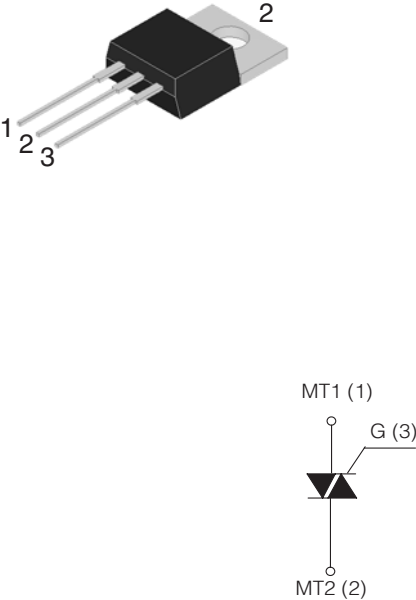



**LOGIC LEVEL TRIAC**

<b>TO-220AB</b>  	<b>On-State Current</b> 16 Amp	<b>Gate Trigger Current</b> < 10 mA	
	<b>Off-State Voltage</b> 400 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 2011/65/EU and WEEE 2002/96/EC</li> <li>• Meets MSL level 3, per J-STD-020, LF maximum peak of 260° C</li> </ul>		 <b>RoHS COMPLIANT</b>
	<b>MECHANICAL DATA</b> <ul style="list-style-type: none"> <li>• <b>Case:</b> TO-220AB. 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> Logic level versions are designed to interface directly with low power drivers such as microcontrollers.			

**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, $T_c = 95\text{ }^\circ\text{C}$	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 <sup>2</sup> s
$I_{GM}$	Peak Gate Current	20 $\mu\text{s}$ 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	$I_G = 2 \times I_{GT}$ , $t_r \leq 100\text{ ns}$ $f = 120\text{ Hz}$ , $T_j = 125\text{ }^\circ\text{C}$	50	A/ $\mu\text{s}$
$T_j$	Operating Temperature		(-40 +125)	°C
$T_{stg}$	Storage Temperature		(-40 +150)	°C
$T_{sld}$	Soldering Temperature	10s max	260	°C

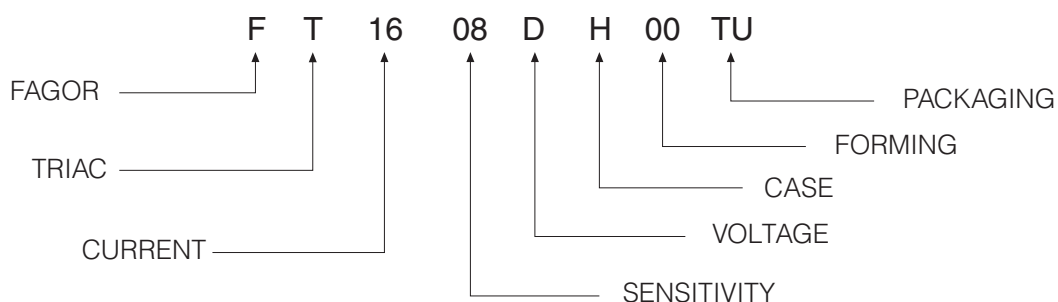
SYMBOL	PARAMETER	VOLTAGE			Unit
		D	M	N	
$V_{DRM}/V_{RRM}$	Repetitive Peak Off State Voltage	400	600	800	V

**LOGIC LEVEL TRIAC**
**Electrical Characteristics at Tamb = 25 °C**

SYMBOL	PARAMETER	CONDITIONS	Quadrant		SENSITIVITY		Unit
						08	
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	10	mA	
			Q4	MAX			
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÷Q3	MAX	1.3	V	
			Q1÷Q4	MAX			
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÷Q3	MIN	0.2	V	
			Q1÷Q4	MIN			
I <sub>H</sub> <sup>(2)</sup>	Holding Current	I <sub>T</sub> = 100 mA, Gate open, T <sub>j</sub> = 25 °C		MAX	15	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	MAX	25	mA	
			Q1,Q3,Q4	MAX			
			Q2	MAX			
dV/dt <sup>(2)</sup>	Critical Rate of Voltage Rise	V <sub>D</sub> = 0.67 x V <sub>DRM</sub> , Gate open T <sub>j</sub> = 125 °C		MIN	40	V/μs	
(di/dt) <sub>c</sub> <sup>(2)</sup>	Critical Rate of Current Rise	(dv/dt) <sub>c</sub> = 0.1 V/μs T <sub>j</sub> = 125 °C		MIN	8.5	A/ms	
		(dv/dt) <sub>c</sub> = 10 V/μs T <sub>j</sub> = 125 °C		MIN	3.0	A/ms	
		without snubber T <sub>j</sub> = 125 °C		MIN	-		
V <sub>TM</sub> <sup>(2)</sup>	On-state Voltage	I <sub>T</sub> = 22.5 Amp, tp = 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	0.85	V	
r <sub>d</sub> <sup>(2)</sup>	Dynamic resistance	T <sub>j</sub> = 125 °C		MAX	25	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			1.1	°C/W	
R <sub>th(j-a)</sub>	Thermal Resistance Junction-Ambient				60	°C/W	

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

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

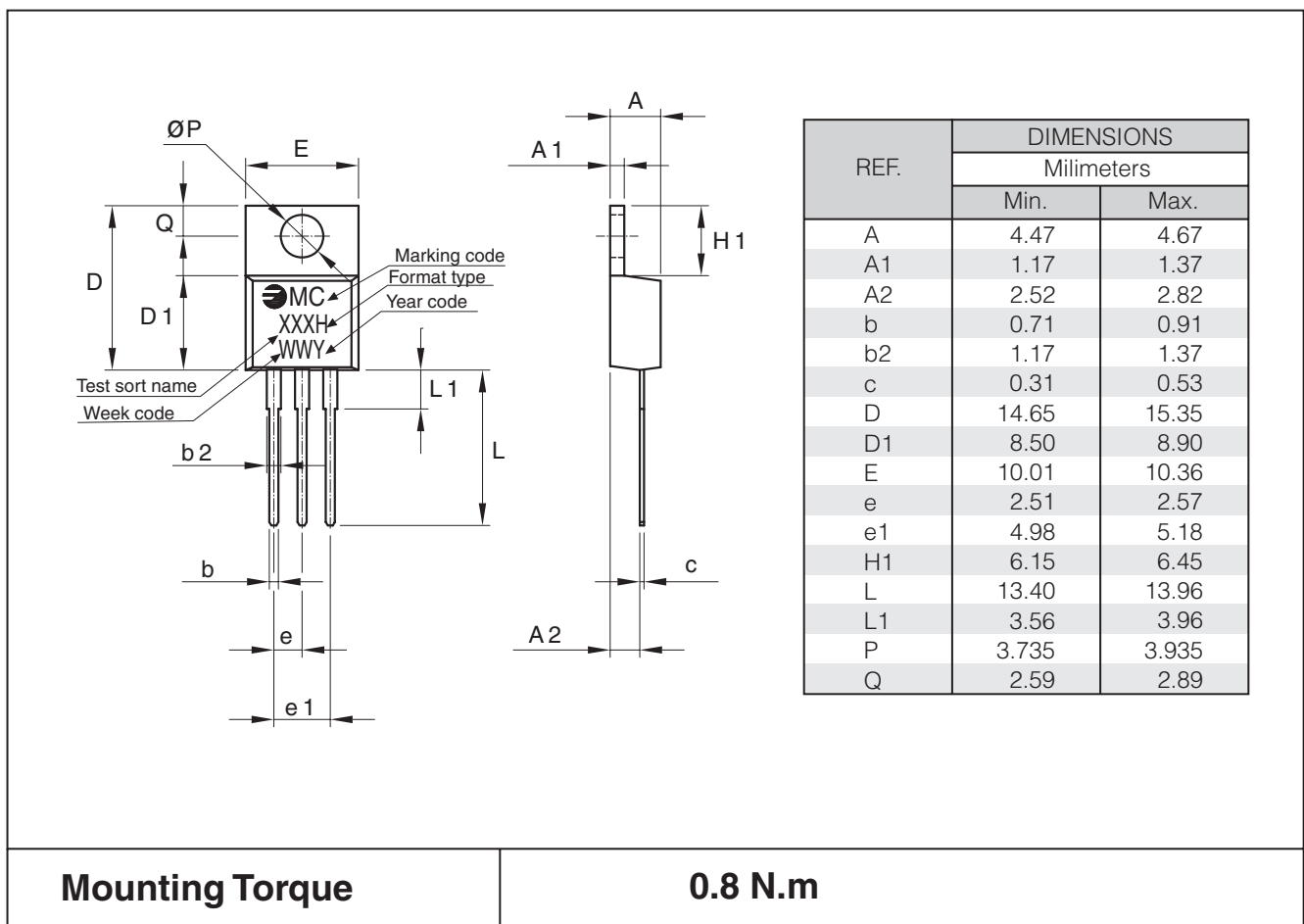
**Part Number Information**


**LOGIC LEVEL TRIAC**

**Ordering information**

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
FT1608MH 00TU	TU	TUBE	1,000	2.30

**Package Outline Dimensions: (mm) TO-220AB**





**LOGIC LEVEL TRIAC**

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

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

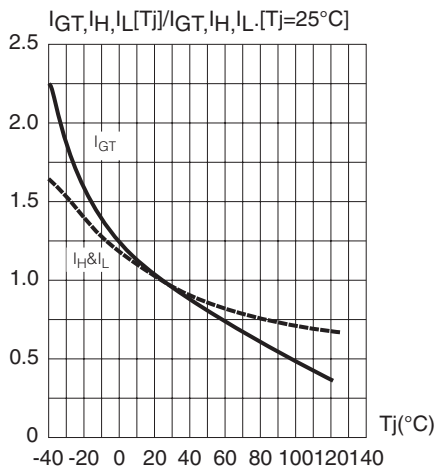


Fig. 8: Relative variation of critical rate of decrease of main current versus junction temperature

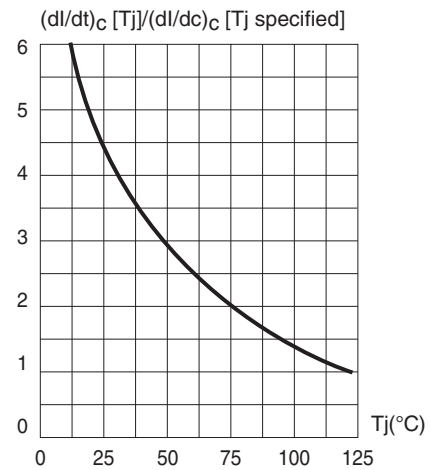
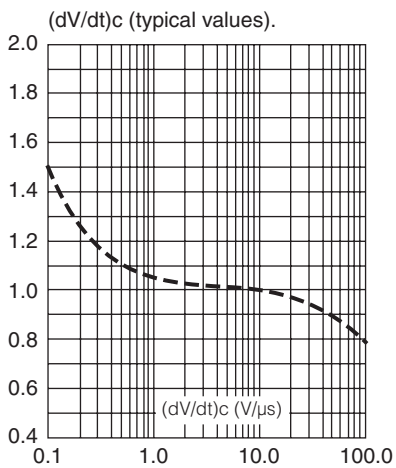


Fig. 9: Relative variation of critical rate of decrease of main current versus



**LOGIC LEVEL TRIAC****Revision History**

Date	Revision	Description of Changes
Jun-2011	0	Original Data Sheet
22-Jun-2017	1	200V and 700V eliminated

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