

STANDARD TRIAC

Electrical Characteristics at Tamb = 25 °C

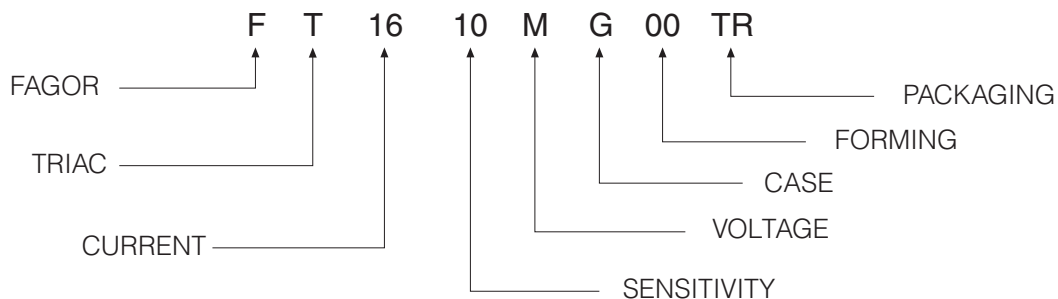
SYMBOL	PARAMETER	CONDITIONS	Quadrant		SENSITIVITY			Unit
					10	18	17	
I _{GT} ⁽¹⁾	Gate Trigger Current	V _D = 12 V _{DC} , R _L = 33Ω, T _j = 25 °C	Q1÷Q3	MAX	25	25	50	mA
			Q4	MAX	25	50	100	
V _{GT}	Gate Trigger Voltage	V _D = 12 V _{DC} , R _L = 33Ω, T _j = 25 °C	Q1÷Q4	MAX	1.3			V
V _{GD}	Gate Non Trigger Voltage	V _D = V _{DRM} , R _L = 3.3 KΩ, T _j = 125 °C	Q1÷Q4	MIN	0.2			V
I _H ⁽²⁾	Holding Current	I _T = 100 mA, Gate open, T _j = 25 °C		MAX	25	25	50	mA
I _L	Latching Current	I _G = 1.2 I _{GT} , T _j = 25 °C	Q1, Q3, Q4	MAX	40	40	60	mA
			Q2	MAX	60	80	120	
dV/dt ⁽²⁾	Critical Rate of Voltage Rise	V _D = 0.67 × V _{DRM} , Gate open T _j = 125 °C		MIN	400	700	400	V/μs
(dV/dt) _c ⁽²⁾	Critical Rate of Commutating off-state voltage	(di/dt) _c = 7 A/ms T _j = 125 °C		MIN	3	5	10	V/μs
V _{TM} ⁽²⁾	On-state Voltage	I _T = 22.5 Amp, t _p = 380 μs, T _j = 25 °C		MAX	1.6			V
V _{t(o)} ⁽²⁾	Threshold Voltage	T _j = 125 °C		MAX	0.77			V
r _d ⁽²⁾	Dynamic resistance	T _j = 125 °C		MAX	50			mΩ
I _{DRM} /I _{RRM}	Off-State Leakage Current	V _D = V _{DRM} , T _j = 125 °C		MAX	2			mA
		V _R = V _{RRM} , T _j = 25 °C		MAX	5			
R _{th(j-c)}	Thermal Resistance Junction-Case	for AC 360° conduction angle			1.2			°C/W
R _{th(j-a)}	Thermal Resistance Junction-Ambient	S ⁽³⁾ = 1 cm ²			45			°C/W

(1) Minimum I_{GT} is guaranteed at 5% of I_{GT} max.

(2) For either polarity of electrode 2 voltage with reference to electrode 1.

(3) S: Cooper surface under tab.

Part Number Information

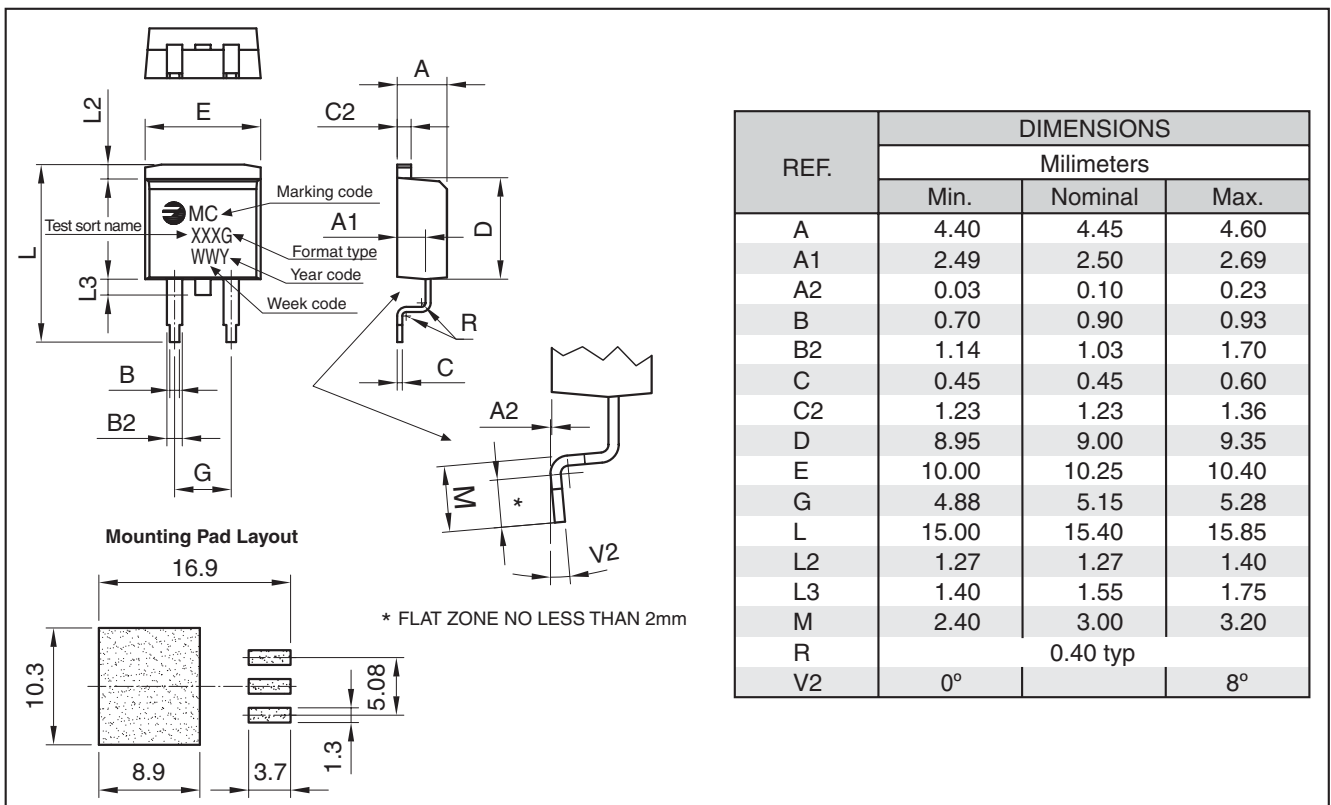


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Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
FT1617MG 00TR	TR	13" diameter tape and reel	800	1.50

Package Outline Dimensions: (mm) TO-263AB (D2PAK)



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Ratings and Characteristics (Ta 25 °C unless otherwise noted)

Fig. 1: Maximum power dissipation versus RMS on-state current (full cycle)

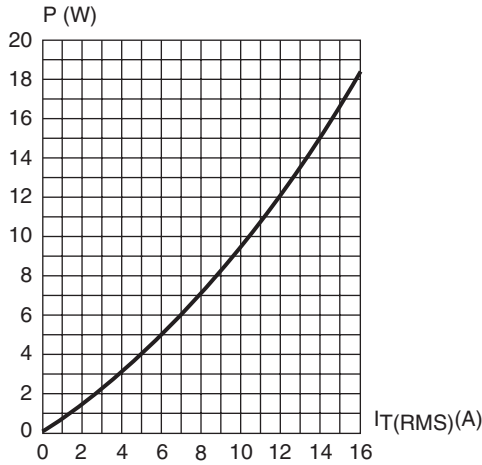


Fig. 2: RMS on-state current versus case temperature (full cycle).

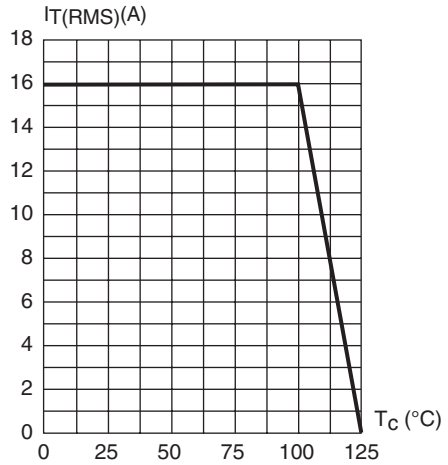


Fig. 3: Relative variation of thermal impedance versus pulse duration.

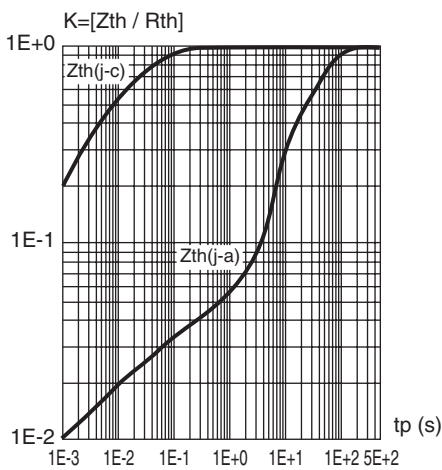


Fig. 4: On-state characteristics (maximum values)

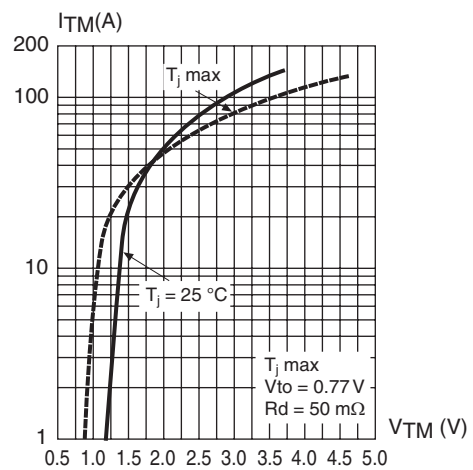


Fig. 5: Surge peak on-state current versus number of cycles

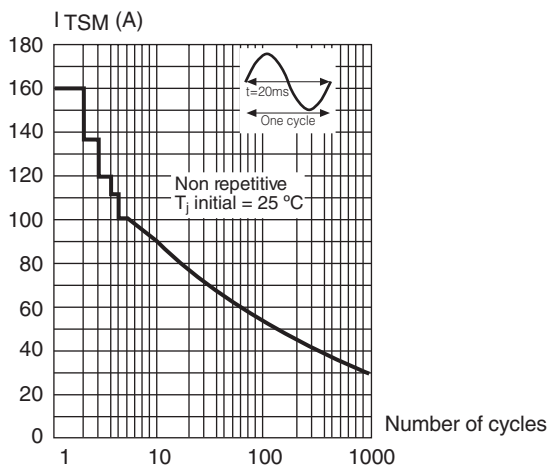
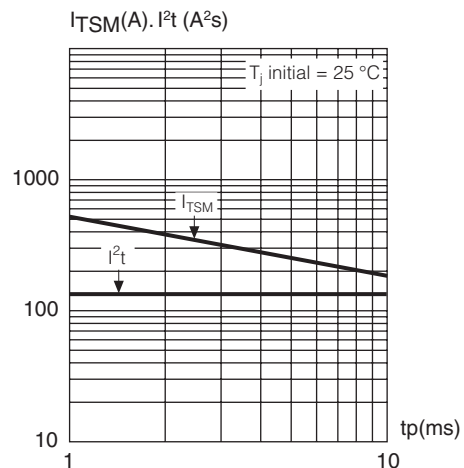


Fig. 6: Non repetitive surge peak on-state current for a sinusoidal pulse with width: tp < 10 ms, and corresponding value of I²t.



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Ratings and Characteristics (Ta 25 °C unless otherwise noted)

Fig. 7: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values)

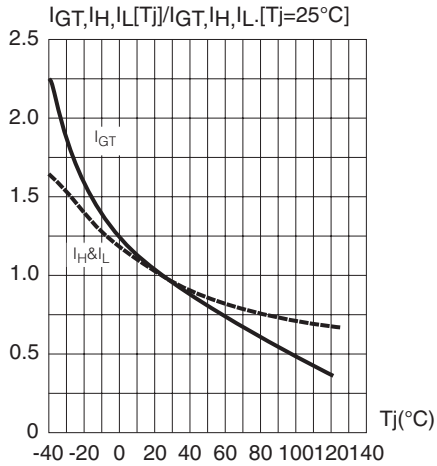


Fig. 8: Relative variation of critical rate of decrease of main current versus junction temperature

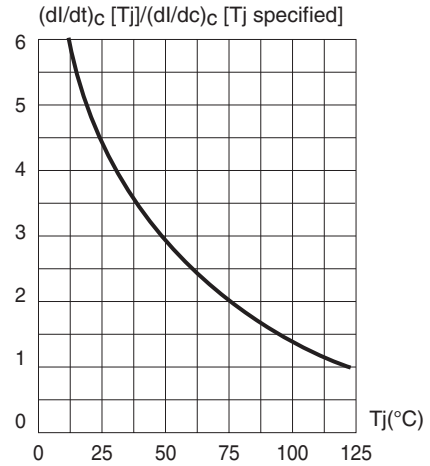


Fig. 9: Relative variation of critical rate of decrease of main current versus (dV/dt)c (typical values).

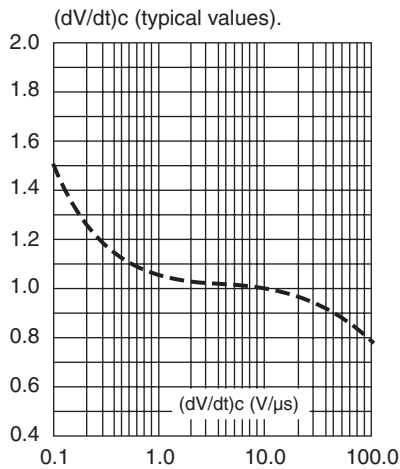
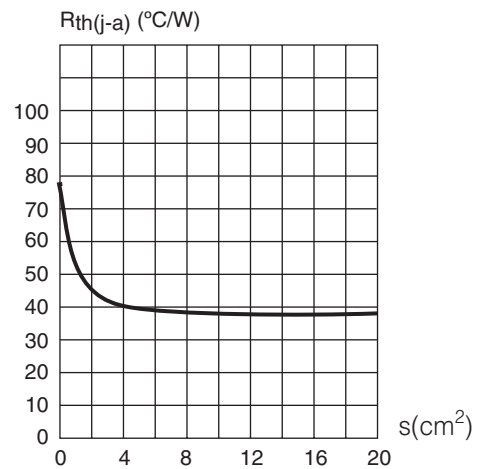


Fig. 10: D2PAK thermal resistance junction to ambient versus copper surface under tab (printed circuit board copper thickness: 35μ)



STANDARD TRIAC**Revision History**

Date	Revision	Description of Changes
10-Dec-2011	0	Original Data Sheet
10-May-2017	1	200V and 700V eliminated

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