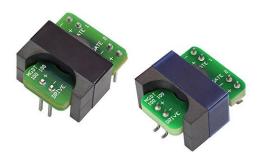
www.vishay.com

Vishay Custom Magnetics

Miniaturized Gate Drive Planar Transformers

FEATURES



| ABSOLUTE MAXIMUM RATINGS | | | | | | | | | |
|---|--------------------------------|-----------------------|-----------------|--|--|--|--|--|--|
| PARAMETER | CONDITIONS | LIMITS | UNITS | | | | | | |
| Dielectric withstand voltage | Drive to gate, 1 min | 3750 | V _{AC} | | | | | | |
| | Gate to gate, 1 min | 2500 | V _{AC} | | | | | | |
| Total power dissipation ⁽¹⁾ | T _A = 25 °C | 2.0 | W | | | | | | |
| Operating temperature ⁽²⁾ | Continuous | -55 to +125 | °C | | | | | | |
| Storage temperature | Continuous | -55 to +130 | °C | | | | | | |
| Frequency | | 100 to 500 | kHz | | | | | | |
| Size (L x W x H) | | 20.57 x 18.42 x 11.43 | mm | | | | | | |
| Terminals | Through-hole and surface-mount | | | | | | | | |

Note

⁽¹⁾ Derate at 33.3 mW/°C above 25 °C

(2) Derate drive level to 60 V/µs above 85°C

| STANDARD ELECTRICAL SPECIFICATIONS | | | | | | | | | | | |
|------------------------------------|-------------|---|--------------------------------------|---|--|---------------------------------|----------------------|-------------------------------------|------------------------------------|--|--|
| PART NUMBER | FREQ. RATIO | | DRIVE EXCITATION MAX. (Vµs) | MAGNETIZING INDUCTANCE MIN. (µH) ⁽²⁾⁽³⁾ | LEAKAGE INDUCTANCE MAX. (µH) ⁽⁴⁾ | DC RESISTANCE ⁽²⁾ | | INTERWINDING CAPACITANCE | | | |
| | | TRANSFER RATIO (± 3 %) ⁽¹⁾ | | | | DRIVE MAX. (Ω) | GATES MAX. (Ω) | DRIVE TO GATE MAX. (pF) | GATE TO GATE MAX. (pF) | | |
| MGDT100100 | 100 to 500 | 1:1:1 | 80 | 240 | 0.5 | 0.35 | 0.35 | 15 | 10 | | |
| MGDT100100LF | 100 to 500 | 1:1:1 | 80 | 240 | 0.5 | 0.35 | 0.35 | 15 | 10 | | |
| MGDT100100-SM | 100 to 500 | 1:1:1 | 80 | 240 | 0.5 | 0.35 | 0.35 | 15 | 10 | | |
| MGDT100125 | 100 to 500 | 1 : 1.25 : 1.25 | 80 | 240 | 0.5 | 0.35 | 0.50 | 25 | 10 | | |
| MGDT100125LF | 100 to 500 | 1 : 1.25 : 1.25 | 80 | 240 | 0.5 | 0.35 | 0.50 | 25 | 10 | | |
| MGDT100125-SM | 100 to 500 | 1 : 1.25 : 1.25 | 80 | 240 | 0.5 | 0.35 | 0.50 | 25 | 10 | | |

Notes

⁽¹⁾ Drive : gate : gate

⁽²⁾ $T_A = 25 \ ^{\circ}C$

⁽³⁾ 100 mV at 100 kHz across the drive winding with all gates open

⁽⁴⁾ 100 mA at 100 kHz into the drive winding with all gates shorted

Document Number: 34454

RoHS*

- Deliver MOSFET / IGBT gate power and timing signals simultaneously
- Directly drive high side MOSFETs / IGBTs on busses up to 1200 V
- Excellent rise time, overshoot, and peak current characteristics
- 8 mm minimum creepage and clearance from drive to gates
- Low profile planar package
- LF and SM versions are RoHS-compliant
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

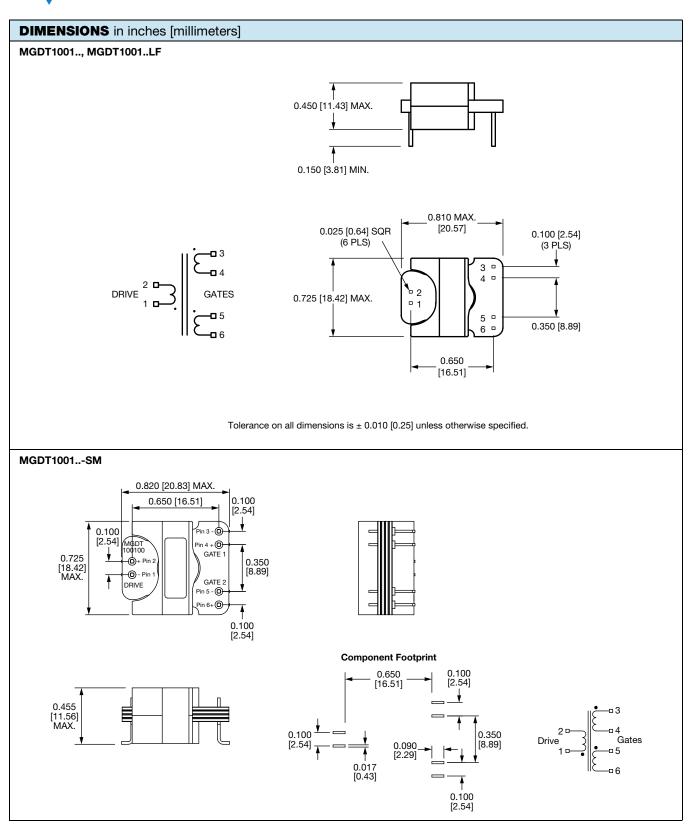
Note

This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details



MGDT Series

Vishay Custom Magnetics



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