc / 2.3 A

C : 2 X 5 Vdc / 2 x 5 A
E : 2 x 12 Vdc / 2 x 2.5 A
F : 2 x 15 Vdc / 2 x 2 A
I : 2 x 24 Vdc / 2 x 1.25 A

* Possible unbalanced power up to 10% / 90%

PACKAGE AND PIN-OUT

Dimensions in inches

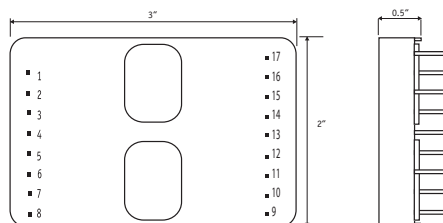


Bottom view

Pin dimensions : square pin 0.035"

Metallic case black anodized coating solder plated pin

Pin	Single Output	Pin	Single Output
1	On/Off	10,11,12	Output (Vo)
2	Synchro (Sync)	13,14,15	Common (Go)
3	UVLO	16	Sense +
4,5,6	-Input (Gi)	17	Trim
7,8,9	+Input (Vi)	18	Sense -



Pin dimensions : 0.035"

Metallic case black anodized coating solder plated pin

Pin	Dual Output	Pin	Dual Output
1	UVLO	10	Do not connect
2	-Input (Gi)	11	+ Output 1 (Vo1)
3	VIF	12	Do not connect
4	+Input (Vi)	13	- Output 1 (Go1)
5	Do not connect	14	Do not connect
6	Do not connect	15	+ Output 2 (Vo2)
7	Do not connect	16	Do not connect
8	On/Off/OTP	17	- Output 2 (Go2)
9	Vtrim		

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 75W



BMP
Brick
Medium
Power
Family

REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

MGDSI-75 - ■ - ■

Leaded process for H and O series add - L after reference

INPUT SPECIFICATIONS

WIDE INPUT

H : 9-36 Vdc

O : 18-75 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT*

B : 3.3 Vdc / 15 A

C : 5 Vdc / 15 A

E : 12 Vdc / 6.25 A

SINGLE OUTPUT*

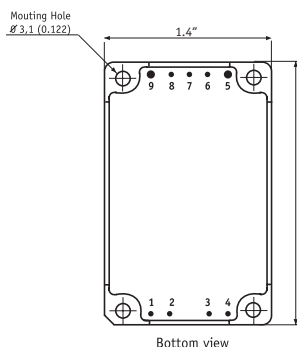
F : 15 Vdc / 5 A

I : 24 Vdc / 3.125 A*

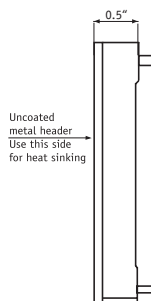
J : 28 Vdc / 2.7 A*

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions :
Pins : 1, 2, 3, 4, 7, 8 : Ø 0.04"
Pins : 5, 9 : Ø 0.06"



Metallic case alodined
coating solder plated pin

Pin	Single Output
1	-Input (Gi)
2	Syncho (Sync)
3	On/Off
4	+Input (Vi)
5	+Output (Vo)
6	Sense + (S+)
7	Trim (Trim)
8	Sense - (S-)
9	-Output (Go)

KEY FEATURES

- Standard quarter brick package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 75 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 420 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 80% to 110%
- External synchronization range : 420 to 480 KHz
- Additional functions : on/off, sense

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 80W



WLP
WiWoo
Low
Power
Family



REDEFINING THE SOURCES OF POWER

PART NUMBERING

DUAL OUTPUT

MGRDI-80 - ■ - ■

INPUT SPECIFICATIONS

ULTRA WIDE INPUT

R : 12-160 Vdc

OUTPUT SPECIFICATIONS

DUAL ISOLATED OUTPUT*

C : 2 X 5 Vdc / 2 x 8 A

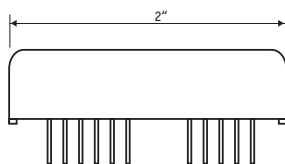
E : 2 x 12 Vdc / 2 x 3.3 A

F : 2 x 15 Vdc / 2 x 2.7 A

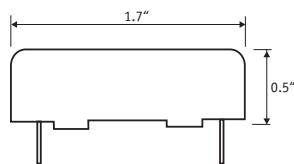
* Possible unbalanced power
up to 10% / 90%

PACKAGE AND PIN-OUT

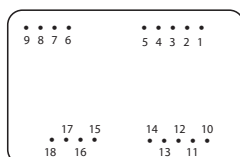
Dimensions in inches



Pin dimensions : 0,025" x0,025"



Metallic case black anodized coating.
Gold plated pin.



Bottom view

Pin	Dual Output	Pin	Dual Output
1	On/Off	10	- Output 1 (Go1)
2	UVLO	11	- Output 1 (Go1)
3	BS	12	+ Output 1 (Vo1)
4	-Input (Gi)	13	+ Output 1 (Vo1)
5	-Input (Gi)	14	Do not connect
6	VIF	15	- Output 2 (Go2)
7	VIF	16	- Output 2 (Go2)
8	+Input (Vi)	17	+ Output 2 (Vo2)
9	+Input (Vi)	18	+ Output 2 (Vo2)

KEY FEATURES

- Ultra wide input 12-160 Vdc
- Reinforced isolation 3 KVRms
- Flexible isolated dual outputs
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 80 W
- Switching frequency : 270 KHz
- Protections : input undervoltage lockout, output current, output over voltage
- Trim adjustment : 80% to 110%
- External synchronization range : no synchro
- Additional functions : on/off, input current ripple reduction, adjustable undervoltage lockout

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 100W



LLP
Legacy
Low
Power
Family



REDEFINING THE SOURCES OF POWER

PART NUMBERING

SINGLE OUTPUT

MGDSI-100 - ■ - ■

INPUT SPECIFICATIONS

WIDE INPUT

G : 14-55 Vdc

Q : 36-140 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 20 A

C : 5 Vdc / 20 A

E : 12 Vdc / 8.5 A

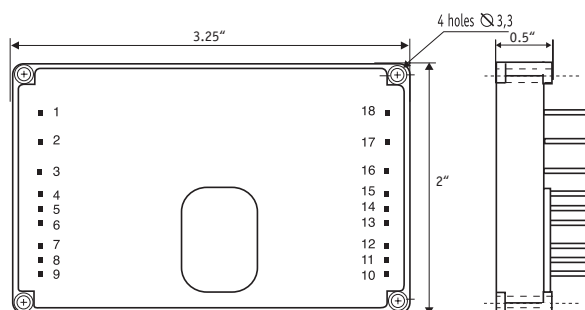
SINGLE OUTPUT

F : 15 Vdc / 6.5 A

26 : 26 Vdc / 4 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions : square pin $\square$ 0.035"

Metallic case black anodized
coating solder plated pin

Pin	Single Output
1	On/Off
2	Synchro (Sync)
3	UVLO
4,5,6	-Input (Gi)
7,8,9	+Input (Vi)
10,11,12	Output (Vo)
13,14,15	Common (Go)
16	Sense +
17	Trim
18	Sense -

KEY FEATURES

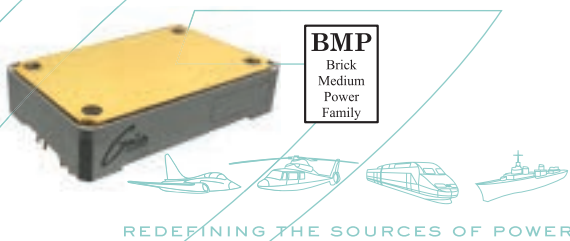
- Standard 3" x 2" package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 100 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 260 KHz
- Protections : input undervoltage lockout, input overvoltage lockout, output current limitation, over temperature
- Trim adjustment : 80% to 110%
- External synchronization range : 270 to 300 KHz
- Additional functions : on/off, sense, adjustable undervoltage lockout

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 120W



PART NUMBERING

SINGLE OUTPUT

MGDSI-124 - ■ - ■

INPUT SPECIFICATIONS

WIDE INPUT

H : 9-36 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

C : 5 Vdc / 24 A

E : 12 Vdc / 10 A

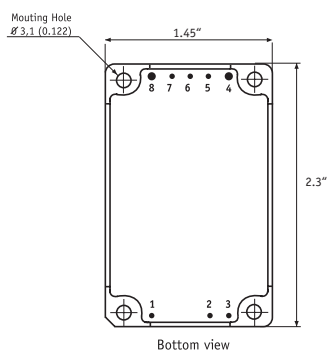
SINGLE OUTPUT

F : 15 Vdc / 8 A

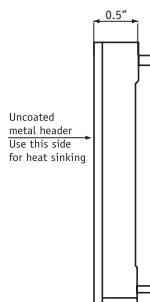
I : 24 Vdc / 5 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions :
Pins : 1, 2, 3, 5, 6, 7 : $\varnothing$ 0.04"
Pins : 4, 8 : $\varnothing$ 0.06"



Metallic case alodined
coating solder plated pin

Pin	Single Output
1	-Input (Gi)
2	On/Off
3	+Input (Vi)
4	+Output (Vo)
5	Sense + (S+)
6	Trim (Trim)
7	Sense - (S-)
8	-Output (Go)

KEY FEATURES

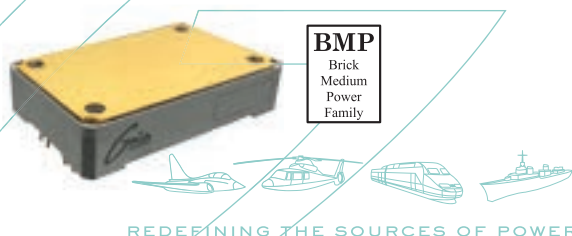
- Standard quarter brick package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 120 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 90% to 110%
- External synchronization range : no synchro
- Additional functions : on/off, sense

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 160W



PART NUMBERING

SINGLE OUTPUT

MGDSI-164 - ■ - ■

INPUT SPECIFICATIONS

WIDE INPUT

I : 9-36 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

C : 5 Vdc / 32 A

E : 12 Vdc / 13.3 A

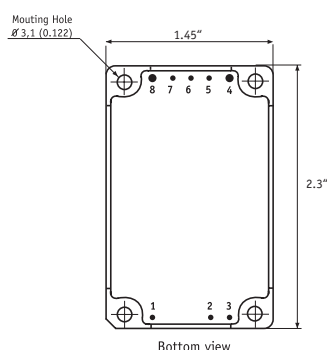
SINGLE OUTPUT

F : 15 Vdc / 10.6 A

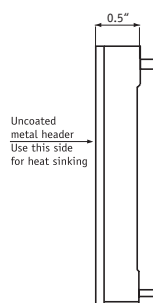
I : 24 Vdc / 6.6 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions :
Pins : 1, 2, 3, 5, 6, 7 : $\varnothing$ 0.04"
Pins : 4, 8 : $\varnothing$ 0.06"



Metallic case alodined
coating solder plated pin

Pin	Single Output
1	-Input (Gi)
2	On/Off
3	+Input (Vi)
4	+Output (Vo)
5	Sense + (S+)
6	Trim (Trim)
7	Sense - (S-)
8	-Output (Go)

KEY FEATURES

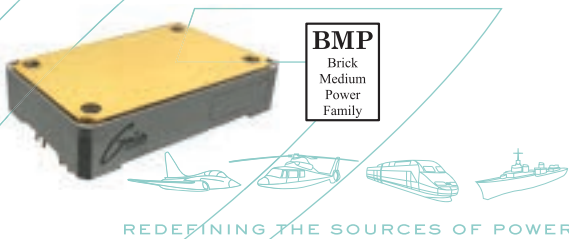
- Standard quarter brick package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 160 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 90% to 110%
- External synchronization range : no synchro
- Additional functions : on/off, sense

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 200W



PART NUMBERING

SINGLE OUTPUT

MGDSI-204 - ■ - ■

INPUT SPECIFICATIONS

WIDE INPUT

H : 9-36 Vdc

OUTPUT SPECIFICATIONS

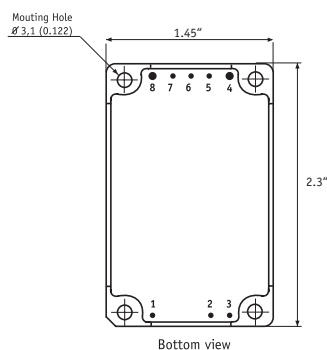
SINGLE OUTPUT

C : 5 Vdc / 40 A

E : 12 Vdc / 16.6 A

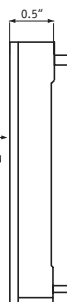
PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions :
Pins : 1, 2, 3, 5, 6, 7 : Ø 0.04"
Pins : 4, 8 : Ø 0.06"

Uncoated
metal header
Use this side
for heat sinking



Metallic case alodined
coating solder plated pin

Pin	Single Output
1	-Input (Gi)
2	On/Off
3	+Input (Vi)
4	+Output (Vo)
5	Sense + (S+)
6	Trim (Trim)
7	Sense - (S-)
8	-Output (Go)

KEY FEATURES

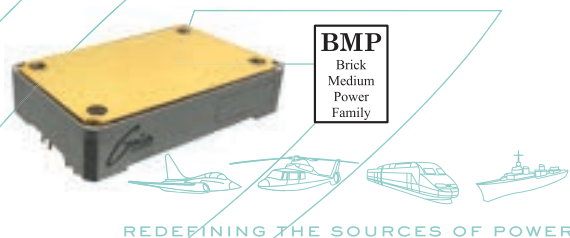
- Standard quarter brick package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 200 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 90% to 110%
- External synchronization range : no synchro
- Additional functions : on/off, sense

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 250W



PART NUMBERING

SINGLE OUTPUT

MGDSI-254 - ■ - ■

INPUT SPECIFICATIONS

INPUT RANGE

H : 9-36 Vdc

OUTPUT SPECIFICATIONS

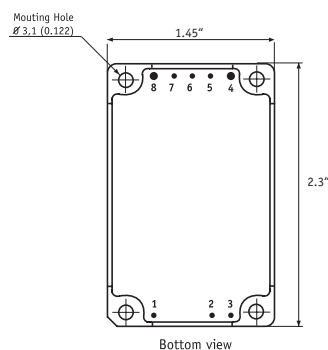
SINGLE OUTPUT

E : 12 Vdc / 20.8 A

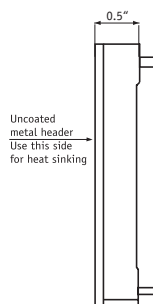
F : 15 Vdc / 16.7 A

PACKAGE AND PIN-OUT

Dimensions in inches



Pin dimensions :
Pins : 1, 2, 3, 5, 6, 7 : Ø 0.04"
Pins : 4, 8 : Ø 0.06"



Metallic case alodined
coating solder plated pin

Pin	Single Output
1	-Input (Gi)
2	On/Off
3	+Input (Vi)
4	+Output (Vo)
5	Sense + (S+)
6	Trim (Trim)
7	Sense - (S-)
8	-Output (Go)

KEY FEATURES

- Standard quarter brick package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 250 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 330 KHz
- Protections : input undervoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 90% to 110%
- External synchronization range : no synchro
- Additional functions : on/off, sense



MGDI-18 Series



LLP
Legacy
Low
Power
Family

DC/DC CONVERTERS DC ISOLATED CONVERTERS 18W

KEY FEATURES

- Small surface 1" x 1.5" package
- Single output
- Soft start

GENERAL CHARACTERISTICS

- Nominal power up to : 18 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 480 KHz
- Protections : output short circuit
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off on option

PART NUMBERING

SINGLE OUTPUT

MGDSI-18 - ■ - ■ / ■

Option ■ : On/Off function

INPUT SPECIFICATIONS

WIDE INPUT

D : 4.7-16 Vdc
H : 9-36 Vdc
J : 16-40 Vdc
Q : 36-140 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 4 A
C : 5 Vdc / 4 A
E : 12 Vdc / 1.5 A
F : 15 Vdc / 1.2 A



MGDI-20 Series



LLP
Legacy
Low
Power
Family

DC/DC CONVERTERS DC ISOLATED CONVERTERS 20W

KEY FEATURES

- Standard 2" x 2" package
- Single, bi or triple outputs
- Soft start

GENERAL CHARACTERISTICS

- Nominal power up to : 20 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 480 KHz
- Protections : output short circuit
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off on option

PART NUMBERING

SINGLE OUTPUT

MGDSI-20 - ■ - ■ / ■

BI OUTPUT

MGDBI-20 - ■ - ■ / ■

TRIPLE OUTPUT

MGDTI-20 - ■ - ■ / ■

Option ■ : On/Off function

INPUT SPECIFICATIONS

STANDARD INPUT

C : 4.5-5.5 Vdc
I : 18-36 Vdc

WIDE INPUT

D : 4.7-16 Vdc
H : 9-36 Vdc
J : 16-40 Vdc
Q : 36-140 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 4 A
C : 5 Vdc / 4 A
E : 12 Vdc / 1.6 A
F : 15 Vdc / 1.3 A

BI OUTPUT

C : ± 5 Vdc / ± 2 A
E : ± 12 Vdc / ± 0.8 A
F : ± 15 Vdc / ± 0.65 A

TRIPLE OUTPUT

BE : 3.3 Vdc & ± 12 Vdc / 2 A & ± 0.4 A
BF : 3.3 Vdc & ± 15 Vdc / 2 A & ± 0.3 A
CE : 5 Vdc & ± 12 Vdc / 2 A & ± 0.4 A
CF : 5 Vdc & ± 15 Vdc / 2 A & ± 0.3 A



MGDI-25 Series



LLP
Legacy
Low
Power
Family

DC/DC CONVERTERS DC ISOLATED CONVERTERS 25W

KEY FEATURES

- Standard 2" x 2" package
- Single, bi or triple outputs
- Soft start

GENERAL CHARACTERISTICS

- Nominal power up to : 25 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 250 KHz
- Protections : output short circuit
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off on option

PART NUMBERING

SINGLE OUTPUT

MGDSI-25 - ■ - ■ / ■

BI OUTPUT

MGDBI-25 - ■ - ■ / ■

TRIPLE OUTPUT

MGDTI-25 - ■ - ■ / ■

Option ■ : On/Off function

INPUT SPECIFICATIONS

WIDE INPUT

H : 9-36 Vdc
Q : 18-75 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 4 A
C : 5 Vdc / 5 A
E : 12 Vdc / 2 A
F : 15 Vdc / 1.65 A

BI OUTPUT

C : ± 5 Vdc / ± 2.5 A
E : ± 12 Vdc / ± 1 A
F : ± 15 Vdc / ± 0.825 A

TRIPLE OUTPUT

BE : 3.3 Vdc & ± 12 Vdc / 2.5 A & ± 0.5 A
BF : 3.3 Vdc & ± 15 Vdc / 2.5 A & ± 0.4 A
CE : 5 Vdc & ± 12 Vdc / 2.5 A & ± 0.5 A
CF : 5 Vdc & ± 15 Vdc / 2.5 A & ± 0.4 A



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MGDI-26 Series



LLP
Legacy
Low
Power
Family

REDEFINING THE SOURCES OF POWER

DC/DC CONVERTERS DC ISOLATED CONVERTERS 26W

KEY FEATURES

- Standard 2" x 2" package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 25 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 1 MHz
- Protections : input undervoltage lockout, output short circuit
- Trim adjustment : 80% to 110%
- External synchronization range : 1.05 to 1.15 MHz
- Additional functions : on/off, sense parallelization

PART NUMBERING

SINGLE OUTPUT

MGDSI-26 - ■ - ■

INPUT SPECIFICATIONS

WIDE INPUT

H : 9-36 Vdc
I : 16-40 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 6 A
C : 5 Vdc / 5 A
E : 12 Vdc / 2 A
F : 15 Vdc / 1.65 A



CGDI-30 Series



LLP
Legacy
Low
Power
Family

REDEFINING THE SOURCES OF POWER

DC/DC CONVERTERS DC ISOLATED CONVERTERS 30W

KEY FEATURES

- Low profile 0.33" package
- Highly configurable DC/DC converter
- Up to 6 outputs and 3 independent line regulations
- Soft start

GENERAL CHARACTERISTICS

- Nominal power up to : 30 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 480 KHz
- Protections : output short circuit, output overvoltage, over temperature
- Trim adjustment : 95% to 105%
- External synchronization range : no synchro
- Additional functions : on/off, sense

PART NUMBERING

SINGLE LINE OUTPUT

CGDI - ■ - ■ - 0 - 0

DUAL LINE OUTPUT

CGDI - ■ - ■ - 0 - ■

TRIPLE LINE OUTPUT

CGDI - ■ - ■ - ■ - ■

INPUT SPECIFICATIONS

STANDARD INPUT

I : 18-36 Vdc

WIDE INPUT

D : 4.7-16 Vdc
H : 9-36 Vdc
I : 16-40 Vdc
G : 36-140 Vdc

OUTPUT SPECIFICATIONS

OUTPUT

3 : 3.3 Vdc
5 : 5 Vdc
12 : 12 Vdc
15 : 15 Vdc

OUTPUT

5B : +/- 5 Vdc
12B : +/- 12 Vdc
15B : +/- 15 Vdc



MGDI-150 Series



BMP
Brick
Medium
Power
Family

REDEFINING THE SOURCES OF POWER

DC/DC CONVERTERS DC ISOLATED CONVERTERS 150W

KEY FEATURES

- Standard half brick package
- Single output
- Soft start
- No load to full load operation

GENERAL CHARACTERISTICS

- Nominal power up to : 150 W
- Galvanic isolation input/output : 1 500 Vdc
- Switching frequency : 420 KHz
- Protections : input undervoltage lockout, input overvoltage lockout, output current limitation, output overvoltage, over temperature
- Trim adjustment : 10% to 110%
- External synchronization range : 420 to 480 KHz (220 KHz to 235 KHz for T input)
- Additional functions : on/off, sense, parallelization

PART NUMBERING

SINGLE OUTPUT

MGDSI-150 - ■ - ■

Leaded process add - L after reference

INPUT SPECIFICATIONS

WIDE INPUT

H : 9-36 Vdc
G : 18-75 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 30 A
C : 5 Vdc / 30 A
E : 12 Vdc / 12.5 A

SINGLE OUTPUT

F : 15 Vdc / 10 A
I : 24 Vdc / 6.25 A
J : 28 Vdc / 5.3 A



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GAIA Converter is a manufacturer of rugged and reliable products suitable for the harshest environments.

To verify the suitability of GAIA Converter products to these harsh environments, the modules have been subjected to the environmental requirements of well-known and widespread standards. Many of these tests have been performed by independent laboratories.



Specification	Standards	Conditions
Life at high temperature	per MIL-STD-202G Method 108A	Operation : 1 000 hrs @ +105°C case Storage : 1 000 hrs @ +125°C ambient
Low temperature	per MIL-STD-810E/F/G Methods 502.3, 502.4, 502.5	Storage : 1 000 hrs @ -55°C ambient
Temperature cycling	per MIL-STD-202A/G Method 102A	Number of cycles : 200 Temperature change : -40°C / +85°C Transfer time : 40 min. / steady state time : 20 min.
Thermal shock	per MIL-STD-202G Method 107G	Number of shocks : 100 Temperature : -55°C to + 105°C Transfer time : < 10 s / steady state time : 20 min.
Altitude	per MIL-STD-810E/F/G Methods 500.3, 500.5	40 000 ft, unit functioning 1 000 ft/min to 70 000 ft, unit functioning
Humidity cyclic	per MIL-STD-810E/F/G Methods 507.3, 507.4, 507.5	Damp heat : 60 % to 88 % relative humidity Cycle 1 (31°C to 41°C) : 24 hrs
Humidity steady state	per MIL-STD-202G Method 103B	Damp heat : 93 % relative humidity Temperature : 40°C Duration : 56 days
Salt atmosphere	per MIL-STD-810E/F/G Methods 509.1, 509.4, 509.5	Temperature : 35°C Duration : 48 hrs
Vibration	per MIL-STD-810D/F/G Methods 514.3, 514.5, 514.6	10 cycles in each axis Frequency : 10 to 60Hz/60Hz to 2kHz Amplitude/acceleration : 0.7 mm/10 g
Shock	per MIL-STD-810D/F/G Methods 516.3, 516.6	3 shocks in each axis Peak acceleration : 100 g Duration : 6 ms
Bumps	per MIL-STD-810D/F/G Methods 516.3, 516.5, 516.6	2 000 bumps in each direction Duration : 6 ms Peak acceleration : 40 g
Conducted emissions	per MIL-STD-461C/D/E/F CE01, CE101, CE03 CE102	with external filter (see technical datasheet for details)
Conducted Susceptibility	per MIL-STD-461C/D/E/F CS01, CS02, CS06, CS101	with external filter (see technical datasheet for details)
Radiated emissions	per MIL-STD-461C/D/E/F RE01, RE02, RE101, RE102	module stand alone
Radiated susceptibility	per MIL-STD-461C/D/E/F RS01, RS03, RS101, RS103	module stand alone

Specification	Standards	Conditions
Life at high temperature	per IEC 68-2-2	1 000 hours 95°C case
Humidity	per IEC 68-2-3 Test Ca	Damp heat : 93 % H.R 56 days Temperature : 40°C
Temperature cycling	per IEC 68-2-14 Test N	Number of cycles : 200 Temperature change : -40°C/+71°C Transfer time : 40 min. Steady state time : 20 min.
Vibration	per IEC 68-2-6 Test Eb	10 cycles in each axis Frequency : 10 to 60Hz/60Hz to 2kHz Amplitude/acceleration : 0.7 mm/10 g
Shock	per IEC 68-2-27 Test Ea	3 cycles in each axis Peak acceleration : 100 g Duration : 6 ms
Bumps	per IEC 68-2-29 Test Eb	2 000 bumps in each direction Duration : 6 ms Peak acceleration : 25 g
Electrical discharge susceptibility	per EN55082-2 with EN61000-4-2 (IEC 801-2)	Air discharge level 4 kV : sanction A Contact discharge level 2 kV : sanction A Air discharge level 8 kV : sanction B Contact discharge level 4 kV : sanction B
Electrical field susceptibility	per EN55082-2 with EN61000-4-3 (IEC 801-3)	Antenna at 1 m distance Value applied : 10V/m Waveform : AM modulated 80 % 1 kHz test : 26 MHz to 1 Ghz
Electrical fast transient susceptibility	per EN55082-2 with EN61000-4-4 (IEC 801-4)	Level 1 : 0.5 kV sanction A : module stand alone Level 3 : 2 kV sanction B : module stand alone Level 4 : 4 kV sanction A : with external filter Waveform : 5/50 µs impedance 50 Ohm
Surges transient susceptibility	per EN55082-2 with EN61000-4-5 (IEC 801-5) per EN50155	Level 4 : 4 kV sanction A : with external filter Waveform : 1.2/50 µs impedance 12 Ohm Level 1.8 : 4 kV sanction A : with external filter Waveform : 5/50 µs impedance 5 Ohm



DC/DC SOLUTIONS

DC/DC Converters Selection Chart

Grades	Single Output	Bi Output	Dual Output	Triple Output
Hi-Rel (M)	MGDS - ■ - ■ - ■ / ■ - ■	MGDB - ■ - ■ - ■ / ■ - ■	MGDD - ■ - ■ - ■ / ■ - ■	MGDT - ■ - ■ - ■ / ■ - ■
Industrial (I)	MGDSI - ■ - ■ - ■ / ■ - ■	MGDBI - ■ - ■ - ■ / ■ - ■	MGDDI - ■ - ■ - ■ / ■ - ■	MGDTI - ■ - ■ - ■ / ■ - ■

Power references	Input Voltage range reference	Output references	Options
04 : 4 W 60 : 60 W 06 : 6 W 75 : 75 W 08 : 8 W 80 : 80 W 10 : 10 W 100 : 100 W 18 : 18 W 124 : 120 W 20 : 20 W 150 : 150 W 21 : 21 W 155 : 150 W 25 : 25 W 164 : 160 W 26 : 26 W 200 : 200 W 30 : 30 W 204 : 200 W 35 : 35 W 254 : 250 W 40 : 40 W 500 : 500 W	Standard Input C : 4.5-5.5 Vdc I : 18-36 Vdc Ultra Wide Input E : 4.5-33 Vdc M : 10-100 Vdc N : 9-60 Vdc R : 12-160 Vdc Wide Input D : 4.7-16 Vdc H : 9-36 / 9-45 Vdc J : 16-40 Vdc O : 18-75 / 16-80 Vdc Q : 36-140 / 36-175 Vdc T : 120-480 Vdc S : 155-480 Vdc	A : 2.5 Vdc B : 3.3 Vdc C : 5 or +/- 5 Vdc E : 12 or +/- 12 Vdc F : 15 or +/- 15 Vdc I : 24 or +/- 24 Vdc 26 : 26 Vdc J : 28 Vdc BE : 3.3 and +/- 12 Vdc BF : 3.3 and +/- 15 Vdc CE : 5 and +/- 12 Vdc CF : 5 and +/- 15 Vdc	Option M On/Off function Option Y high isolation 3000 Vdc Option T -55° C start-up temperature Option S screening and serialization

Process
L : Leaded process R : RoHS process

DC/DC Front-End Module Section Chart

Type of module	Single Output	Selection
EMI input filter module	FGDS - ■ A - $\frac{50V}{100V}$	2 : 2 A input current 12 : 12 A input current 6 : 6 A input current 20 : 20 A input current 10 : 10 A input current 35 : 35 A input current
Transient/drop-out protection module 50 W	PGDS - 50 - ■ - K	N : 10-80 Vdc transient/drop-out input voltage O : 6-100 Vdc transient/drop-out input voltage
Transient protection module 50 W / 300 W	LGDS - ■ - ■ - K 50 : 50 W power 75 : 75 W power 100 : 100 W power 300 : 300 W power	J : 10-60 Vdc transient input voltage Q : 36-165 Vdc transient input voltage O : 9-100 Vdc transient input voltage P : 9-202 Vdc transient input voltage
Hold-up module 50 W / 300 W & Bus conditioner	HUGD - ■ LHUG - ■	50 : 50 W power 150 : 150 W power 300 : 300 W power

AC/DC SOLUTIONS

Type of module	Single Output	Bi Output
Isolated PFC Modules series		HGMB - ■ - ■ - ■ / ■ - ■
Non Isolated PFC Modules series	HGMS - ■ - ■ - ■ / ■ - ■	

Power references	Input Voltage range reference	Output references	Options
35 : 35 W 50 : 50 W 150 : 150 W 350 : 350 W	W : 95-140 Vac / frequency 320-800 Hz X : 95-140 Vac / frequency 47 - 440 Hz Y : 85-265 Vac / frequency 50 - 60 Hz	17 : 17 Vdc T : 375 Vdc	Option T -55° C start-up temperature Option S screening and serialization

Process
L : Leaded process R : RoHS process



COMPANY PROFILE

Modular Power Architecture	Page 1
Leading Supplier of Hi-Rel Power Conversion Products	Pages 2 and 3
High Level of Quality Achievements	Page 4

PRODUCTS

HI-REL GRADE PRODUCTS

Current Hi-Rel Grade Products

FGDS-2A EMI Filter	Page 6	HGMM-350 AC Non Isolated PFC 350W	Page 21
FGDS-6A EMI Filter	Page 7	MPGS-14A DC Non isolated Converter 260W....	Page 22
FGDS-10A EMI Filter	Page 8	MGDM-04 DC Isolated Converters 4W.....	Page 23
FGDS-12A EMI Filter	Page 9	MGDD-08 DC Isolated Converters 8W.....	Page 23
FGDS-20A EMI Filter	Page 10	MGDM-10 DC Isolated Converters 10W.....	Page 25
FGDS-35A EMI Filter	Page 11	MGDD-21 DC Isolated Converters 20W.....	Page 26
PGDS-50 Transient Protection.....	Page 12	MGDD-40 DC Isolated Converters 40W.....	Page 27
LGDS-100 Transient Protection.....	Page 13	MGDM-75 DC Isolated Converters 75W.....	Page 28
LGDS-300 Transient Protection.....	Page 14	MGDD-80 DC Isolated Converters 80W.....	Page 29
HUGD-50 Hold Up Module.....	Page 15	MGDM-155 DC Isolated Converters 150W.....	Page 30
LHUG-150 Bus Conditioner	Page 16	MGDM-160 DC Isolated Converters 150W.....	Page 31
HUGD-300 Hold Up Module.....	Page 17	MGDM-200/201 DC Isolated Converters 200W ..	Page 32
HGMM-35 AC Isolated PFC 35W	Page 18	MGDM-205 DC Isolated Converters 200W.....	Page 33
HGMM-50 AC Isolated PFC 50W	Page 19	MGDM-250 DC Isolated Converters 200W.....	Page 34
HGMM-150 AC Non Isolated PFC 150W	Page 20	MGDM-500 DC Isolated Converters 200W.....	Page 35

Other Hi-Rel Grade Products

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MGDM-20 DC Isolated Converters 20W.....	Page 36	MGDD-60 DC Isolated Converters 60W.....	Page 38
MGDM-25 DC Isolated Converters 25W.....	Page 36	MGDM-100 DC Isolated Converters 100W.....	Page 38
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CGDM-30 DC Isolated Converters 30W	Page 37		

INDUSTRIAL GRADE PRODUCTS

Current Industrial Grade Products

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MGDI-04 DC Isolated Converters 4W	Page 42	MGRI-80 DC High Isolated Converters 80W	Page 51
MGDDI-06 DC Isolated Converters 6W.....	Page 43	MGDI-100 DC Isolated Converters 100W	Page 52
MGDI-10 DC Isolated Converters 10W	Page 44	MGDI-124 DC Isolated Converters 120W	Page 53
MGDDI-20 DC Isolated Converters 20W.....	Page 45	MGDI-164 DC Isolated Converters 160W	Page 54
MGRI-20 DC High Isolated Converters 20W	Page 46	MGDI-204 DC Isolated Converters 200W	Page 55
MGDI-35 DC Isolated Converters 35W	Page 47	MGDI-254 DC Isolated Converters 250W	Page 56
MGRI-40 DC High Isolated Converters 40W	Page 48		

Other Industrial Grade Products

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DEFINITION OF PART NUMBERS	Page 59
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ENVIRONMENTAL QUALIFICATIONS	Page 60
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