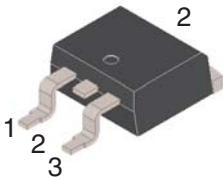
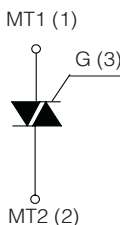




STANDARD TRIAC

<p style="text-align: center;">TO-252AA (DPAK)</p> <div style="text-align: center;">  </div> <div style="text-align: center; margin-top: 20px;">  </div>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">On-State Current 8 Amp</td> <td style="width: 50%;">Gate Trigger Current ≤ 100 mA</td> </tr> <tr> <td colspan="2" style="text-align: center;">Off-State Voltage 200 V ÷ 800 V</td> </tr> </table> <p>FEATURES</p> <ul style="list-style-type: none"> Glass/passivated die junctions Medium current Triac Ideal for automated placement Low thermal resistance High surge current capability Low forward voltage drop Solder dip 260°C, 10s Component in accordance to RoHS 2011/65/EU and WEEE 2002/96/EC Meets MSL level 3, per J-STD-020, LF maximum peak of 260° C <div style="text-align: right;">   RoHS <small>COMPLIANT</small> </div> <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> Case: TO-255AA (DPAK). Epoxy meets UL 94V-0 flammability rating. Polarity: As marked on the body. Terminals: 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. <p>TYPICAL APPLICATIONS</p> <p>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,</p>	On-State Current 8 Amp	Gate Trigger Current ≤ 100 mA	Off-State Voltage 200 V ÷ 800 V	
On-State Current 8 Amp	Gate Trigger Current ≤ 100 mA				
Off-State Voltage 200 V ÷ 800 V					

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, $T_c = 95\text{ °C}$	8	A
I_{TSM}	Non-repetitive On-State Current	Full Cycle, 60 Hz ($t = 16.7\text{ ms}$)	84	A
I_{TSM}	Non-repetitive On-State Current	Full Cycle, 50 Hz ($t = 20\text{ ms}$)	80	A
I^2t	Fusing Current	$t_p = 10\text{ ms}$, Half Cycle	32	A^2s
I_{GM}	Peak Gate Current	20 μs max. $T_j = 125\text{ °C}$	4	A
$P_{G(AV)}$	Average Gate Power Dissipation	$T_j = 125\text{ °C}$	1	W
di/dt	Critical rate of rise of on-state current	$I_G = 2x I_{GT}$, $t_r \leq 100ns$ $f = 120\text{ Hz}$, $T_j = 125\text{ °C}$	50	$A/\mu s$
T_j	Operating Temperature		(-40 +125)	°C
T_{stg}	Storage Temperature		(-40 +150)	°C
T_{sld}	Soldering Temperature	10s max	260	°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

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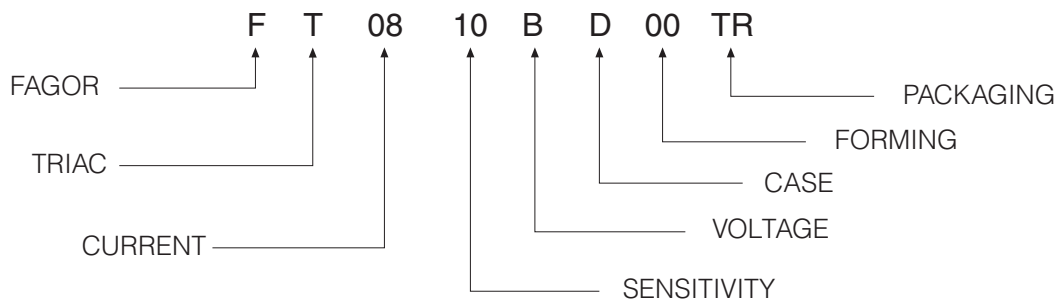
Electrical Characteristics at Tamb = 25 °C

SYMBOL	PARAMETER	CONDITIONS	Quadrant		SENSITIVITY				Unit
					10	13	18	17	
I _{GT} ⁽¹⁾	Gate Trigger Current	V _D = 12 V _{DC} , R _L = 33Ω, T _j = 25 °C	Q1÷Q3	MAX	25	50	25	50	mA
			Q4	MAX	25	75	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	50	25	50	mA
I _L	Latching Current	I _G = 1.2 I _{GT} , T _j = 25 °C	Q1, Q3, Q4	MAX	40	70	40	70	mA
			Q2	MAX	60	80	80	100	
dV/dt ⁽²⁾	Critical Rate of Voltage Rise	V _D = 0.67 × V _{DRM} , Gate open T _j = 125 °C		MIN	500	1000	700	1000	V/μs
(dV/dt) _c ⁽²⁾	Critical Rate of Commu- tating off-state voltage	(di/dt) _c = 2.7 A/ms T _j = 125 °C		MIN	3	8	5	10	V/μs
V _{TM} ⁽²⁾	On-state Voltage	I _T = 11 Amp, tp = 380 μs, T _j = 25 °C		MAX	1.6				V
V _{t(o)} ⁽²⁾	Threshold Voltage	T _j = 125 °C		MAX	0.85				V
r _d ⁽²⁾	Dynamic resistance	T _j = 125 °C		MAX	70				mΩ
I _{DRM} /I _{RRM}	Off-State Leakage Current	V _D = V _{DRM} , T _j = 125 °C		MAX	1				mA
		V _R = V _{RRM} , T _j = 25 °C		MAX	5				μA
R _{th(j-c)}	Thermal Resistance Junction-Case	for AC 360° conduction angle			1.6				°C/W
R _{th(j-a)}	Thermal Resistance Junction-Ambient	S = 1cm ²			70				°C/W

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

(2) For either polarity of electrode MT2 voltage with reference to electrode MT1.

Part Number Information

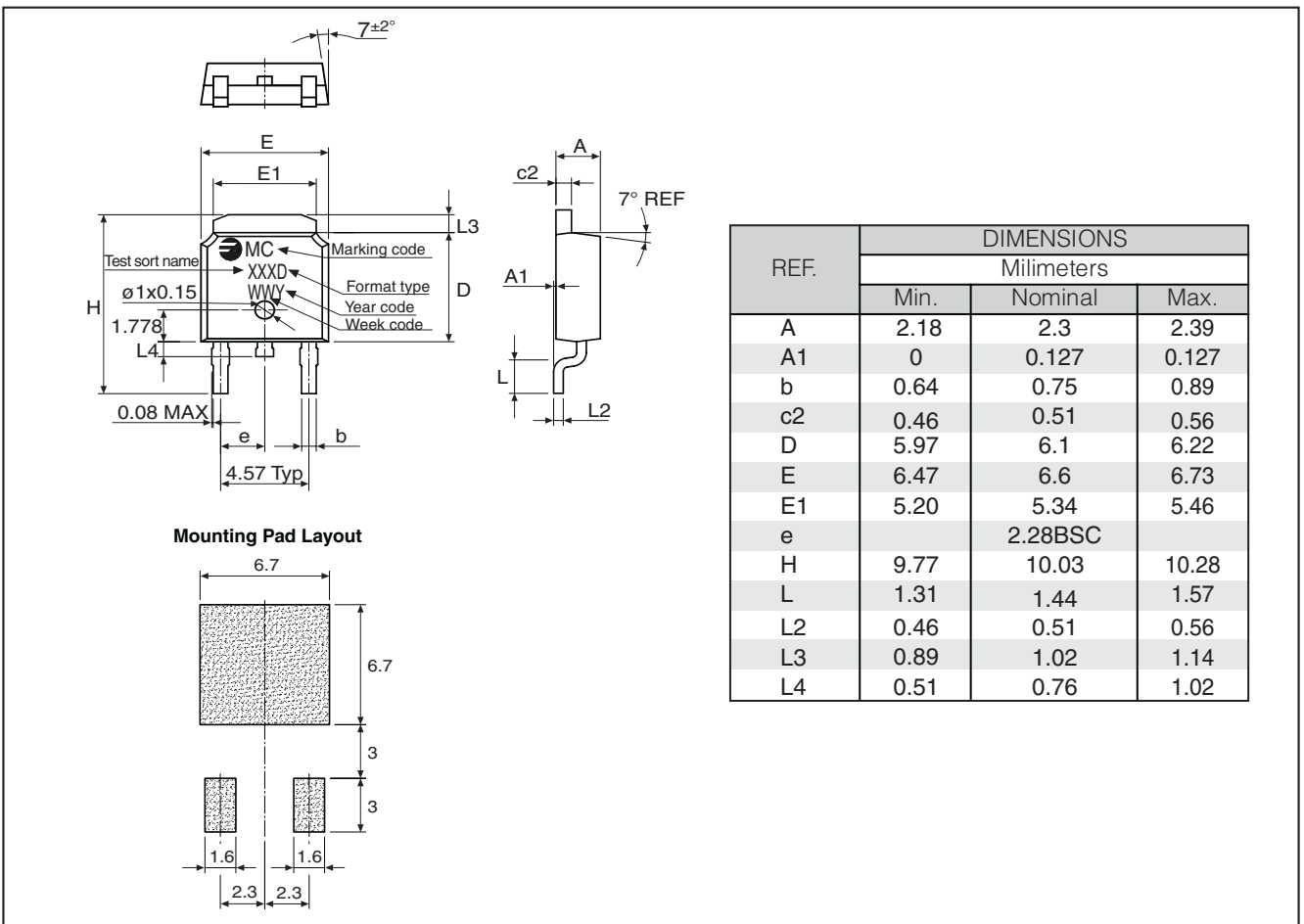


STANDARD TRIAC

Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
FT0810MD 00TR	TR	13" diameter tape and reel	2,500	0.30

Package Outline Dimensions: (mm) TO-252AA (DPAK)



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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)

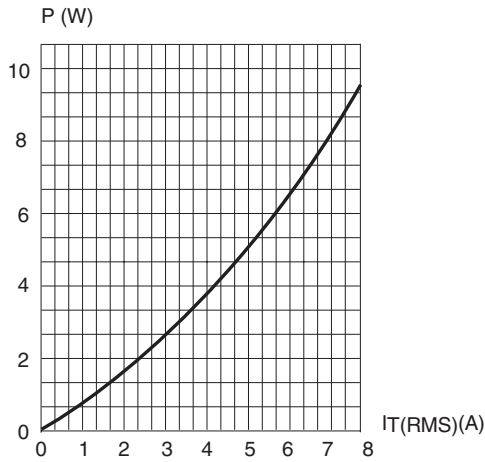


Fig. 2: RMS on-state current versus case temperature (full cycle)

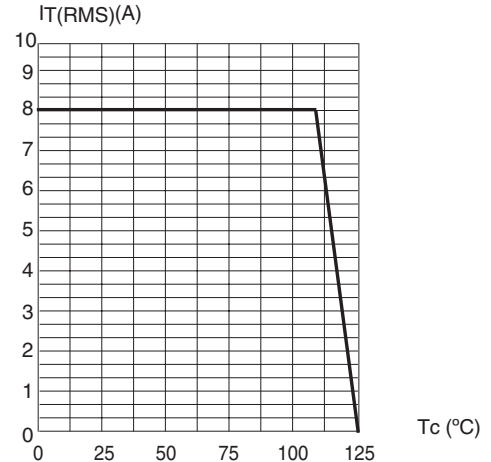


Fig. 3: Relative variation of thermal impedance versus pulse duration

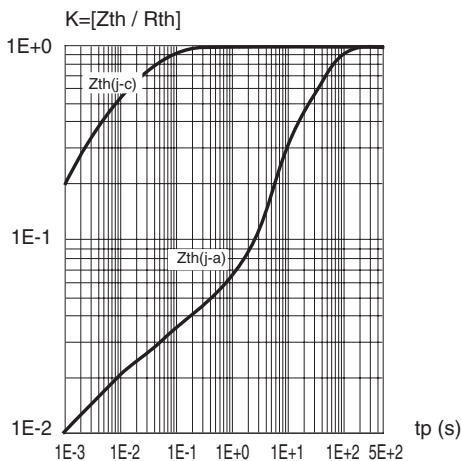


Fig. 4: On-state characteristics (maximum values)

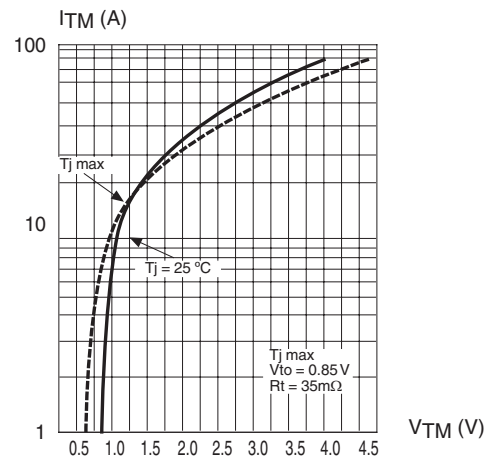


Fig. 5: Surge peak on-state current versus number of cycles

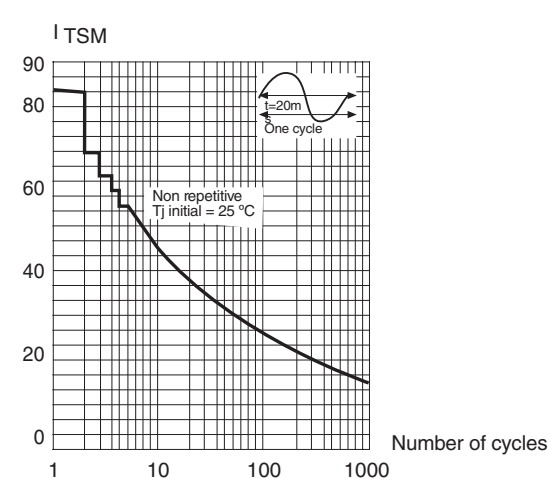
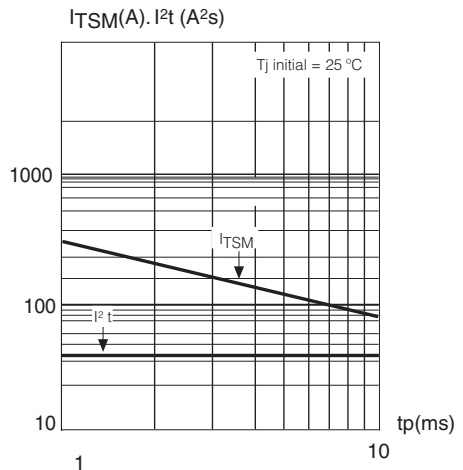


Fig. 6: Non repetitive surge peak on-state current for a sinusoidal pulse with width: tp < 10 ms, and corresponding value of I²t.



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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)

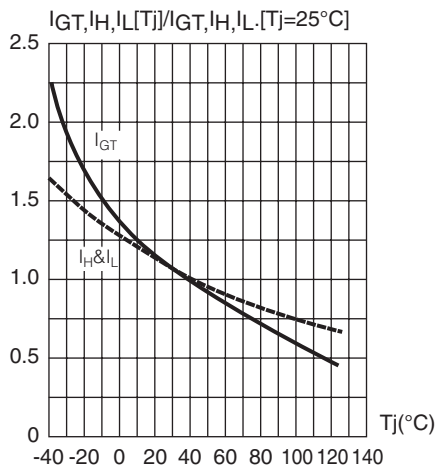


Fig. 8: Relative variation of critical rate of decrease of main current versus junction temperature

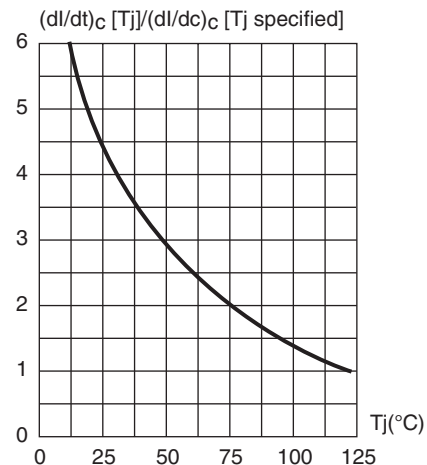
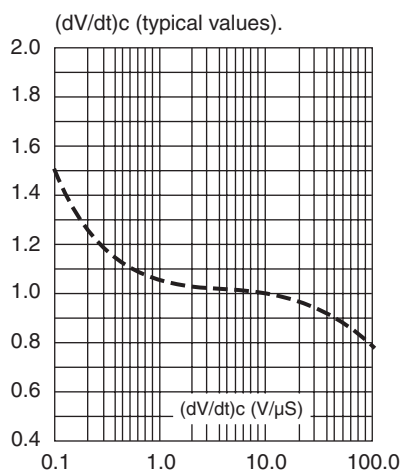


Fig. 9: Relative variation of critical rate of decrease of main current versus



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