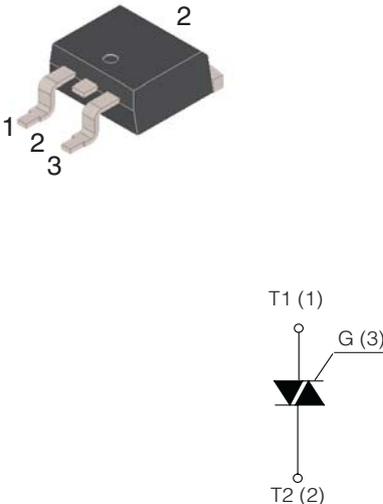


**STANDARD TRIAC**

<b>TO-263AB / D2PAK</b>  	<b>On-State Current</b> 16 Amp <b>Gate Trigger Current</b> ≤ 100 mA <b>Off-State Voltage</b> 200 V ÷ 800 V
	<b>FEATURES</b> <ul style="list-style-type: none"> <li>• Glass/passivated die junctions</li> <li>• Medium current Triac</li> <li>• Ideal for automated placement</li> <li>• Low thermal resistance</li> <li>• High surge current capability</li> <li>• Low forward voltage drop</li> <li>• Solder dip 260°C, 10s</li> <li>• Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC</li> <li>• Meets MSL level 3, per J-STD-020, LF maximum peak of 260° C</li> </ul> <div style="text-align: right;">     <b>RoHS</b> COMPLIANT         </div>
	<b>MECHANICAL DATA</b> <ul style="list-style-type: none"> <li>• <b>Case:</b> TO-263AB / D2PAK. Epoxy meets UL 94V-0 flammability rating.</li> <li>• <b>Polarity:</b> As marked on the body.</li> <li>• <b>Terminals:</b> Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. Consumer grade, meets JESD 201 class 1A whisker test.</li> </ul>
	<b>TYPICAL APPLICATIONS</b> Suitable for general purpose AC switching. They can be used as an ON/OFF function in applications such as static relays, heating regulation, induction motor starting circuits... or for phase control operation in light dimmers, motor speed controllers, ....

**Maximun Ratings and Electrical Characteristics at 25°C**

SYMBOL	PARAMETER	CONDITIONS	Value	Unit
$I_{T(RMS)}$	RMS On-state Current (full sine wave)	All Conduction Angle, $T_c = 100\text{ }^\circ\text{C}$	16	A
$I_{TSM}$	Non-repetitive On-State Current	Full Cycle, 60 Hz ( $t = 16.7\text{ ms}$ )	176	A
$I_{TSM}$	Non-repetitive On-State Current	Full Cycle, 50 Hz ( $t = 20\text{ ms}$ )	160	A
$I^2t$	Fusing Current	$t_p = 10\text{ ms}$ , Half Cycle	144	$A^2s$
$I_{GM}$	Peak Gate Current	20 $\mu s$ max. $T_j = 125\text{ }^\circ\text{C}$	4	A
$P_{G(AV)}$	Average Gate Power Dissipation	$T_j = 125\text{ }^\circ\text{C}$	1	W
$di/dt$	Critical rate of rise of on-state current	$I_G = 2 \times I_{GT}$ , $t_r \leq 100ns$ $f = 120\text{ Hz}$ , $T_j = 125\text{ }^\circ\text{C}$	50	$A/\mu s$
$T_j$	Operating Temperature		(-40 +125)	$^\circ\text{C}$
$T_{stg}$	Storage Temperature		(-40 +150)	$^\circ\text{C}$
$T_{sld}$	Soldering Temperature	10s max	260	$^\circ\text{C}$

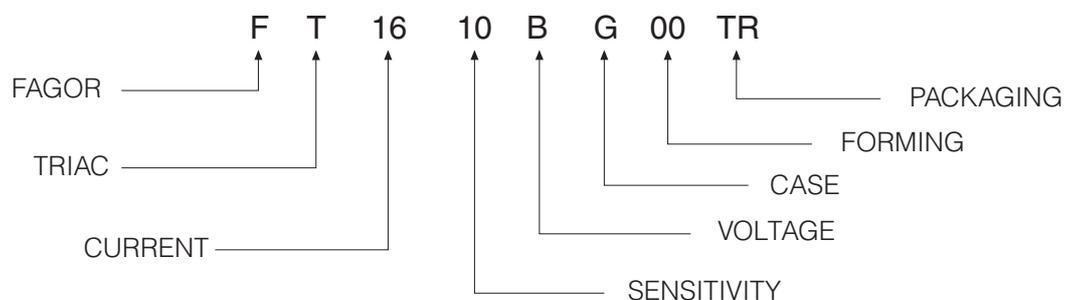
SYMBOL	PARAMETER	VOLTAGE					Unit
		B	D	M	S	N	
$V_{DRM}/V_{RRM}$	Repetitive Peak Off State Voltage	200	400	600	700	800	V

**STANDARD TRIAC**
**Electrical Characteristics at Tamb = 25 °C**

SYMBOL	PARAMETER	CONDITIONS	Quadrant		SENSITIVITY				Unit
					10	13	18	17	
I <sub>GT</sub> <sup>(1)</sup>	Gate Trigger Current	V <sub>D</sub> = 12 V <sub>DC</sub> , R <sub>L</sub> = 33Ω, T <sub>j</sub> = 25 °C	Q1÷Q3	MAX	25	50	25	50	mA
			Q4	MAX	25	75	50	100	
V <sub>GT</sub>	Gate Trigger Voltage	V <sub>D</sub> = 12 V <sub>DC</sub> , R <sub>L</sub> = 33Ω, T <sub>j</sub> = 25 °C	Q1÷Q4	MAX	1.3				V
V <sub>GD</sub>	Gate Non Trigger Voltage	V <sub>D</sub> = V <sub>DRM</sub> , R <sub>L</sub> = 3.3 KΩ, T <sub>j</sub> = 125 °C	Q1÷Q4	MIN	0.2				V
I <sub>H</sub> <sup>(2)</sup>	Holding Current	I <sub>T</sub> = 100 mA, Gate open, T <sub>j</sub> = 25 °C		MAX	25	50	25	50	mA
I <sub>L</sub>	Latching Current	I <sub>G</sub> = 1.2 I <sub>GT</sub> , T <sub>j</sub> = 25 °C	Q1, Q3, Q4	MAX	40	70	40	60	mA
			Q2	MAX	60	80	80	120	
dV/dt <sup>(2)</sup>	Critical Rate of Voltage Rise	V <sub>D</sub> = 0.67 × V <sub>DRM</sub> , Gate open T <sub>j</sub> = 125 °C		MIN	400	1000	700	400	V/μs
(dV/dt) <sub>c</sub> <sup>(2)</sup>	Critical Rate of Commu- tating off-state voltage	(di/dt) <sub>c</sub> = 7 A/ms T <sub>j</sub> = 125 °C		MIN	3	8	5	10	V/μs
V <sub>TM</sub> <sup>(2)</sup>	On-state Voltage	I <sub>T</sub> = 22.5 Amp, t <sub>p</sub> = 380 μs, T <sub>j</sub> = 25 °C		MAX	1.6				V
V <sub>t(o)</sub> <sup>(2)</sup>	Threshold Voltage	T <sub>j</sub> = 125 °C		MAX	0.77				V
r <sub>d</sub> <sup>(2)</sup>	Dynamic resistance	T <sub>j</sub> = 125 °C		MAX	50				mΩ
I <sub>DRM</sub> /I <sub>RRM</sub>	Off-State Leakage Current	V <sub>D</sub> = V <sub>DRM</sub> , T <sub>j</sub> = 125 °C		MAX	2				mA
		V <sub>R</sub> = V <sub>RRM</sub> , T <sub>j</sub> = 25 °C		MAX	5				μA
R <sub>th(j-c)</sub>	Thermal Resistance Junction-Case	for AC 360° conduction angle			1.2				°C/W
R <sub>th(j-a)</sub>	Thermal Resistance Junction-Ambient	s = 1cm <sup>2</sup>			45				°C/W

(1) Minimum I<sub>GT</sub> is guaranteed at 5% of I<sub>GT</sub> max.

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

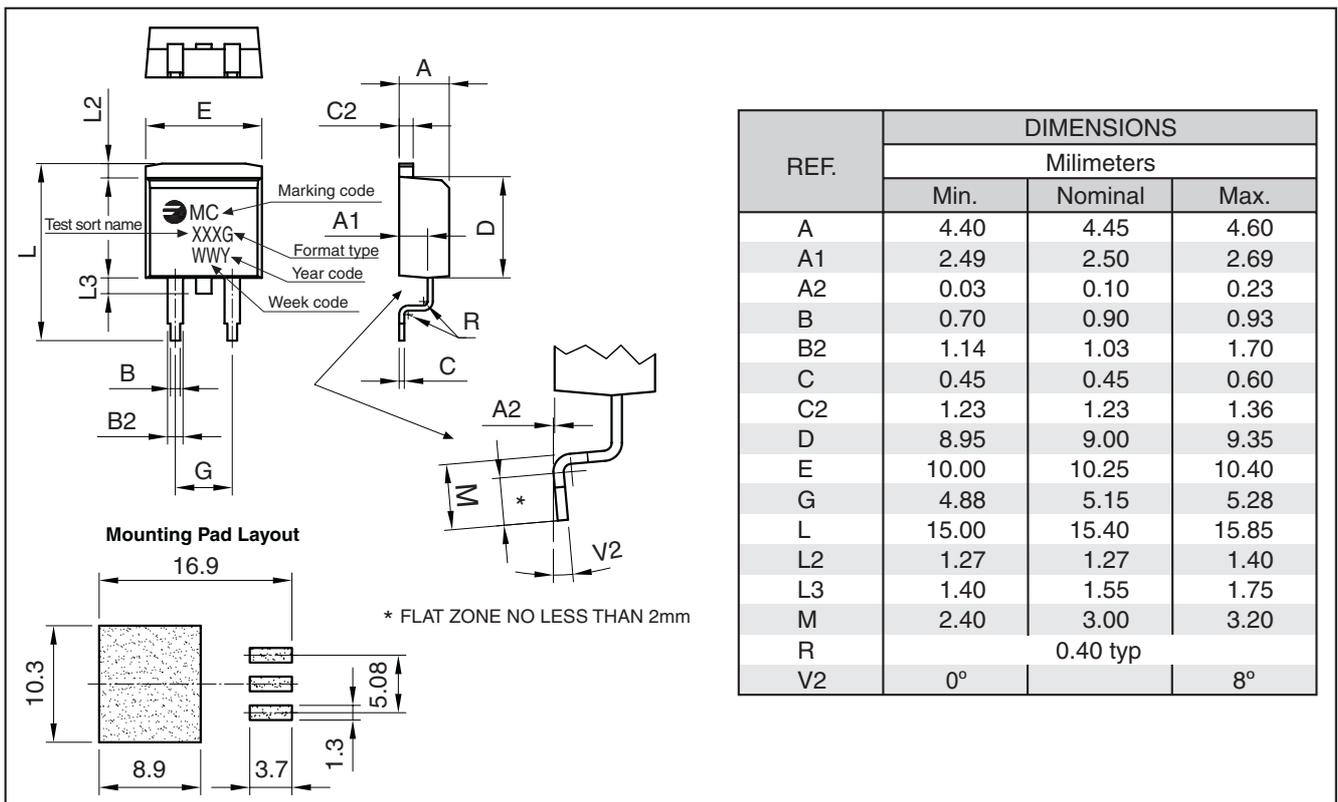
**Part Number Information**


**STANDARD TRIAC**

**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**



**STANDARD TRIAC**

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

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

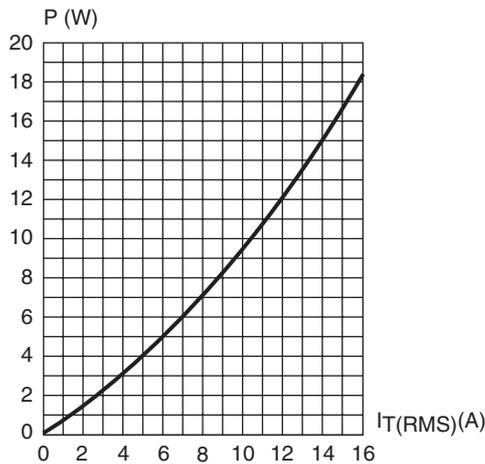


Fig. 2: RMS on-state current versus case temperature (full cycle).

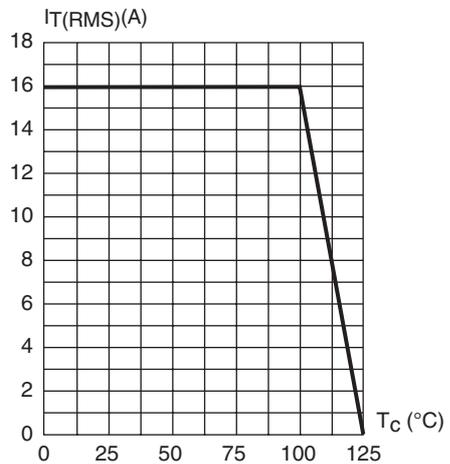


Fig. 3: Relative variation of thermal impedance versus pulse duration.

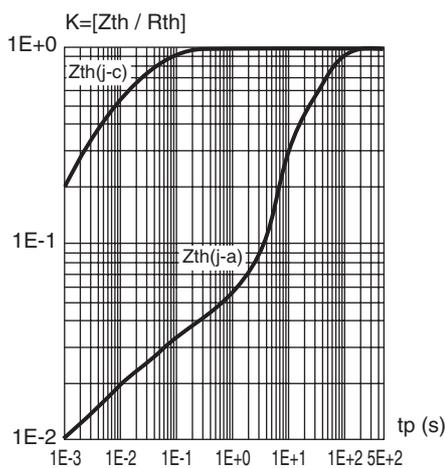


Fig. 4: On-state characteristics (maximum values)

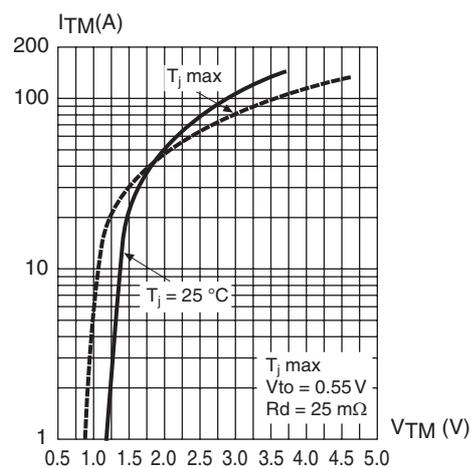


Fig. 5: Surge peak on-state current versus number of cycles

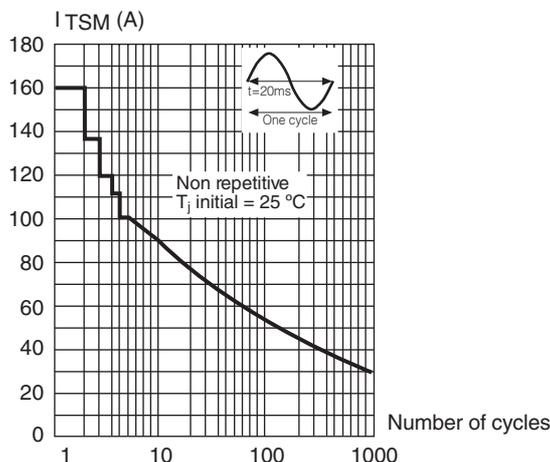
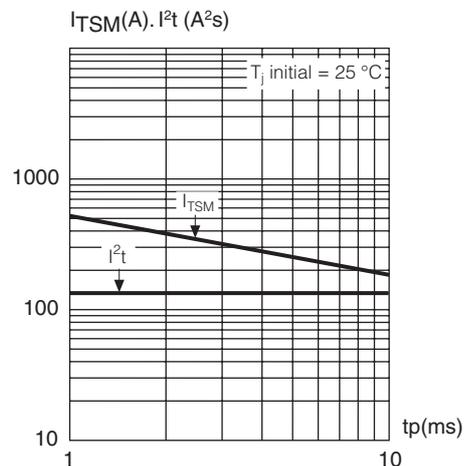


Fig. 6: Non repetitive surge peak on-state current for a sinusoidal pulse with width: tp < 10 ms, and corresponding value of I²t.



**STANDARD TRIAC**

**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)

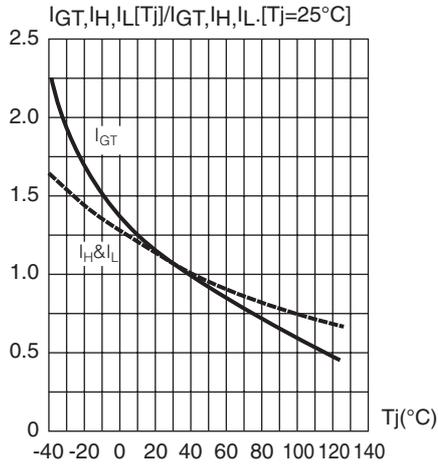


Fig. 8: Relative variation of critical rate of decrease of main current versus junction temperature

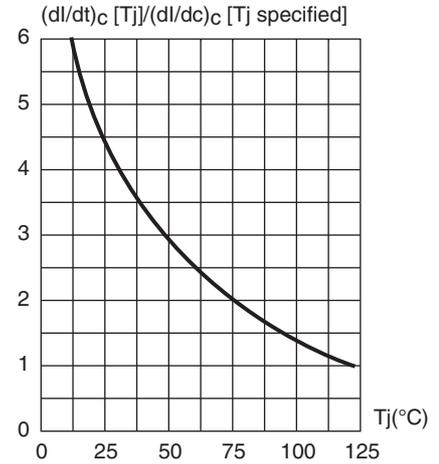


Fig. 9: Relative variation of critical rate of decrease of main current versus

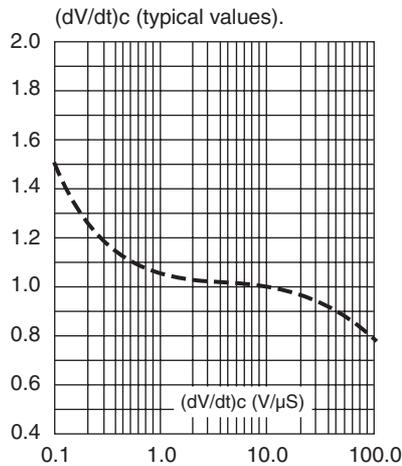
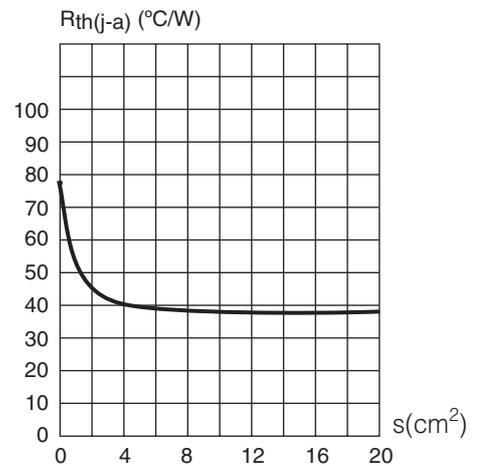


Fig. 10: D2PAK thermal resistance junction to ambient versus copper surface under tab (printed circuit board copper thickness: 35μ)



**STANDARD TRIAC**

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