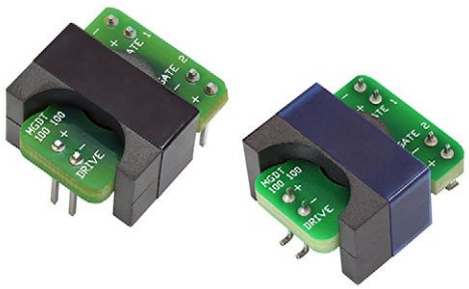
Miniaturized Gate Drive Planar Transformers



FEATURES

RoHS* Available

- 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

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	USEFUL FREQ. RANGE (kHz)	TRANSFER RATIO (± 3 %) (1)	DRIVE EXCITATION MAX. (Vµs)	MAGNETIZING INDUCTANCE MIN. (µH) (2)(3)	LEAKAGE INDUCTANCE MAX. (µH) (4)	DC RESISTANCE (2)		INTERWINDING CAPACITANCE	
						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 °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

For technical questions, contact: magnetics@vishay.com

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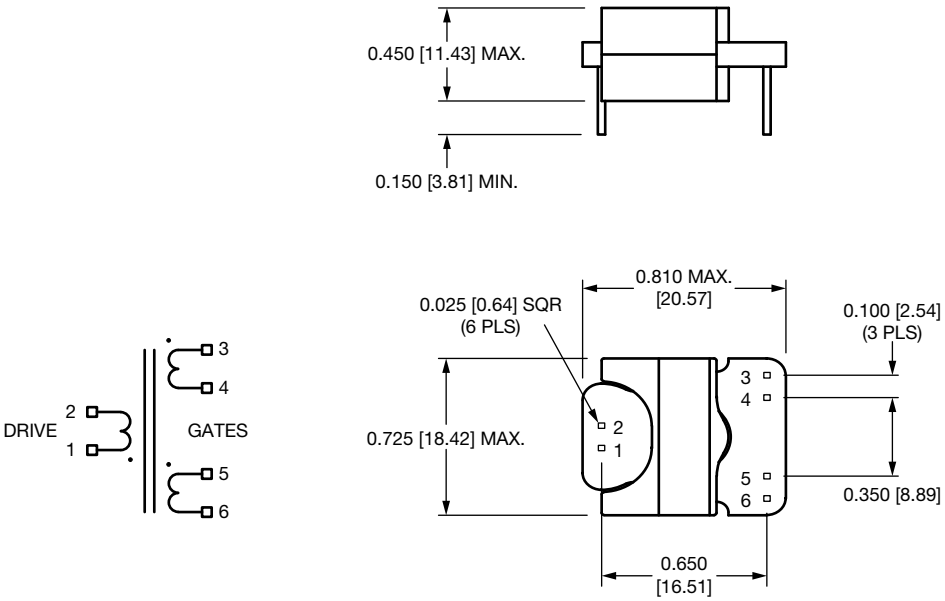
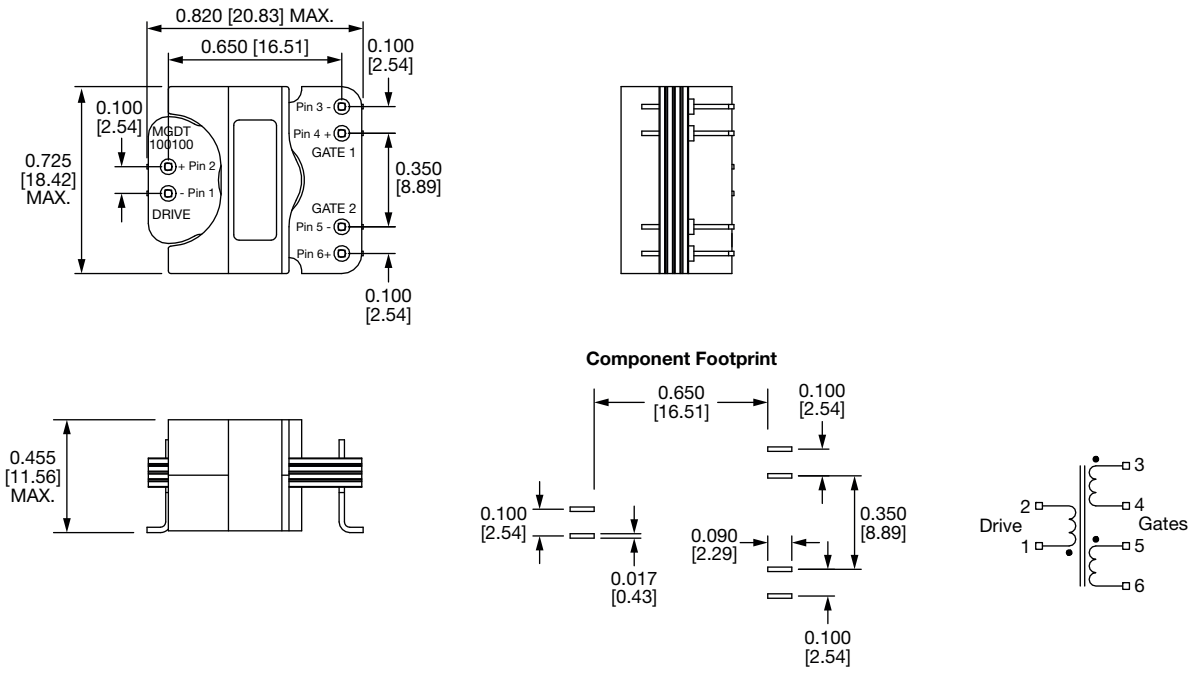
DIMENSIONS in inches [millimeters]

MGDT1001.., MGDT1001..LF



Tolerance on all dimensions is ± 0.010 [0.25] unless otherwise specified.

MGDT1001..-SM



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