

Vishay Custom Magnetics

Miniaturized Gate Drive Transformers



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

FEATURES 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 <u>www.vishay.com/doc?99912</u>

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

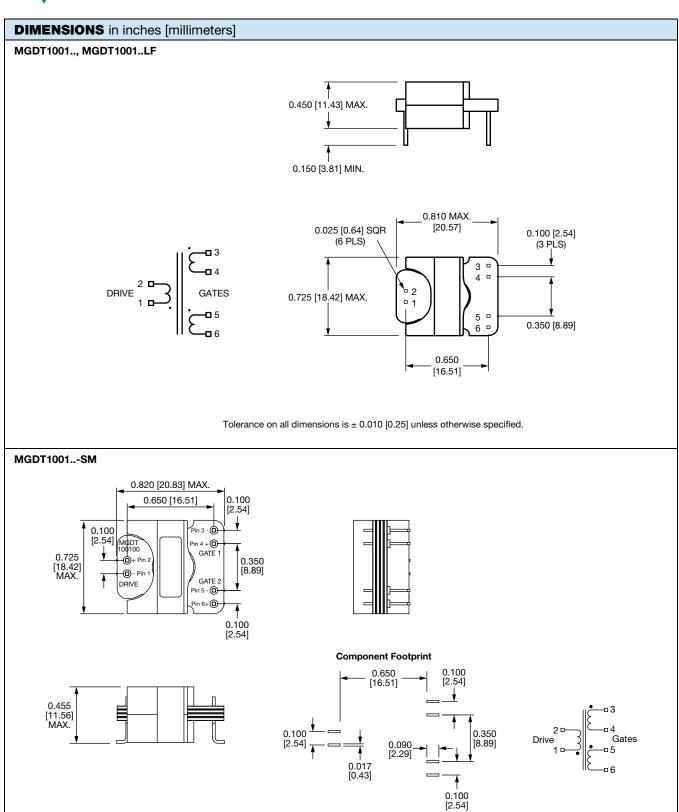
STANDARD ELECTRICAL SPECIFICATIONS											
PART NUMBER	USEFUL FREQ. RANGE (kHz) TRANSFER RATIO (± 3 %) (1)	DRIVE	MAGNETIZING	LEAKAGE	DC RESISTANCE (2)		INTERWINDING CAPACITANCE				
		RATIO	EXCITATION MAX. (Vµs)	INDUCTANCE MIN. (µH) ⁽²⁾⁽³⁾	INDUCTANCE MAX. (µH) ⁽⁴⁾	DRIVE MAX. (Ω)	GATES MAX. (Ω)	DRIVE 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



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