Vishay Custom Magnetics

# **Miniaturized Gate Drive Planar Transformers**

**FEATURES** 



www.vishay.com

ABSOLUTE MAXIMUM RATINGS									
PARAMETER	CONDITIONS	LIMITS	UNITS						
Dielectric withstand voltage	Drive to gate, 1 min	3750	V <sub>AC</sub>						
	Gate to gate, 1 min	2500	V <sub>AC</sub>						
Total power dissipation <sup>(1)</sup>	T <sub>A</sub> = 25 °C	2.0	W						
Operating temperature <sup>(2)</sup>	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

<sup>(1)</sup> 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 %) <sup>(1)</sup>	DRIVE	MAGNETIZING	LEAKAGE	DC RESISTANCE <sup>(2)</sup>		INTERWINDING CAPACITANCE			
		RATIO	EXCITATION MAX. (Vµs)	INDUCTANCE MIN. (µH) <sup>(2)(3)</sup>	INDUCTANCE MAX. (µH) <sup>(4)</sup>	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

<sup>(1)</sup> Drive : gate : gate

<sup>(2)</sup> T<sub>A</sub> = 25 °C

<sup>(3)</sup> 100 mV at 100 kHz across the drive winding with all gates open

<sup>(4)</sup> 100 mA at 100 kHz into the drive winding with all gates shorted

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**RoHS\*** 

 $\bullet$  Directly drive high side MOSFETs / IGBTs on busses up to 1200 V

Deliver MOSFET / IGBT gate power and timing

- Excellent rise time, overshoot, and peak current characteristics
- 8 mm minimum creepage and clearance from drive to gates
- Low profile planar package

signals simultaneously

- LF and SM versions are RoHS-compliant
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

#### Note

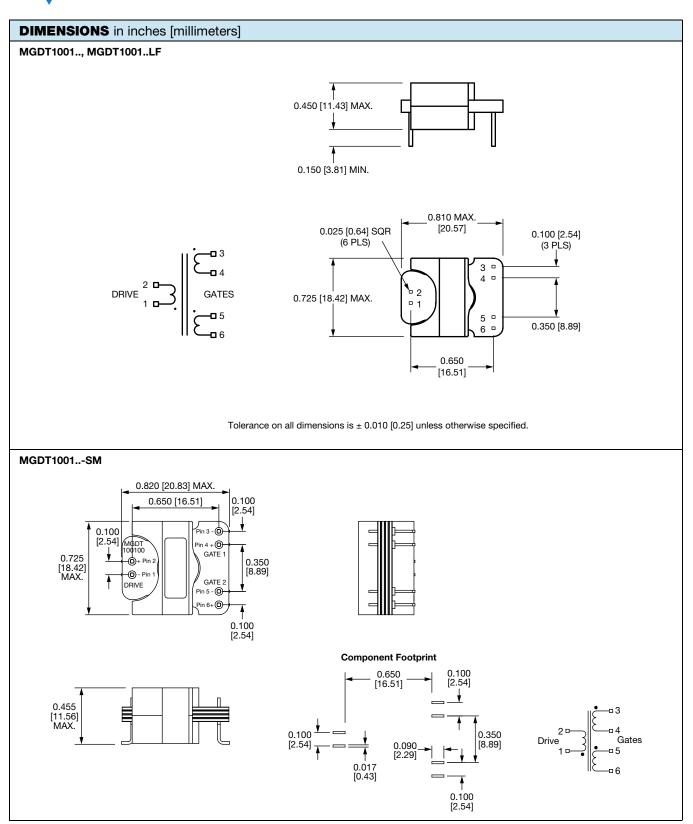
<sup>6</sup> This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details





## **MGDT Series**

### **Vishay Custom Magnetics**



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