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.

- **Tcase**: -40°C to +105°C
- **Tstorage**: -55°C to +125°C
- **Encapsulation**: Hi-Rel grade qualified potting
- **Burn-in**
- **Control function**
- **Low output ripple voltage**
- **Option** for -55°C start-up and MIL-STD-883C screening

### Technical Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Hi-Rel (M) Grade</th>
<th>Industrial (I) Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>83-92%</td>
<td>80-87%</td>
</tr>
<tr>
<td><strong>Output characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set point accuracy (at 75% load)</td>
<td>(+/-) 2%</td>
<td>(+/-) 2%</td>
</tr>
<tr>
<td>Line regulation (Ui min to max)</td>
<td>(+/-) 0.5% max</td>
<td>(+/-) 1% max</td>
</tr>
<tr>
<td>Load regulation (25% to full load)</td>
<td>(+/-) 2% max</td>
<td>(+/-) 2% max</td>
</tr>
<tr>
<td>Ripple output voltage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>for 3.3 and 5 Vdc output voltage</td>
<td>40 mVpp max</td>
<td>50 mVpp max</td>
</tr>
<tr>
<td>for 12 Vdc output voltage</td>
<td>50 mVpp max</td>
<td>100 mVpp max</td>
</tr>
<tr>
<td>for 15 and 24 Vdc output voltage</td>
<td>60 mVpp max</td>
<td>150 mVpp max</td>
</tr>
<tr>
<td><strong>General characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start up</td>
<td>soft start</td>
<td>permanent short circuit, temperature, current</td>
</tr>
<tr>
<td>Protections</td>
<td>auto recovery</td>
<td></td>
</tr>
<tr>
<td>Circuit restart</td>
<td>1500 Vdc</td>
<td></td>
</tr>
<tr>
<td>Isolation voltage</td>
<td>100 Mohm</td>
<td></td>
</tr>
<tr>
<td>Isolation resistance</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Switching frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-55°C/125°C</td>
<td>-40°C/105°C</td>
</tr>
<tr>
<td>Operating temperature (case)</td>
<td>-40°C/105°C</td>
<td>-40°C/95°C</td>
</tr>
</tbody>
</table>

Please consult product datasheet on our website for complete specifications.

www.gaia-converter.com
### ISOLATED DC/DC CONVERTER MODULES

<table>
<thead>
<tr>
<th>Family</th>
<th>Grade</th>
<th>Package</th>
<th>Power</th>
<th>Permanent Input Range</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGDxx-04</td>
<td></td>
<td>DIL 24</td>
<td>4 W</td>
<td>4.5-5.5V, 18-36V, 9-36V, 16-40V, 36-140V</td>
<td>Single, Bi, Triple</td>
</tr>
<tr>
<td>MGDDx-06/08</td>
<td></td>
<td>1” x 0.75”</td>
<td>6/8 W</td>
<td>12-160V 4.5-33V, 9-60V</td>
<td>Dual</td>
</tr>
<tr>
<td>MGDxx-10</td>
<td></td>
<td>1.6” x 1”</td>
<td>10 W</td>
<td>4.5-5.5V, 18-36V, 4.7-16V, 9-36V, 16-40V</td>
<td>Single, Bi, Triple</td>
</tr>
<tr>
<td>MGDSx-18</td>
<td></td>
<td>1.6” x 1”</td>
<td>18 W</td>
<td>4.5-5.5V, 4.7-16V, 9-36V, 16-40V, 36-140V</td>
<td>Single</td>
</tr>
<tr>
<td>MGDxx-20</td>
<td></td>
<td>2” x 2”</td>
<td>20 W</td>
<td>4.5-5.5V, 18-36V, 4.7-16V, 9-36V, 16-40V</td>
<td>Single, Bi, Triple</td>
</tr>
<tr>
<td>MGDDx-20</td>
<td></td>
<td>1.5” x 1”</td>
<td>20 W</td>
<td>12-160V 4.5-33V, 9-60V</td>
<td>Dual</td>
</tr>
<tr>
<td>MGDSx-26</td>
<td></td>
<td>2” x 2”</td>
<td>25 W</td>
<td>9-36V, 16-40V, 18-75V</td>
<td>Single, Bi, Triple</td>
</tr>
<tr>
<td>CGDx-30</td>
<td></td>
<td>3” x 2”</td>
<td>30 W</td>
<td>18-36V, 4.7-16V, 9-36V, 16-40V, 36-140V</td>
<td>Up to Six</td>
</tr>
<tr>
<td>MGDSx-35</td>
<td></td>
<td>3” x 2”</td>
<td>35 W</td>
<td>9-36V, 16-75V, 36-140V</td>
<td>Single, Bi, Triple</td>
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<tr>
<td>MGDDx-40</td>
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<td>1.5” x 1.3”</td>
<td>40 W</td>
<td>4.5-33V, 9-60V</td>
<td>Dual</td>
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<tr>
<td>MGDxx-60</td>
<td></td>
<td>3.25” x 2”</td>
<td>60 W</td>
<td>14-55V, 36-140V, 12-160V</td>
<td>Single, Dual</td>
</tr>
<tr>
<td>MGDSx-75</td>
<td></td>
<td>1/4 Brick</td>
<td>75 W</td>
<td>9-45V, 16-80V, 155-480V</td>
<td>Single</td>
</tr>
<tr>
<td>MGDD-80</td>
<td></td>
<td>2” x 1.6”</td>
<td>80 W</td>
<td>9-60V</td>
<td>Dual</td>
</tr>
<tr>
<td>MGDSx-100</td>
<td></td>
<td>3.25” x 2”</td>
<td>100 W</td>
<td>14-55V, 36-140V, 10.7-100V</td>
<td>Single</td>
</tr>
<tr>
<td>MGDSx-150</td>
<td></td>
<td>1/2 Brick</td>
<td>150 W</td>
<td>9-45V, 16-80V, 120-480V</td>
<td>Single</td>
</tr>
<tr>
<td>MGDS-200</td>
<td></td>
<td>2/3 Brick</td>
<td>200 W</td>
<td>9-45V, 16-80V</td>
<td>Single</td>
</tr>
<tr>
<td>MGDSx-254</td>
<td></td>
<td>1/4 Brick</td>
<td>250 W</td>
<td>9-36V</td>
<td>Single</td>
</tr>
</tbody>
</table>

### NON ISOLATED DC/DC POINT OF LOAD MODULES

<table>
<thead>
<tr>
<th>Family</th>
<th>Grade</th>
<th>Package</th>
<th>Power</th>
<th>Permanent Input Range</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPGS-14A</td>
<td></td>
<td>1” x 0.75”</td>
<td>260 W</td>
<td>14 A</td>
<td>Single</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Family</th>
<th>Grade</th>
<th>Standards</th>
<th>Package</th>
<th>Power/Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMI FILTERS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F6DS - 2 A - 50 V</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-461, DO-160</td>
<td>Dil 24</td>
<td>50 W / 2 A</td>
</tr>
<tr>
<td>F6DS - 6 A - 100 V</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-461, DO-160</td>
<td>1&quot; x 0.75&quot;</td>
<td>150 W / 6 A</td>
</tr>
<tr>
<td>F6DS - 10 A - 50 V</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-461, DO-160</td>
<td>1.6&quot; x 1&quot;</td>
<td>150 W / 10 A</td>
</tr>
<tr>
<td>F6DS - 12 A - 100 V</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-461, DO-160</td>
<td>1.25&quot; x 1&quot;</td>
<td>175 W / 12 A</td>
</tr>
<tr>
<td>F6DS - 20 A - 50 V</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-461, DO-160</td>
<td>1.6&quot; x 1&quot;</td>
<td>300 W / 20 A</td>
</tr>
<tr>
<td>HOLD UP MODULES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUGD - 50</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-704, DO-160</td>
<td>1.6&quot; x 1&quot;</td>
<td>50 W</td>
</tr>
<tr>
<td>HUGD - 300</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-704, DO-160</td>
<td>1.6&quot; x 1&quot;</td>
<td>300 W</td>
</tr>
<tr>
<td>AC / DC POWER FACTOR MODULES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HGMB - 35</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-704, DO-160</td>
<td>3.25&quot; x 2&quot;</td>
<td>35 W</td>
</tr>
<tr>
<td>HGMB-50</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-704, DO-160</td>
<td>3.25&quot; x 2&quot;</td>
<td>50 W</td>
</tr>
<tr>
<td>HGMS - 150</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-704, DO-160</td>
<td>1/2 brick</td>
<td>150 W</td>
</tr>
<tr>
<td>HGMS - 350</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-704, DO-160</td>
<td>1/2 brick</td>
<td>350 W</td>
</tr>
<tr>
<td>TRANSIENT PROTECTION MODULES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PGDS - 50</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-704, MIL-STD-1275</td>
<td>1.6&quot; x 1&quot;</td>
<td>50 W</td>
</tr>
<tr>
<td>LGDSI - 50</td>
<td>Industrial Grade</td>
<td>EN50155, RIA12</td>
<td>1.6&quot; x 1&quot;</td>
<td>50 W</td>
</tr>
<tr>
<td>LGDSI - 75</td>
<td>Industrial Grade</td>
<td>EN50155</td>
<td>1.6&quot; x 1&quot;</td>
<td>75 W</td>
</tr>
<tr>
<td>LGDS - 100</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-1275, DEF-STAN-61.5.6</td>
<td>1.6&quot; x 1&quot;</td>
<td>100 W</td>
</tr>
<tr>
<td>LGDS - 300</td>
<td>Hi-Ref Grade</td>
<td>MIL-STD-704, MIL-STD-1275</td>
<td>1.6&quot; x 1&quot;</td>
<td>300 W</td>
</tr>
</tbody>
</table>
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

**DC Modular Power Architecture**

- **DC Front-End Modules**
  - EMI filter module
  - Transient or spike protection module

- **DC/isolated Converters**
  - Hold-Up module

- DC Input Bus from 4.5 Vdc to 480 Vdc

**AC Modular Power Architecture**

- **AC PFC module**

- AC Input Bus from 85 to 265 Vac/47-440 Hz 320-800 Hz

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• The Experience of a Leader in Hi-Rel Environments
• The Most Comprehensive Range of Products with more than 3500 References from 4W to 350W Power
• Local Support Worldwide
• ISO9001 v 2008 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 significant R&D investment on a continuous basis in order to maintain a state of the art product range. The GAIA engineering team not only designs products with a competitive advantage but is also devoted to solving the customers’ power problems.

The company’s advanced design and development capabilities include:
• Circuit behavior simulation
• Thermal management
• Advanced packaging techniques
• Proprietary magnetic and ASIC design
• Environmental test
• Reliability evaluation

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 Converter’s manufacturing philosophy is based on fully automated lines with no manual operation. These automated lines include the latest fast SMD pick and place machines, automatic pin insertion tools and automatic potting machines. The extensive use of statistical methods guarantees high quality 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: HAP, EC120/135/155/175, 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 Fregate, 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 v2015 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-6280-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 PRODUCTS
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

PART NUMBERING

SINGLE OUTPUT

FGDS-2A - 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

2A

PACKAGE AND PIN-OUT

Dimensions in inches

Pin dimensions: Ø 0.03"
FRONT-END MODULES
DC EMI FILTER 6A

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

INPUT SPECIFICATIONS

INPUT RANGE
9-100 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

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

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**FRONT-END MODULES**

DC EMI FILTER 10A

**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

**PART NUMBERING**

**SINGLE OUTPUT**

FGDS-10A - 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**

10A

**PACKAGE AND PIN-OUT**

Dimensions in inches

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

Metallic case black anodized coating solder plated pin

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+Input (Vi)</td>
</tr>
<tr>
<td>2</td>
<td>- Input (G1)</td>
</tr>
<tr>
<td>3</td>
<td>- Output (G0)</td>
</tr>
<tr>
<td>4</td>
<td>+ Output (Vo)</td>
</tr>
<tr>
<td>5</td>
<td>Ground (Gnd)</td>
</tr>
<tr>
<td>6</td>
<td>Ground (Gnd)</td>
</tr>
</tbody>
</table>
**FRONT-END MODULES**

**DC EMI FILTER 12A**

**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 12 A
- Galvanic isolation input/output: non isolated

**PART NUMBERING**

SINGLE OUTPUT  FGDS-12A-100V / 

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

**INPUT SPECIFICATIONS**

**INPUT RANGE**

9-100 Vdc

**INPUT SPECIFICATIONS**

**INPUT CURRENT**

12 A

**PACKAGE AND PIN-OUT**

Dimensions in inches

Pin dimensions: square pin 0.025”

Metallic case black anodized coating gold plated pin

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3</td>
<td>Input (Gi)</td>
</tr>
<tr>
<td>4, 5</td>
<td>Ground (Gnd)</td>
</tr>
<tr>
<td>6, 7, 8</td>
<td>Output (Go)</td>
</tr>
<tr>
<td>9, 10, 11</td>
<td>+ Output (Vo)</td>
</tr>
<tr>
<td>12, 13</td>
<td>Ground (Gnd)</td>
</tr>
<tr>
<td>14, 15, 16</td>
<td>+Input (Vi)</td>
</tr>
</tbody>
</table>

www.gaia-converter.com
FRONT-END MODULES
DC EMI FILTER 20A

**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

**PART NUMBERING**

<table>
<thead>
<tr>
<th>SINGLE OUTPUT</th>
<th>FGDS-20A - 50V /</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1: Screening</td>
<td>-55°C start-up temperature</td>
</tr>
<tr>
<td>Option 2: Screening</td>
<td>and serialization</td>
</tr>
</tbody>
</table>

**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 0.09”
- Pin dimensions : 5, 6 : Ø 0.03”

Metallic case black anodized coating solder plated pin

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+Input (V)</td>
</tr>
<tr>
<td>2</td>
<td>- Input (G)</td>
</tr>
<tr>
<td>3</td>
<td>+ Output (Vo)</td>
</tr>
<tr>
<td>4</td>
<td>- Output (Go)</td>
</tr>
<tr>
<td>5</td>
<td>Ground (Gnd)</td>
</tr>
<tr>
<td>6</td>
<td>Ground (Gnd)</td>
</tr>
</tbody>
</table>

Bottom view
PART NUMBERING

SINGLE OUTPUT  PGDS-50 - □ - □ / □

Option □A : Screening -55°C start-up temperature
Option □B : Screening and serialization
For leaded process add - L after reference - Contact factory for availability

INPUT SPECIFICATIONS

INPUT RANGE

N : 17-37 Vdc  brown out : 10 Vdc / 15 s  transient : 80 Vdc / 100 ms
O : 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

Pin Single Output
1 +Input (V+)
2 Input measure (VMES)
3 On/Off
4 -Input (Gn)
5 Common (Go)
6 Output (Vo)

HI-REL GRADE  - FRONT-END MODULES

KEY FEATURES

• Transient suppressor & brown out for Avionics/Defense
  - 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

www.gaia-converter.com
LGDS-100 Series

FRONT-END MODULES
DC TRANSIENT PROTECTION 100W

KEY FEATURES
- Transient suppressor for Avionics/Defense
  - DEF-STAN-61,5 issue 6
  - 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 □1: Screening -55°C start-up temperature
Option □2: 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" 1.6"
Metallic case black anodized coating solder plated pin

Bottom view

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
- 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

PART NUMBERING

SINGLE OUTPUT | LGDS-300 - □ - □ / □

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

INPUT SPECIFICATIONS

INPUT RANGE

\[9-42 \text{ Vdc} \quad \text{transient: 100 Vdc / 50 ms}\]

OUTPUT SPECIFICATIONS

OUTPUT VOLTAGE

28 Vdc

PACKAGE AND PIN-OUT

Dimensions in inches

1.6”

Pin dimensions: square pin 0.025”

1.0”

0.5”

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)
HI-REL GRADE - FRONT-END MODULES

DC HOLD UP 50W

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 B : 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

Metallic case black anodized coating solder plated pin

Pin dimensions : Ø 0.03”

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+Input (Vi)</td>
</tr>
<tr>
<td>2</td>
<td>Power Fail Set (Vth)</td>
</tr>
<tr>
<td>3</td>
<td>Voltage Current Level (Vcd)</td>
</tr>
<tr>
<td>4</td>
<td>-Input (Gi)</td>
</tr>
<tr>
<td>5</td>
<td>Common (Go)</td>
</tr>
<tr>
<td>6</td>
<td>Output (Vo)</td>
</tr>
<tr>
<td>7</td>
<td>Voltage Capacitor</td>
</tr>
<tr>
<td>8</td>
<td>Power Fail Signal (PF)</td>
</tr>
<tr>
<td>9</td>
<td>Capacitor charged signal (CC)</td>
</tr>
<tr>
<td>10</td>
<td>Capacitor discharged signal (CD)</td>
</tr>
</tbody>
</table>
FRONT-END MODULES
DC HOLD UP 300W

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

<table>
<thead>
<tr>
<th>SINGLE OUTPUT</th>
<th>HUGD-300 /</th>
</tr>
</thead>
</table>

Option A: Screening -55°C start-up temperature
Option B: 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 : Ø 0.03”
Pins : 1, 9, 10 : Ø 0.06”

Metallic case black anodized coating solder plated pin

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Input (V)</td>
</tr>
<tr>
<td>2</td>
<td>Power Fail Set (Vth)</td>
</tr>
<tr>
<td>3</td>
<td>Capacitor Charge Voltage Set (Vset)</td>
</tr>
<tr>
<td>4</td>
<td>Common (Go)</td>
</tr>
<tr>
<td>5</td>
<td>Common (Go)</td>
</tr>
<tr>
<td>6</td>
<td>Power Fail Signal (PF)</td>
</tr>
<tr>
<td>7</td>
<td>Capacitor discharged signal (CD)</td>
</tr>
<tr>
<td>8</td>
<td>Capacitor charged signal (CC)</td>
</tr>
<tr>
<td>9</td>
<td>Output (Vo)</td>
</tr>
<tr>
<td>10</td>
<td>Voltage Capacitor (Vc)</td>
</tr>
</tbody>
</table>
### 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

### PART NUMBERING

**DUAL OUTPUT**

HGMB-35 - [ ] - [ ]

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

\[ 17 : 2 \times 17 \text{ Vdc} / 2 \times 1.05 \text{ A} \]

### PACKAGE AND PIN-OUT

Dimensions in inches

---

**Pin Dimensions**: 0.035"

**Metallic case sunk anodized coating under plated pin**
FRONT-END MODULES
AC ISOLATED PFC 50W

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 : 1500 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 [ ] : Screening -55°C start-up temperature
Option [ ] : 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

<table>
<thead>
<tr>
<th>Pin</th>
<th>Bi-output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Phase</td>
</tr>
<tr>
<td>2</td>
<td>Neutral</td>
</tr>
<tr>
<td>3</td>
<td>On/Off</td>
</tr>
<tr>
<td>4</td>
<td>On/Off Ref</td>
</tr>
<tr>
<td>5</td>
<td>Common 1 (Go1)</td>
</tr>
<tr>
<td>6</td>
<td>Output 1 (Vo1)</td>
</tr>
<tr>
<td>7</td>
<td>Common 2 (Go2)</td>
</tr>
<tr>
<td>8</td>
<td>Output 2 (Vo2)</td>
</tr>
</tbody>
</table>

Metallic case black anodized: coating under plated pin

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**HI-REL GRADE  - FRONT-END MODULES**

**AC NON ISOLATED PFC 150W**

**PART NUMBERING**

| SINGLE OUTPUT | HGMS-150 - [-] / [-] |

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

Labeled process add - L after reference

**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:

- 2.4" x 2.3"
- 0.5"

Pin Dimensions: Ø 0.04"

<table>
<thead>
<tr>
<th>Pin</th>
<th>Bi-output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Phase</td>
</tr>
<tr>
<td>2</td>
<td>Neutral</td>
</tr>
<tr>
<td>3</td>
<td>Output(Vo)</td>
</tr>
<tr>
<td>4</td>
<td>On/Off</td>
</tr>
<tr>
<td>5</td>
<td>Test</td>
</tr>
<tr>
<td>6</td>
<td>Do not connect</td>
</tr>
<tr>
<td>7</td>
<td>Drive</td>
</tr>
<tr>
<td>8</td>
<td>Common (Go)</td>
</tr>
</tbody>
</table>

*Note: Metallic case soldered coating solder plated pin*

**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 syncro
- Additional functions: on/off, reference voltage, companion module drive control
FRONT-END MODULES
AC NON ISOLATED PFC 350W

KEY FEATURES
- Dedicated for 115 Vac applications
- Standard half brick package
- Active PFC: MIL-STD-704, DO-160, ABD100 MIL-STD-1399 compliant

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 ■ A: Screening -55°C start-up temperature
Option ■ B: 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

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: 80% to 110%
- External synchronization range: 200 to 460 KHz
- Additional functions: on/off, sense, parallelization

PART NUMBERING
SINGLE OUTPUT
MPGS-14 - E - B / ■

Option / A: 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"

Metallic case black anodized coating gold plated pin

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tracking</td>
</tr>
<tr>
<td>2</td>
<td>CM / Share</td>
</tr>
<tr>
<td>3</td>
<td>Itrim</td>
</tr>
<tr>
<td>4</td>
<td>Sync</td>
</tr>
<tr>
<td>5</td>
<td>SD / UVLO</td>
</tr>
<tr>
<td>6</td>
<td>Vtrim</td>
</tr>
<tr>
<td>7</td>
<td>Sense +</td>
</tr>
<tr>
<td>8,9</td>
<td>Ground (Gnd)</td>
</tr>
<tr>
<td>10,11</td>
<td>Output (Vo)</td>
</tr>
<tr>
<td>12,13</td>
<td>Input (Vi)</td>
</tr>
</tbody>
</table>
PART NUMBERING

| SINGLE OUTPUT       | MGDS-04 | - - - / |
| BI OUTPUT           | MGDB-04 | - - - / |
| TRIPLE OUTPUT       | MGDT-04 | - - - / |

Option 71: Screening -55°C start-up temperature
Option 73: Screening and serialization
For leaded process add - L after reference. Contact factory for availability

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

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: Ø 0.02”
Metallic case black anodized coating solder plated pin

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DC/DC CONVERTERS
DC ISOLATED CONVERTERS 8W

PART NUMBERING

DUAL OUTPUT MGDD-08 - ▲ - ▼ / ▲
Option ▲ : Screening -55°C start-up temperature
Option ▼ : 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*

C: 2 x 5 Vdc / 2 x 0.8 A
E: 2 x 12 Vdc / 2 x 0.33 A
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”

Metallic case black anodized coating gold plated pin

Bottom view

<table>
<thead>
<tr>
<th>Pin</th>
<th>Dual Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Syncro / On Off</td>
</tr>
<tr>
<td>2</td>
<td>UVLO</td>
</tr>
<tr>
<td>3</td>
<td>- Input (G3)</td>
</tr>
<tr>
<td>4</td>
<td>VIF</td>
</tr>
<tr>
<td>5</td>
<td>+ Input (V)</td>
</tr>
<tr>
<td>6</td>
<td>+ Output 2 (Vo2)</td>
</tr>
<tr>
<td>7</td>
<td>- Output 2 (Go2)</td>
</tr>
<tr>
<td>8</td>
<td>+ Output 1 (Vo1)</td>
</tr>
<tr>
<td>9</td>
<td>- Output 1 (Go1)</td>
</tr>
<tr>
<td>10</td>
<td>Vtrim</td>
</tr>
</tbody>
</table>

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**

**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

**PART NUMBERING**

<table>
<thead>
<tr>
<th>Type</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE OUTPUT</td>
<td>MGDS-10 -</td>
</tr>
<tr>
<td>BI OUTPUT</td>
<td>MGDB-10 -</td>
</tr>
<tr>
<td>TRIPLE OUTPUT</td>
<td>MGDT-10 -</td>
</tr>
</tbody>
</table>

Option /A: 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

**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 / ± 1 A

**BI OUTPUT**
- **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

**Package**
- Single & Bi output model
- Tri output model

**Pin dimensions**: Ø 0.01”

**Pinout**
- Single & Bi output model
- Tri output model

**Metallic case black anodized coating solder plated pin**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
<th>Bi Output</th>
<th>Triple Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+Input (V)</td>
<td>+Input (V)</td>
<td>+Input (V)</td>
</tr>
<tr>
<td>2</td>
<td>Gate*</td>
<td>No pin</td>
<td>No pin</td>
</tr>
<tr>
<td>3</td>
<td>-Input (Gi)</td>
<td>-Input (Gi)</td>
<td>-Input (Gi)</td>
</tr>
<tr>
<td>4</td>
<td>Output (Vo)</td>
<td>Output (+Vo)</td>
<td>Output 1 (V1)</td>
</tr>
<tr>
<td>5</td>
<td>No Pin</td>
<td>Common (Go)</td>
<td>No pin</td>
</tr>
<tr>
<td>6</td>
<td>Common (Go)</td>
<td>Output(-Vo)</td>
<td>Common (Go)</td>
</tr>
<tr>
<td>7</td>
<td>No pin</td>
<td>No pin</td>
<td>Output 2+ (+V2)</td>
</tr>
<tr>
<td>8</td>
<td>No pin</td>
<td>No pin</td>
<td>Output 2- (-V2)</td>
</tr>
<tr>
<td>A</td>
<td>On/Off (option)</td>
<td>On/Off (option)</td>
<td>On/Off (option)</td>
</tr>
</tbody>
</table>
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

PART NUMBERING

DUAL OUTPUT MGDD-21 - [-] - [-] / [-]
Option T: Screening -55°C start-up temperature
Option S: Screening and serialization

INPUT SPECIFICATIONS

ULTRA WIDE INPUT

<table>
<thead>
<tr>
<th>Option</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>9-60 Vdc transient : 80 Vdc / 1 s</td>
</tr>
<tr>
<td>E</td>
<td>4.5-33 Vdc transient : 45 Vdc / 0.1 s</td>
</tr>
</tbody>
</table>

OUTPUT SPECIFICATIONS

DUAL ISOLATED OUTPUT

<table>
<thead>
<tr>
<th>Option</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>2 x 3.3 Vdc / 2 x 2 A</td>
</tr>
<tr>
<td>C</td>
<td>2 x 5 Vdc / 2 x 2 A</td>
</tr>
<tr>
<td>E</td>
<td>2 x 12 Vdc / 2 x 0.825 A</td>
</tr>
<tr>
<td>F</td>
<td>2 x 15 Vdc / 2 x 0.65 A</td>
</tr>
<tr>
<td>I</td>
<td>2 x 24 Vdc / 2 x 0.42 A</td>
</tr>
</tbody>
</table>

* 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

<table>
<thead>
<tr>
<th>Pin</th>
<th>Dual Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Synchron / On Off</td>
</tr>
<tr>
<td>2</td>
<td>LVLO</td>
</tr>
<tr>
<td>3</td>
<td>- Input (G1)</td>
</tr>
<tr>
<td>4</td>
<td>VIF</td>
</tr>
<tr>
<td>5</td>
<td>+ Input (V)</td>
</tr>
<tr>
<td>6</td>
<td>+ Output 2 (Vo2)</td>
</tr>
<tr>
<td>7</td>
<td>- Output 2 (Go2)</td>
</tr>
<tr>
<td>8</td>
<td>+ Output 1 (Vo1)</td>
</tr>
<tr>
<td>9</td>
<td>- Output 1 (Go1)</td>
</tr>
<tr>
<td>10</td>
<td>Vtrim</td>
</tr>
</tbody>
</table>

www.gaia-converter.com
DC/DC CONVERTERS
DC ISOLATED CONVERTERS 40W

PART NUMBERING
DUAL OUTPUT  MGDD-40 - [-] - [-] / [-]
Option A: Screening -55°C start-up temperature
Option B: 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

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

www.gaia-converter.com
**Hi-Rel Grade - DC/DC Converters**

### DC/DC Converters
**DC Isolated Converters 75W**

### 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

### Part Numbering

<table>
<thead>
<tr>
<th>SINGLE OUTPUT</th>
<th>MGDS-75 - [ ] - [ ] - [ ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option B:</td>
<td>Screening -55°C start-up temperature</td>
</tr>
<tr>
<td>Option C:</td>
<td>Screening and serialization</td>
</tr>
<tr>
<td>Leaded process for low input H and O series add - L after reference</td>
<td></td>
</tr>
</tbody>
</table>

### 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
- **F**: 15 Vdc / 5 A
- **I**: 24 Vdc / 3.125 A*
- **26**: 26 Vdc / 2.85 A*
- **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 aligned, coating solder plated pin**

---

[Image of DC/DC Converter]
HI-REL GRADE  - DC/DC CONVERTERS

DC/DC CONVERTERS
DC ISOLATED CONVERTERS 80W

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*

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 2.6 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"  
Metallic case black anodized coating gold plated pin

Pin 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
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)

www.gaia-converter.com
DC/DC CONVERTERS
DC ISOLATED CONVERTERS 150W

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 (2 200 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

PART NUMBERING

SINGLE OUTPUT

MGDS-150 - ■-■/■

Option A : Screening -55°C start-up temperature
Option F : Screening and serialization
Leaded process add - L after reference

INPUT SPECIFICATIONS

INPUT RANGE

H : 9-45 Vdc
O : 16-80 Vdc
T : 120-480 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

B : 3.3 Vdc / 30 A
C : 5 Vdc / 30 A
E : 12 Vdc / 12.5 A
F : 15 Vdc / 10 A
I : 24 Vdc / 6.25 A
J : 28 Vdc / 5.3 A

PACKAGE AND PIN-OUT

Dimensions in mm and (inches)

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

Metallic case aluminized coating solder plated pin

Pin dimensions :
Pin 1, 2, 3, 4, 5, 7, 9, 10 : Ø 1 mm (0.04")
Pin 6, 10 : Ø 2 mm (0.08")

www.gaia-converter.com
**DC/DC CONVERTERS**

**DC ISOLATED CONVERTERS 150W**

**PART NUMBERING**

<table>
<thead>
<tr>
<th>SINGLE OUTPUT</th>
<th>MGDS-155 -</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option A</td>
<td>Screening -55°C start-up temperature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Option B</td>
<td>Screening and serialization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leaded process for low input H and O series add - L after reference</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INPUT SPECIFICATIONS**

**INPUT RANGE**

<table>
<thead>
<tr>
<th>H</th>
<th>9-45 Vdc</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>16-80 Vdc</td>
</tr>
<tr>
<td>S</td>
<td>155-480 Vdc</td>
</tr>
</tbody>
</table>

**OUTPUT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>SINGLE OUTPUT</th>
<th>SINGLE OUTPUT</th>
<th>SINGLE OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>5 Vdc / 30 A</td>
<td>F</td>
</tr>
<tr>
<td>E</td>
<td>12 Vdc / 12.5 A</td>
<td>I</td>
</tr>
<tr>
<td>26</td>
<td>26 Vdc / 5.8 A</td>
<td>J</td>
</tr>
</tbody>
</table>

**PACKAGE AND PIN-OUT**

Dimensions in inches

**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

**Pin**

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

*Only on high input series

**Metallic case assembled coating gold plated pin**
**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: 1500 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**

**Hi-Rel Grade**

**MGDM-200 Series**

**PART NUMBERING**

SINGLE OUTPUT

MGDS-200 - [ ] - [ ] / [ ]

Option [ ]: Screening -55°C start-up temperature
Option [ ]: Screening and serialization

**INPUT SPECIFICATIONS**

**INPUT RANGE**

- **H**: 9-45 Vdc
- **O**: 16-80 Vdc

**OUTPUT SPECIFICATIONS**

**SINGLE OUTPUT**

- **B**: 3.3 Vdc / 35 A
- **C**: 5 Vdc / 35 A
- **E**: 12 Vdc / 16.5 A

- **F**: 15 Vdc / 13.3 A
- **I**: 24 Vdc / 8.4 A

**PACKAGE AND PIN-OUT**

Dimensions in inches

Pin Dimensions: 0.050"
HI-REL GRADE - DC/DC CONVERTERS

DC ISOLATED CONVERTERS 200W

PART NUMBERING

SINGLE OUTPUT MGDS-205 - [ ] / [ ]
Option [ ]: Synchronization function
Option [ ]: Screening and serialization
Option [ ]: Screening -55°C start-up temperature

INPUT SPECIFICATIONS

INPUT RANGE
H : 9-45 Vdc

OUTPUT SPECIFICATIONS

SINGLE OUTPUT
E : 12 Vdc / 16.65 A

PACKAGE AND PIN-OUT

Dimensions in inches

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 : 1500 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

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HI-REL GRADE - DC/DC CONVERTERS

**DC/DC CONVERTERS**

**DC ISOLATED CONVERTERS 18W**

**KEY FEATURES**
- Small surface 1" x 1.5" package
- Single output
- 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

<table>
<thead>
<tr>
<th>PART NUMBERING</th>
<th>MGDM-18 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE OUTPUT</td>
<td>MGDS-18 - /</td>
</tr>
<tr>
<td>BI OUTPUT</td>
<td>MGDB-18 - /</td>
</tr>
<tr>
<td>TRIPLE OUTPUT</td>
<td>MGDT-18 - /</td>
</tr>
</tbody>
</table>

**INPUT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>INPUT RANGE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C : 4.5-5.5 Vdc</td>
<td></td>
</tr>
<tr>
<td>H : 9-36 Vdc transient 40 Vdc/100 ms</td>
<td></td>
</tr>
<tr>
<td>J : 16-40 Vdc transient 50 Vdc/100 ms</td>
<td></td>
</tr>
</tbody>
</table>

**OUTPUT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>SINGLE OUTPUT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E : 3.3 Vdc / 4 A</td>
<td></td>
</tr>
<tr>
<td>F : 5 Vdc / 4 A</td>
<td></td>
</tr>
<tr>
<td>G : 12 Vdc / 1.5 A</td>
<td></td>
</tr>
<tr>
<td>H : 15 Vdc / 1.2 A</td>
<td></td>
</tr>
</tbody>
</table>

**PART NUMBERING**

| SINGLE OUTPUT | MGDS-20 - / |
| BI OUTPUT | MGDB-20 - / |
| TRIPLE OUTPUT | MGDT-25 - / |

**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 : 250 KHz
- Protections : output short circuit
- Trim adjustment : no trim
- External synchronization range : no synchro
- Additional functions : on/off

<table>
<thead>
<tr>
<th>PART NUMBERING</th>
<th>MGDM-20 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE OUTPUT</td>
<td>MGDS-20 - /</td>
</tr>
<tr>
<td>BI OUTPUT</td>
<td>MGDB-20 - /</td>
</tr>
<tr>
<td>TRIPLE OUTPUT</td>
<td>MGDT-25 - /</td>
</tr>
</tbody>
</table>

**INPUT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>INPUT RANGE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C : 4.5-5.5 Vdc</td>
<td></td>
</tr>
<tr>
<td>H : 9-36 Vdc transient 40 Vdc/100 ms</td>
<td></td>
</tr>
<tr>
<td>J : 16-40 Vdc transient 50 Vdc/100 ms</td>
<td></td>
</tr>
</tbody>
</table>

**OUTPUT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>SINGLE OUTPUT</th>
<th>BI OUTPUT</th>
<th>TRIPLE OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>E : 3.3 Vdc / 4 A</td>
<td>F : 5 Vdc / 4 A</td>
<td>G : 12 Vdc / 1.5 A</td>
</tr>
<tr>
<td>H : 15 Vdc / 1.3 A</td>
<td>C : ± 5 Vdc / ± 2 A</td>
<td>D : ± 12 Vdc / ± 0.8 A</td>
</tr>
<tr>
<td>E : ± 15 Vdc / ± 0.65 A</td>
<td>F : ± 5 Vdc / ± 12 Vdc / 2 A ± 0.4 A</td>
<td></td>
</tr>
<tr>
<td>C : ± 5 Vdc / ± 12 Vdc / ± 0.4 A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PART NUMBERING**

| SINGLE OUTPUT | MGDS-18 - / |
| BI OUTPUT | MGDB-18 - / |
| TRIPLE OUTPUT | MGDT-18 - / |

**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

<table>
<thead>
<tr>
<th>PART NUMBERING</th>
<th>MGDM-25 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE OUTPUT</td>
<td>MGDS-25 - /</td>
</tr>
<tr>
<td>BI OUTPUT</td>
<td>MGDB-25 - /</td>
</tr>
<tr>
<td>TRIPLE OUTPUT</td>
<td>MGDT-25 - /</td>
</tr>
</tbody>
</table>

**INPUT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>INPUT RANGE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H : 9-36 Vdc transient 40 Vdc/100 ms</td>
<td></td>
</tr>
<tr>
<td>J : 16-40 Vdc transient 50 Vdc/100 ms</td>
<td></td>
</tr>
</tbody>
</table>

**OUTPUT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>SINGLE OUTPUT</th>
<th>BI OUTPUT</th>
<th>TRIPLE OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>E : 3.3 Vdc / 6 A</td>
<td>F : 5 Vdc / 5 A</td>
<td>G : 12 Vdc / 1.6 A</td>
</tr>
<tr>
<td>H : 15 Vdc / 1.3 A</td>
<td>C : ± 5 Vdc / ± 2.5 A</td>
<td>D : ± 12 Vdc / ± 1 A</td>
</tr>
<tr>
<td>E : ± 15 Vdc / ± 0.825 A</td>
<td>F : ± 5 Vdc / ± 12 Vdc / ± 0.4 A</td>
<td></td>
</tr>
<tr>
<td>C : ± 5 Vdc / ± 12 Vdc / ± 0.4 A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**www.gaia-converter.com**
## 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

### INPUT SPECIFICATIONS
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/T</td>
<td>Screening -55°C start-up temperature</td>
</tr>
<tr>
<td>/S</td>
<td>Screening and serialization</td>
</tr>
</tbody>
</table>

### OUTPUT SPECIFICATIONS
<table>
<thead>
<tr>
<th>Output</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3 Vdc / 6 A</td>
<td></td>
</tr>
<tr>
<td>5 Vdc / 5 A</td>
<td></td>
</tr>
<tr>
<td>12 Vdc / 2 A</td>
<td></td>
</tr>
<tr>
<td>15 Vdc / 1.65 A</td>
<td></td>
</tr>
</tbody>
</table>

### PART NUMBERING
- SINGLE OUTPUT: MGDS-26-
- BI OUTPUT: MGDB-26-
- TRIPLE OUTPUT: MGDT-26-

### CGDM-30 Series

### 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, adjustable undervoltage lockout

### INPUT SPECIFICATIONS
<table>
<thead>
<tr>
<th>Range</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-36 Vdc transient 40 Vdc/100 ms</td>
<td></td>
</tr>
<tr>
<td>16-40 Vdc transient 50 Vdc/100 ms</td>
<td></td>
</tr>
</tbody>
</table>

### OUTPUT SPECIFICATIONS
<table>
<thead>
<tr>
<th>Output</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3 Vdc</td>
<td></td>
</tr>
<tr>
<td>5 Vdc</td>
<td></td>
</tr>
<tr>
<td>12 Vdc</td>
<td></td>
</tr>
<tr>
<td>15 Vdc</td>
<td></td>
</tr>
</tbody>
</table>

### PART NUMBERING
- SINGLE OUTPUT: CGDM-30-
- BI OUTPUT: CGDB-30-
- TRIPLE OUTPUT: CGDT-30-

### MGDM-35 Series

### 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

### INPUT SPECIFICATIONS
<table>
<thead>
<tr>
<th>Range</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-36 Vdc transient 40 Vdc/100 ms</td>
<td></td>
</tr>
<tr>
<td>16-70 Vdc transient 80 Vdc/100 ms</td>
<td></td>
</tr>
</tbody>
</table>

### OUTPUT SPECIFICATIONS
<table>
<thead>
<tr>
<th>Output</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3 Vdc &amp; ± 12 Vdc &amp; ± 15 Vdc &amp; ± 1.1 A*</td>
<td></td>
</tr>
<tr>
<td>3.3 Vdc &amp; ± 15 Vdc &amp; ± 0.9 A*</td>
<td></td>
</tr>
<tr>
<td>5 Vdc &amp; ± 12 Vdc &amp; ± 4 A &amp; ± 1.1 A*</td>
<td></td>
</tr>
<tr>
<td>5 Vdc &amp; ± 15 Vdc &amp; ± 4 A &amp; ± 0.9 A*</td>
<td></td>
</tr>
</tbody>
</table>

### PART NUMBERING
- SINGLE OUTPUT: MGDS-35-
- BI OUTPUT: MGDB-35-
- TRIPLE OUTPUT: MGDT-35-

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

**Option**
- /T: Screening -55°C start-up temperature
- /S: Screening and serialization
- For leaded process add - L after reference. Contact factory for availability.
**HI-REL GRADE - DC/DC CONVERTERS**

### MGDD-60 Series

**DC ISOLATED CONVERTERS 60W**

**PART NUMBERING**

- **DUAL OUTPUT**
  - MGDD-60 - ■ - ■ / ■
  - Option ■: Screening -55°C start-up temperature
  - Option ■: Screening and serialization

**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

**INPUT SPECIFICATIONS**

- **ULTRA WIDE INPUT**
  - 12-160 Vdc transient 10.5 Vdc/1 sec

**OUTPUT SPECIFICATIONS**

- **DUAL ISOLATED OUTPUT**
  - Option ■: 2 X 5 Vdc / 2 x 5 A
  - Option ■: 2 x 12 Vdc / 2 x 2.5 A
  - Option ■: 2 x 24 Vdc / 2 x 1.25 A
* Available unbalanced power up to 10% / 90%

### MGDM-100 Series

**DC ISOLATED CONVERTERS 100W**

**PART NUMBERING**

- **SINGLE OUTPUT**
  - MGDS-100 - ■ - ■ / ■
  - Option ■: Screening -55°C start-up temperature
  - Option ■: Screening and serialization

**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

**INPUT SPECIFICATIONS**

- **INPUT RANGE**
  - 10.7-100 Vdc

**OUTPUT SPECIFICATIONS**

- **SINGLE OUTPUT**
  - ■: 3.3 Vdc / 20 A
  - ■: 5 Vdc / 20 A
  - ■: 12 Vdc / 8.5 A
  - Option ■: 15 Vdc / 6.5 A
  - Option ■: 26 Vdc / 4 A
**PART NUMBERING**

- SINGLE OUTPUT
- LGDSI-50

**INPUT SPECIFICATIONS**

**INPUT RANGE**

<table>
<thead>
<tr>
<th>Range</th>
<th>Transient (Vdc)</th>
<th>Spike (Vdc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>J: 10-36 Vdc</td>
<td>40 Vdc / 1 s &amp; 85 Vdc / 20 ms</td>
<td>1800 Vdc / 50 µs</td>
</tr>
<tr>
<td>Q: 36-154 Vdc</td>
<td>165 Vdc / 1 s &amp; 385 Vdc / 20 ms</td>
<td>1800 Vdc / 50 µs</td>
</tr>
</tbody>
</table>

**GENERAL CHARACTERISTICS**

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

**KEY FEATURES**

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

**PACKAGE AND PIN-OUT**

Dimensions in inches

**Pin Single Output**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+Input (Vi)</td>
</tr>
<tr>
<td>2</td>
<td>On/Off</td>
</tr>
<tr>
<td>3</td>
<td>-Input (Gi)</td>
</tr>
<tr>
<td>4</td>
<td>Common (Go)</td>
</tr>
<tr>
<td>5</td>
<td>Output (Vo)</td>
</tr>
</tbody>
</table>

Pin dimensions: Ø 0.03"  
Metallic case black anodized coating solder plated pin  
Bottom view
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
- Q: 43-154 Vdc
- transient: 165 Vdc / 1 s
- spike: 1800 Vdc / 50 µs

PACKAGE AND PIN-OUT
Dimensions in inches
- Pin dimensions: Ø 0.03 "
- Metallic case black anodized coating solder plated pin

Pin | Single Output
--- | ---
1 | +Input (V+)
2 | On/Off
3 | -Input (G-)
4 | Common (G0)
5 | Output (V0)

Bottom view
MGDI-04 Series
DC/DC CONVERTERS
DC ISOLATED CONVERTERS 4W
REDEFINING THE SOURCES OF POWER

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

PART NUMBERING

| SINGLE OUTPUT | MGDSI-04 - [ ] - [ ] / [ ] |
| BI OUTPUT     | MGDBI-04 - [ ] - [ ] / [ ] |
| TRIPLE OUTPUT | MGDTI-04 - [ ] - [ ] / [ ] |

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

INPUT SPECIFICATIONS

<table>
<thead>
<tr>
<th>STANDARD INPUT</th>
<th>WIDE INPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>C : 4.5-5.5 Vdc</td>
<td>H : 9-36 Vdc</td>
</tr>
<tr>
<td>I : 18-36 Vdc</td>
<td>J : 16-40 Vdc</td>
</tr>
<tr>
<td>Q : 36-140 Vdc</td>
<td></td>
</tr>
</tbody>
</table>

OUTPUT SPECIFICATIONS

<table>
<thead>
<tr>
<th>SINGLE OUTPUT</th>
<th>BI OUTPUT</th>
<th>TRIPLE OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>B : 3.3 Vdc / 1 A</td>
<td>C : ± 5 Vdc / ± 0.4 A</td>
<td>CF : 5 Vdc &amp; ± 15 Vdc / 0.5 A &amp; ± 0.05 A</td>
</tr>
<tr>
<td>C : 5 Vdc / 0.8 A</td>
<td>E : ± 12 Vdc / ± 0.165 A</td>
<td></td>
</tr>
<tr>
<td>E : 12 Vdc / 0.33 A</td>
<td>F : ± 15 Vdc / ± 0.13 A</td>
<td></td>
</tr>
<tr>
<td>F : 15 Vdc / 0.26 A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PACKAGE AND PIN-OUT

Dimensions in inches

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
<th>Bi Output</th>
<th>Triple Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+Input (VI)</td>
<td>+Input (VI)</td>
<td>+Input (VI)</td>
</tr>
<tr>
<td>2</td>
<td>-Input (Gi)</td>
<td>-Input (Gi)</td>
<td>-Input (Gi)</td>
</tr>
<tr>
<td>3</td>
<td>Common (Go)</td>
<td>Common (Go)</td>
<td>Common (Go)</td>
</tr>
<tr>
<td>4</td>
<td>Common (Go)</td>
<td>No pin</td>
<td>Common (Go)</td>
</tr>
<tr>
<td>5</td>
<td>Common (Go)</td>
<td>No pin</td>
<td>Common (Go)</td>
</tr>
<tr>
<td>6</td>
<td>Common (Go)</td>
<td>No pin</td>
<td>Common (Go)</td>
</tr>
<tr>
<td>7</td>
<td>Output (Vo)</td>
<td>Output (-Vo)</td>
<td>Output 2 (-Vo2)</td>
</tr>
<tr>
<td>8</td>
<td>Output (Vo)</td>
<td>No pin</td>
<td>Output 1 (+Vo1)</td>
</tr>
<tr>
<td>9</td>
<td>No pin</td>
<td>No pin</td>
<td>Output 2 (-Vo2)</td>
</tr>
<tr>
<td>10</td>
<td>On/Off (option)</td>
<td>On/Off (option)</td>
<td>On/Off (option)</td>
</tr>
<tr>
<td>11</td>
<td>-Input (Gi)</td>
<td>-Input (Gi)</td>
<td>-Input (Gi)</td>
</tr>
<tr>
<td>12</td>
<td>-Input (Gi)</td>
<td>-Input (Gi)</td>
<td>-Input (Gi)</td>
</tr>
</tbody>
</table>

Pin dimensions : 0.025”
Metallic case black anodized casting silver plated pin
(For 36-140 Vdc and triple output versions : length is 1.4”, width is 0.8” and height is 0.4”)
MGDDI-06 Series

DC/DC CONVERTERS

DC ISOLATED CONVERTERS 6W

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%

PACKAGING AND PIN-OUT

Dimensions in inches

Pin dimensions: square pin 0.025"

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
MGDI-10 Serie

DC/DC CONVERTERS
DC ISOLATED CONVERTERS 10W

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

PART NUMBERING

<table>
<thead>
<tr>
<th>PACKAGE AND PIN-OUT</th>
<th>SINGLE OUTPUT</th>
<th>BI OUTPUT</th>
<th>TRIPLE OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGDSI-10 -</td>
<td>MGDBI-10 -</td>
<td>MGDTI-10 -</td>
<td></td>
</tr>
<tr>
<td>Option M : On/Off function</td>
<td>Option M : High isolation 3 000 Vdc</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INPUT SPECIFICATIONS

STANDARD INPUT

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>4.5-5.5 Vdc</td>
</tr>
<tr>
<td>I</td>
<td>18-36 Vdc</td>
</tr>
</tbody>
</table>

WIDE INPUT

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>4.7-16 Vdc</td>
</tr>
<tr>
<td>H</td>
<td>9-36 Vdc</td>
</tr>
<tr>
<td>J</td>
<td>16-40 Vdc</td>
</tr>
<tr>
<td>Q</td>
<td>36-140 Vdc</td>
</tr>
</tbody>
</table>

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>3.3 Vdc / 2 A</td>
</tr>
<tr>
<td>C</td>
<td>5 Vdc / 2 A</td>
</tr>
<tr>
<td>E</td>
<td>12 Vdc / 0.8 A</td>
</tr>
<tr>
<td>F</td>
<td>15 Vdc / 0.65 A</td>
</tr>
</tbody>
</table>

BI OUTPUT

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>± 5 Vdc / ± 1 A</td>
</tr>
<tr>
<td>E</td>
<td>± 12 Vdc / ± 0.4 A</td>
</tr>
<tr>
<td>F</td>
<td>± 15 Vdc / ± 0.325 A</td>
</tr>
</tbody>
</table>

TRIPLE OUTPUT

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CE</td>
<td>5 Vdc &amp; ± 12 Vdc / 1 A &amp; ± 0.2 A</td>
</tr>
<tr>
<td>CF</td>
<td>5 Vdc &amp; ± 15 Vdc / 1 A &amp; ± 0.15 A</td>
</tr>
</tbody>
</table>

PACKAGE AND PIN-OUT

Dimensions in inches

Single & bi & tri output models

Pin dimensions : Ø 0.05 "

Metallic case black anodized coating solder plated pin

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
<th>Bi Output</th>
<th>Triple Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+Input (Vi)</td>
<td>+Input (Vi)</td>
<td>+Input (Vi)</td>
</tr>
<tr>
<td>2</td>
<td>Gate*</td>
<td>No pin</td>
<td>No pin</td>
</tr>
<tr>
<td>3</td>
<td>-Input (Gi)</td>
<td>-Input (Gi)</td>
<td>-Input (Gi)</td>
</tr>
<tr>
<td>4</td>
<td>Output (Vo)</td>
<td>Output+ (+Vo)</td>
<td>Output 1 (V1)</td>
</tr>
<tr>
<td>5</td>
<td>No pin</td>
<td>Common (G0)</td>
<td>No pin</td>
</tr>
<tr>
<td>6</td>
<td>Common (G0)</td>
<td>Output- (-Vo)</td>
<td>Common (G0)</td>
</tr>
<tr>
<td>7</td>
<td>No pin</td>
<td>No pin</td>
<td>Output 2+ (+V2)</td>
</tr>
<tr>
<td>8</td>
<td>No pin</td>
<td>No pin</td>
<td>Output 2- (-V2)</td>
</tr>
<tr>
<td>A</td>
<td>On/Off (option)</td>
<td>On/Off (option)</td>
<td>On/Off (option)</td>
</tr>
</tbody>
</table>

www.gaia-converter.com
**PART NUMBERING**

| Dual Output | MGDDI-20 - _ - |

**INPUT SPECIFICATIONS**

**ULTRA WIDE INPUT**

| R | 12-160 Vdc |

**OUTPUT SPECIFICATIONS**

**DUAL ISOLATED OUTPUT**

*Possible unbalanced power up to 10% / 90%

| 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 |

**PACKAGE AND PIN-OUT**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Dual Output</th>
<th>Pin</th>
<th>Dual Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>On/Off</td>
<td>9</td>
<td>+ Output 2 (Go2)</td>
</tr>
<tr>
<td>2</td>
<td>Do not connect</td>
<td>10</td>
<td>- Output 2 (Go2)</td>
</tr>
<tr>
<td>3</td>
<td>UVLO</td>
<td>11</td>
<td>Do not connect</td>
</tr>
<tr>
<td>4</td>
<td>Do not connect</td>
<td>12</td>
<td>+ Output 1 (Vo1)</td>
</tr>
<tr>
<td>5</td>
<td>Do not connect</td>
<td>13</td>
<td>- Output 1 (Go1)</td>
</tr>
<tr>
<td>6</td>
<td>Input (Gi)</td>
<td>14</td>
<td>Do not connect</td>
</tr>
<tr>
<td>7</td>
<td>VF</td>
<td>15</td>
<td>Vtrim</td>
</tr>
<tr>
<td>8</td>
<td>+ Input (Vi)</td>
<td>16</td>
<td>Do not connect</td>
</tr>
</tbody>
</table>

**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
### 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

### PART NUMBERING

<table>
<thead>
<tr>
<th>SINGLE OUTPUT</th>
<th>MGDSI-35 -</th>
<th>BI OUTPUT</th>
<th>MGDBI-35 -</th>
<th>TRIPLE OUTPUT</th>
<th>MGDTI-35 -</th>
</tr>
</thead>
</table>

### 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 diagram](image)

Metallic case black anodized coating solder plated pin

---

**INDUSTRIAL GRADE - DC/DC CONVERTERS**

**DC ISOLATED CONVERTERS 35W**

**MGDI-35 Series**

**INDUSTRIAL GRADE - DC/DC CONVERTERS**

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**DC/DC CONVERTERS**

**DC ISOLATED CONVERTERS 60W**

**PART NUMBERING**

| SINGLE OUTPUT | MGDSI-60 - [ ] - [ ] |
| DUAL OUTPUT   | MGDDI-60 - [ ] - [ ] |

**INPUT SPECIFICATIONS**

**WIDE INPUT**

- **C**: 14-55 Vdc
- **Q**: 36-175 Vdc

**ULTRA WIDE INPUT**

- **R**: 12-160 Vdc

**OUTPUT SPECIFICATIONS**

**SINGLE 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

**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%

**GENERAL CHARACTERISTICS**

- Nominal power up to: 60 W
- Galvanic isolation input/output: 1500 Vdc (2250 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

**PACKAGEN AND PIN-OUT**

Dimensions in inches

**Metallic case black anodized coating gold plated pins**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
<th>Pin</th>
<th>Single Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>On/Off</td>
<td>10-11,12</td>
<td>Output (Vo)</td>
</tr>
<tr>
<td>2</td>
<td>Synch (Sync)</td>
<td>13,14,15</td>
<td>Common (Go)</td>
</tr>
<tr>
<td>3</td>
<td>UVLO</td>
<td>16</td>
<td>Sense +</td>
</tr>
<tr>
<td>4,5,6</td>
<td>Input (Gi)</td>
<td>17</td>
<td>Sense -</td>
</tr>
<tr>
<td>7,8,9</td>
<td>+Input (Vi)</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

**Pin dimensions: 0.050”**
DC/DC CONVERTERS
DC ISOLATED CONVERTERS 75W

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 : 1500 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

PART NUMBERING

SINGLE OUTPUT MGDI-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, 6 : Ø 0.06“

Metallic case aluminized coating solder plated pin
**MGDI-100 Series**

**DC/DC CONVERTERS**

**DC ISOLATED CONVERTERS 100W**

---

### 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

---

### PACKAGING AND PIN-OUT

**Dimensions in inches**

![Diagram of packaging and pin-out]

- Pin 1: On/Off
- Pin 2: Synchro (Sync)
- Pin 3: UVLO
- Pin 4, 5, 6: Input (Gi)
- Pin 7, 8, 9: +Input (Vi)
- Pin 10, 11, 12: Output (Vo)
- Pin 13, 14, 15: Common (G0)
- Pin 16: Sense +
- Pin 17: Trim
- Pin 18: Sense -

---

**Part Numbering**

- SINGLE OUTPUT: MGDSI-100 - [Code]

---

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

---

**Notes:**

- Pin dimensions ± square pin 0.035”
- Metallic case black anodized coating solder plated pin
**MGDI-124 Series**

**DC/DC CONVERTERS**

**DC ISOLATED CONVERTERS 120W**

**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

**PART NUMBERING**

| SINGLE OUTPUT | MGDSI-124 - - |

**INPUT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>WIDE INPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H</strong>: 9-36 Vdc</td>
</tr>
<tr>
<td><strong>Q</strong>: 18-75 Vdc</td>
</tr>
</tbody>
</table>

**OUTPUT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>SINGLE OUTPUT</th>
<th>SINGLE OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C</strong>: 5 Vdc / 24 A</td>
<td></td>
</tr>
<tr>
<td><strong>E</strong>: 12 Vdc / 10 A</td>
<td></td>
</tr>
<tr>
<td><strong>F</strong>: 15 Vdc / 8 A</td>
<td></td>
</tr>
<tr>
<td><strong>I</strong>: 24 Vdc / 5 A</td>
<td></td>
</tr>
</tbody>
</table>

**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 soldered coating; soldered pin
DC/DC CONVERTERS
DC ISOLATED CONVERTERS 160W

MGDI-164 Series

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

PART NUMBERING

SINGLE OUTPUT  MGDI-164 - [ ] - [ ]

INPUT SPECIFICATIONS

WIDE INPUT

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

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

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

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

PACKAGE AND PIN-OUT

Dimensions in inches

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

Unsoldered metal header has 0.05” for heat sinking

Metallic case alodined coating solder plated pin
DC/DC CONVERTERS
DC ISOLATED CONVERTERS 200W

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

PART NUMBERING

SINGLE OUTPUT  MGDSI-204 - ■ - ■

INPUT SPECIFICATIONS

WIDE INPUT

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

OUTPUT SPECIFICATIONS

SINGLE OUTPUT

E: 12 Vdc / 16.6 A

PACKAGE AND PIN-OUT

Dimensions in inches

Table:

<table>
<thead>
<tr>
<th>Pin</th>
<th>Single Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-Input (G+)</td>
</tr>
<tr>
<td>2</td>
<td>On/Off</td>
</tr>
<tr>
<td>3</td>
<td>+Input (V+)</td>
</tr>
<tr>
<td>4</td>
<td>+Output (Vo)</td>
</tr>
<tr>
<td>5</td>
<td>Sense + (S+)</td>
</tr>
<tr>
<td>6</td>
<td>Trim (trim)</td>
</tr>
<tr>
<td>7</td>
<td>Sense - (S-)</td>
</tr>
<tr>
<td>8</td>
<td>-Output (Go)</td>
</tr>
</tbody>
</table>
DC/DC CONVERTERS
DC ISOLATED CONVERTERS 250W

MGDI-254 Series

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

PART NUMBERING
SINGLE OUTPUT  MGDSI-254 - - -

INPUT SPECIFICATIONS

INPUT RANGE
H : 9-36 Vdc  transient 40 Vdc/100 ms (depending of output)

OUTPUT SPECIFICATIONS

SINGLE OUTPUT
E : 12 Vdc / 20.8 A

PACKAGE AND PIN-OUT

Dimensions in inches
Pin dimensions : Pin 1, 2, 3, 5, 6, 7 : 0.04" Pin 4, 8 : 0.06"
Metallic case pluggable coating solder plated pin
# DC/DC Converters

## DC/DC Converters

### DC ISOLATED CONVERTERS 18W

#### MGDI-18 Series

**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: 1500 Vdc
- Protections: output short circuit
- Trim adjustment: no trim
- External synchronization range: no synchro
- Additional functions: on/off on option

#### Input Specifications

<table>
<thead>
<tr>
<th>Option</th>
<th>Input Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>4.7-16 Vdc</td>
</tr>
<tr>
<td>D</td>
<td>9-36 Vdc</td>
</tr>
<tr>
<td>F</td>
<td>16-40 Vdc</td>
</tr>
<tr>
<td>G</td>
<td>36-140 Vdc</td>
</tr>
</tbody>
</table>

#### Output Specifications

<table>
<thead>
<tr>
<th>Option</th>
<th>Output Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>±5 Vdc / ±2 A</td>
</tr>
<tr>
<td></td>
<td>±12 Vdc / ±0.8 A</td>
</tr>
<tr>
<td></td>
<td>±15 Vdc / ±0.65 A</td>
</tr>
<tr>
<td>E</td>
<td>±5 Vdc / ±2.5 A</td>
</tr>
<tr>
<td></td>
<td>±12 Vdc / ±1 A</td>
</tr>
<tr>
<td></td>
<td>±15 Vdc / ±0.825 A</td>
</tr>
<tr>
<td>F</td>
<td>±5 Vdc / ±2.5 A &amp; ±0.825 A</td>
</tr>
</tbody>
</table>

#### Part Numbering

<table>
<thead>
<tr>
<th>Single Output</th>
<th>MGDI-18 - C - /</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bi Output</td>
<td>MGDI1B-18 - C - /</td>
</tr>
<tr>
<td>Tri Output</td>
<td>MGDTI-18 - C - /</td>
</tr>
</tbody>
</table>

### DC ISOLATED CONVERTERS 20W

#### MGDI-20 Series

**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: 1500 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

<table>
<thead>
<tr>
<th>Option</th>
<th>Input Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>3.3 Vdc / 5 A</td>
</tr>
<tr>
<td></td>
<td>±5 Vdc / ±4 A</td>
</tr>
<tr>
<td></td>
<td>±12 Vdc / ±1.5 A</td>
</tr>
<tr>
<td>F</td>
<td>±5 Vdc / ±1.2 A</td>
</tr>
</tbody>
</table>

#### Output Specifications

<table>
<thead>
<tr>
<th>Option</th>
<th>Output Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>±5 Vdc / ±2 A</td>
</tr>
<tr>
<td></td>
<td>±12 Vdc / ±0.8 A</td>
</tr>
<tr>
<td></td>
<td>±15 Vdc / ±0.65 A</td>
</tr>
<tr>
<td>E</td>
<td>±5 Vdc / ±2.5 A</td>
</tr>
<tr>
<td></td>
<td>±12 Vdc / ±1 A</td>
</tr>
<tr>
<td></td>
<td>±15 Vdc / ±0.825 A</td>
</tr>
<tr>
<td>F</td>
<td>±5 Vdc / ±2.5 A &amp; ±0.825 A</td>
</tr>
</tbody>
</table>

#### Part Numbering

<table>
<thead>
<tr>
<th>Single Output</th>
<th>MGDI-20 - C - /</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bi Output</td>
<td>MGDI1B-20 - C - /</td>
</tr>
<tr>
<td>Tri Output</td>
<td>MGDI1T-20 - C - /</td>
</tr>
</tbody>
</table>

### DC ISOLATED CONVERTERS 25W

#### MGDI-25 Series

**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: 1500 Vdc
- Switching frequency: 250 KHz
- Protections: output short circuit
- Trim adjustment: no trim
- External synchronization range: no synchro
- Additional functions: on/off on option

#### Input Specifications

<table>
<thead>
<tr>
<th>Option</th>
<th>Input Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>9-36 Vdc</td>
</tr>
<tr>
<td></td>
<td>18-75 Vdc</td>
</tr>
</tbody>
</table>

#### Output Specifications

<table>
<thead>
<tr>
<th>Option</th>
<th>Output Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>±5 Vdc / ±2.5 A</td>
</tr>
<tr>
<td></td>
<td>±12 Vdc / ±1 A</td>
</tr>
<tr>
<td></td>
<td>±15 Vdc / ±0.825 A</td>
</tr>
<tr>
<td>E</td>
<td>±5 Vdc / ±2.5 A &amp; ±0.825 A</td>
</tr>
</tbody>
</table>

#### Part Numbering

<table>
<thead>
<tr>
<th>Single Output</th>
<th>MGDI-25 - C - /</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bi Output</td>
<td>MGDI1B-25 - C - /</td>
</tr>
<tr>
<td>Tri Output</td>
<td>MGDI1T-25 - C - /</td>
</tr>
</tbody>
</table>
## DC/DC Converters
### DC Isolated Converters 26W

<table>
<thead>
<tr>
<th>PART NUMBERING</th>
<th>SINGLE OUTPUT</th>
<th>MGDSI-26 - [ ] - [ ]</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>INPUT SPECIFICATIONS</th>
<th>OUTPUT SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WIDE INPUT</strong></td>
<td><strong>SINGLE OUTPUT</strong></td>
</tr>
<tr>
<td>9-36 Vdc</td>
<td>3.3 Vdc / 6 A</td>
</tr>
<tr>
<td>16-40 Vdc</td>
<td>5 Vdc / 5 A</td>
</tr>
<tr>
<td>12 Vdc / 2 A</td>
<td>15 Vdc / 1.65 A</td>
</tr>
</tbody>
</table>

**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

### DC Isolated Converters 30W

<table>
<thead>
<tr>
<th>PART NUMBERING</th>
<th>SINGLE LINE OUTPUT</th>
<th>CGDI - [ ] - [ ] - [ ]</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>INPUT SPECIFICATIONS</th>
<th>OUTPUT SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STANDARD INPUT</strong></td>
<td><strong>OUTPUT</strong></td>
</tr>
<tr>
<td>18-36 Vdc</td>
<td>3.3 Vdc</td>
</tr>
<tr>
<td>4.7-16 Vdc</td>
<td>5 Vdc</td>
</tr>
<tr>
<td>16-40 Vdc</td>
<td>12 Vdc</td>
</tr>
<tr>
<td>36-160 Vdc</td>
<td>15 Vdc</td>
</tr>
</tbody>
</table>

**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

### DC Isolated Converters 150W

<table>
<thead>
<tr>
<th>PART NUMBERING</th>
<th>SINGLE OUTPUT</th>
<th>MGDSI-150 - [ ] - [ ]</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>INPUT SPECIFICATIONS</th>
<th>OUTPUT SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WIDE INPUT</strong></td>
<td><strong>OUTPUT</strong></td>
</tr>
<tr>
<td>9-36 Vdc</td>
<td>3.3 Vdc / 30 A</td>
</tr>
<tr>
<td>18-75 Vdc</td>
<td>5 Vdc / 30 A</td>
</tr>
<tr>
<td>12 Vdc / 12.5 A</td>
<td>15 Vdc / 10 A</td>
</tr>
</tbody>
</table>

**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
- Additional functions: on/off, sense, parallelization

---

**www.gaia-converter.com**
**DC/DC SOLUTIONS**

**DC/DC Converters Selection Chart**

<table>
<thead>
<tr>
<th>Grades</th>
<th>Single Output</th>
<th>Bi Output</th>
<th>Dual Output</th>
<th>Triple Output</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Power references</th>
<th>Input Voltage range reference</th>
<th>Output references</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>04 : 4 W</td>
<td>Standard Input</td>
<td>A : 2.5 Vdc</td>
<td>Option 10 On/Off function</td>
</tr>
<tr>
<td>06 : 6 W</td>
<td>C : 4.5-5.5 Vdc</td>
<td>B : 3.3 Vdc</td>
<td>Option 7 high isolation 3000 Vdc</td>
</tr>
<tr>
<td>08 : 8 W</td>
<td>I : 18-36 Vdc</td>
<td>C : 5 or +/- 5 Vdc</td>
<td>Option 7 -55°C start-up temperature</td>
</tr>
<tr>
<td>10 : 10 W</td>
<td>E : 4.5-33 Vdc</td>
<td>D : 9-36 / 9-45 Vdc</td>
<td>Option 7 screening and serialization</td>
</tr>
<tr>
<td>18 : 18 W</td>
<td>M : 10-100 Vdc</td>
<td>E : 12 or +/- 12 Vdc</td>
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<tr>
<td>20 : 20 W</td>
<td>N : 9-60 Vdc</td>
<td>F : 15 or +/- 15 Vdc</td>
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<tr>
<td>21 : 21 W</td>
<td>R : 12-160 Vdc</td>
<td>G : 24 or +/- 24 Vdc</td>
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</tr>
<tr>
<td>25 : 25 W</td>
<td>Wide Input</td>
<td>H : 16-40 Vdc</td>
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</tr>
<tr>
<td>28 : 28 W</td>
<td>Ultra Wide Input</td>
<td>I : 18-75 / 16-80 Vdc</td>
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</tr>
<tr>
<td>30 : 30 W</td>
<td>O : 36-140 / 36-175 Vdc</td>
<td>J : 26 Vdc</td>
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</tr>
<tr>
<td>35 : 35 W</td>
<td>P : 120-480 Vdc</td>
<td>K : 28 Vdc</td>
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</tr>
<tr>
<td>40 : 40 W</td>
<td>Q : 155-480 Vdc</td>
<td>L : 33 and +/- 12 Vdc</td>
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</tr>
</tbody>
</table>

**AC/DC SOLUTIONS**

**Isolated PFC Modules series**
- LGDS - 300 W, 100 W, 75 W, 50 W, 30 W
- HGDSI - 75 W, 50 W, 30 W

**Non Isolated PFC Modules series**
- MGDS - 50 W, 25 W, 20 W, 10 W
- MGDSI - 50 W, 25 W, 20 W
- MGDD - 50 W, 25 W, 20 W
- MGDT - 50 W, 25 W, 20 W

<table>
<thead>
<tr>
<th>Power references</th>
<th>Input Voltage range reference</th>
<th>Output references</th>
<th>Options</th>
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</thead>
<tbody>
<tr>
<td>35 : 35 W</td>
<td>Wide Input</td>
<td>A : 17 Vdc</td>
<td>Option 16 -55°C start-up temperature</td>
</tr>
<tr>
<td>50 : 50 W</td>
<td>Ultra Wide Input</td>
<td>B : 375 Vdc</td>
<td>Option 16 screening and serialization</td>
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<tr>
<td>150 : 150 W</td>
<td>C : 95-140 Vac / frequency 320-800 Hz</td>
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<tr>
<td>350 : 350 W</td>
<td>D : 95-140 Vac / frequency 47-440 Hz</td>
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<tr>
<td></td>
<td>E : 95-265 Vac / frequency 50-60 Hz</td>
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</tbody>
</table>

**Process**
- Leaded process
- RoHS process
# COMPANY PROFILE

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- 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

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>FGDS-2A EMI Filter</td>
<td>6</td>
</tr>
<tr>
<td>FGDS-6A EMI Filter</td>
<td>7</td>
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<tr>
<td>FGDS-10A EMI Filter</td>
<td>8</td>
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<tr>
<td>FGDS-12A EMI Filter</td>
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<td>FGDS-20A EMI Filter</td>
<td>10</td>
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<tr>
<td>PGDS-50 Transient Protection</td>
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<td>LGDS-100 Transient Protection</td>
<td>12</td>
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<td>LGDS-300 Transient Protection</td>
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<tr>
<td>HUGD-50 Hold Up Module</td>
<td>14</td>
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<tr>
<td>HUGD-300 Hold Up Module</td>
<td>15</td>
</tr>
<tr>
<td>HGMM-35 AC Isolated PFC 35W</td>
<td>16</td>
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<tr>
<td>HGMM-50 AC Isolated PFC 50W</td>
<td>17</td>
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<tr>
<td>HGMM-150 AC Non Isolated PFC 150W</td>
<td>18</td>
</tr>
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### Other Hi-Rel Grade Products

<table>
<thead>
<tr>
<th>Product Name</th>
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<tbody>
<tr>
<td>MGDM-18 DC Isolated Converters 18W</td>
<td>32</td>
</tr>
<tr>
<td>MGDM-20 DC Isolated Converters 20W</td>
<td>32</td>
</tr>
<tr>
<td>MGDM-25 DC Isolated Converters 25W</td>
<td>32</td>
</tr>
<tr>
<td>MGDM-26 DC Isolated Converters 26W</td>
<td>33</td>
</tr>
<tr>
<td>MGDM-35 DC Isolated Converters 35W</td>
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</tr>
<tr>
<td>MGDD-30 DC Isolated Converters 30W</td>
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## INDUSTRIAL GRADE PRODUCTS

### Current Industrial Grade Products

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<thead>
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<tbody>
<tr>
<td>LGDSI-50 Spike Protection 50W</td>
<td>36</td>
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<tr>
<td>LGDSI-75 Spike Protection 75W</td>
<td>37</td>
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<tr>
<td>MGDI-04 DC Isolated Converters 4W</td>
<td>38</td>
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<tr>
<td>MGDI-06 DC Isolated Converters 6W</td>
<td>39</td>
</tr>
<tr>
<td>MGDI-10 DC Isolated Converters 10W</td>
<td>40</td>
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<tr>
<td>MGDDI-20 DC Isolated Converters 20W</td>
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<tr>
<td>MGDI-35 DC Isolated Converters 35W</td>
<td>42</td>
</tr>
<tr>
<td>MGDI et MGDDI-60 DC Isolated Converters 60W</td>
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### Other Industrial Grade Products

<table>
<thead>
<tr>
<th>Product Name</th>
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<tbody>
<tr>
<td>MGDI-18 DC Isolated Converters 18W</td>
<td>50</td>
</tr>
<tr>
<td>MGDI-20 DC Isolated Converters 20W</td>
<td>50</td>
</tr>
<tr>
<td>MGDI-25 DC Isolated Converters 25W</td>
<td>50</td>
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<tr>
<td>MGDI-26 DC Isolated Converters 26W</td>
<td>51</td>
</tr>
<tr>
<td>MGDI-204 DC Isolated Converters 204W</td>
<td>48</td>
</tr>
<tr>
<td>MGDI-254 DC Isolated Converters 254W</td>
<td>49</td>
</tr>
<tr>
<td>MGDI-265 DC Isolated Converters 265W</td>
<td>51</td>
</tr>
<tr>
<td>MGDI-350 DC Isolated Converters 350W</td>
<td>51</td>
</tr>
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# ENVIRONMENTAL QUALIFICATIONS

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