

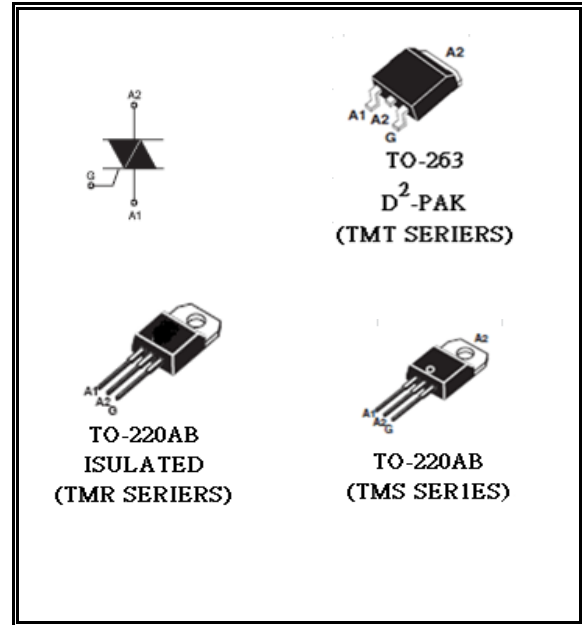


TRIAC 8 AMPERES SERIES

Features

- ◆ Voltage Capability Up to 800 Volts
- ◆ Surge Capability 84A
- ◆ Electrically - Isolated Packages
- ◆ Hi-Reliability and Parameter Stability.
- ◆ Low Level Triggering and Characteristics.
- ◆ Apply for Phase Control in Light Dimmers · ON/OFF Function in Static Relays or Motor Speed Controllers °
- ◆ Case Material : Molded Plastic 【UL Flammability Classification Rating 94V-0 】

PACKAGE OUTLINE



Absolute Maximum Ratings 【TA=25°C】

Parameter	Symbol	TMR4008	TMR6008	TMR8008	Unit
Peak Repetitive Off-State Voltage	V_{Dm}	400	600	800	V
On-State RMS Current	$I_T (RMS)$	8.0			A
Peak Non-Repetitive Surge Current (one full cycle 60Hz $T_J=25^\circ C$)	I_{TSM}	84			A
Circuit Fusing Consideration ($t=8.3mS$)	I^2T	36			A ² S
Peak Gate Power (pulse width $\leq 10\mu S$, $T_C=75^\circ C$)	P_{GM}	2			Watt
Average Gate Power (pulse width $\leq 8.3mS$, $T_C=125^\circ C$)	$P_G (AV)$	1			Watt
Peak Gate Current	I_{GM}	4			A
Operating Junction Temperature Range	T_J	- 40 to + 125			°C
Storage Temperature Range	T_S	- 40 to + 150			°C

Thermal Characteristics

Parameter		Symbol	Min	Typ.	Max	Units
Thermal Resistance	junction to ambient	TMS	-	55	-	°C /W
		TMR	-	60	-	
		TMT	-	45	-	
	junction to case	TMS	-	2.2	-	°C /W
		TMR	-	2.5	-	
		TMT	-	1.5	-	
Maximum Lead Temperature for Soldering (1/8" from case for 10seconds)		T_L	-	-	260	°C



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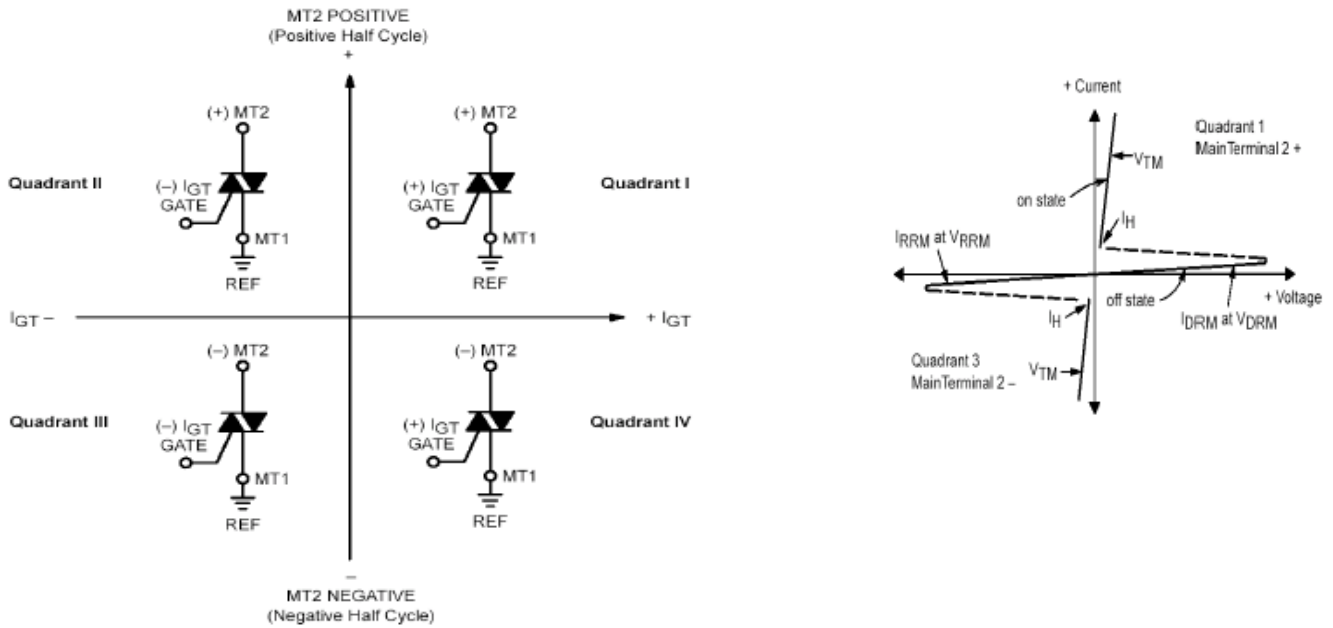
Electrical Characteristics

On Characteristics							
Parameter	Test Conditions	Symbol	T	S	C	B	Units
Peak Forward On-State Voltage	$V_D = V_{DRM}, R_L = 3.3K\Omega, T_J = 125^\circ C$	V_{GD}	0.2				V
Peak Forward On-State Voltage	$I_{TM} = \pm 4A @ T_P \leq 2mS, \text{Duty Cycle} \leq 2\%$	V_{TM}	1.55				V
Gate Trigger Current MT(+) G(+) MT(+) G(-) MT(-) G(-) MT(-) G(+)	$V_D = 12V, R_L = 100\Omega$	I_{GT1}	5	10	35	50	mA
		I_{GT2}	5	10	35	50	
		I_{GT3}	5	10	35	50	
		I_{GT4}	-	-	-	-	
Critical rate-of-rise of off-state voltage at rated V_{DRM} gate open	$V_D = 67\% V_{DRM}$ gate open	$dv/dt (2)$	20	40	400	1000	V / μS
Gate Trigger Voltage	$V_D = 12V, R_L = 100\Omega$	V_{GT}	1.3				V
Critical rate-of-rise of on-state Current	$I_G = 2 * I_{GT}, t_r \leq 100nS$	$d_i/dt (2)$	50				A / μS
Holding Current	$I_T = 100mA$	I_H	10	15	35	50	mA
Latching Current MT(+) G(+) MT(+) G(-) MT(-) G(-) MT(-) G(+)	$I_G = 1.2 I_{GT}$	I_L	10	25	50	70	mA
			15	30	60	80	
			10	25	50	70	
			-	-	-	-	

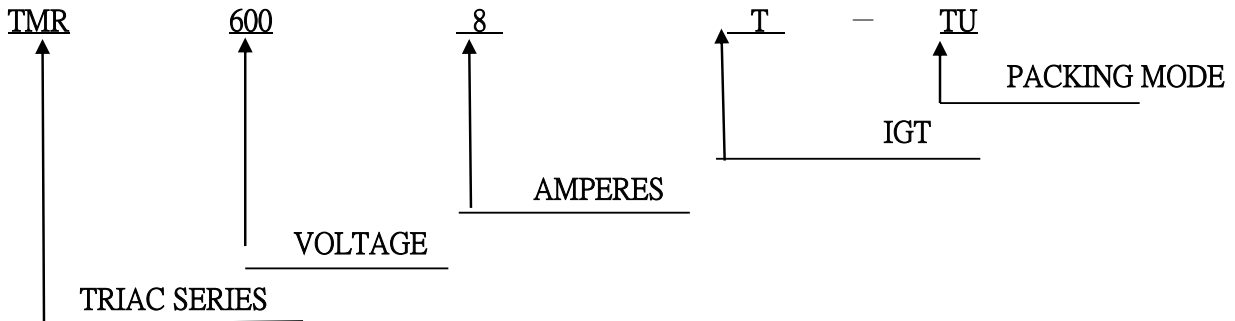
Off Characteristics						
Parameter		Symbol	Min	Typ.	Max	Units
Peak Repetitive Forward or Reverse Blocking Current	$T_J = 25^\circ C$	I_{DRM}		-	5	μA
	$T_J = 125^\circ C$	I_{RRM}		-	1	mA



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TYPE NUMBER CODING SYSTEM :



OTHER INFORMATION:

Parts Number	Marking	Weight	Base Quantity	Packing Mode	
TMR4008T-TU	TMR4008T	2.5	50	TUBE	TU
TMR6008T-TU	TMR6008T	2.5	50	TUBE	TU
TMR8008T-TU	TMR8008T	2.5	50	TUBE	TU
TMS4008T-TU	TMS4008T	2.5	50	TUBE	TU
TMS6008T-TU	TMS6008T	2.5	50	TUBE	TU
TMS8008T-TU	TMS8008T	2.5	50	TUBE	TU
TMT4008T-TR	TMT4008T	1.6	1000	TAPING REEL	TR
TMT6008T-TR	TMT6008T	1.6	1000	TAPING REEL	TR
TMT8008T-TR	TMT8008T	1.6	1000	TAPING REEL	TR



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ELECTRONICS CHARACTERISTICS CURVE

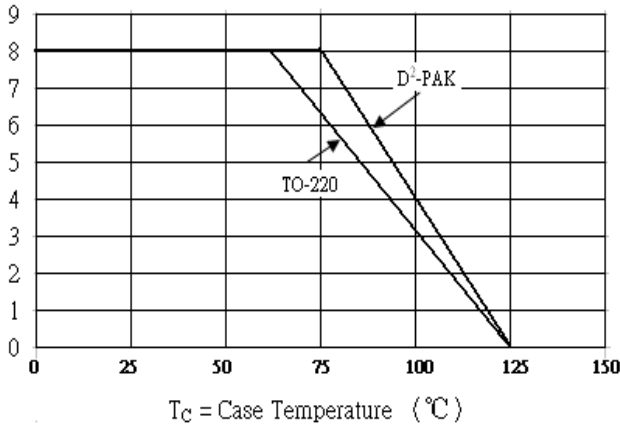


Fig. 1 RMS on-state current versus case temperature (full cycle)

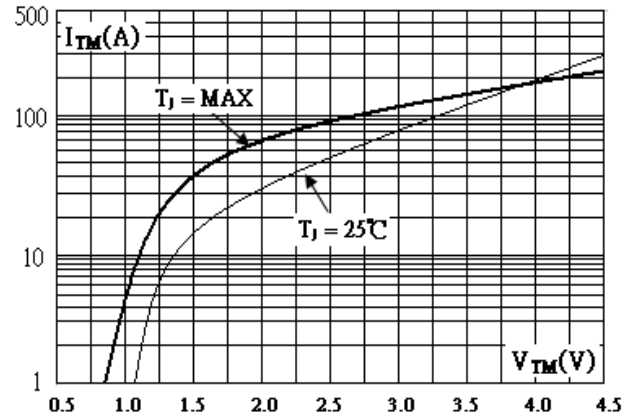


Fig. 2 On-state characteristics (maximum values)

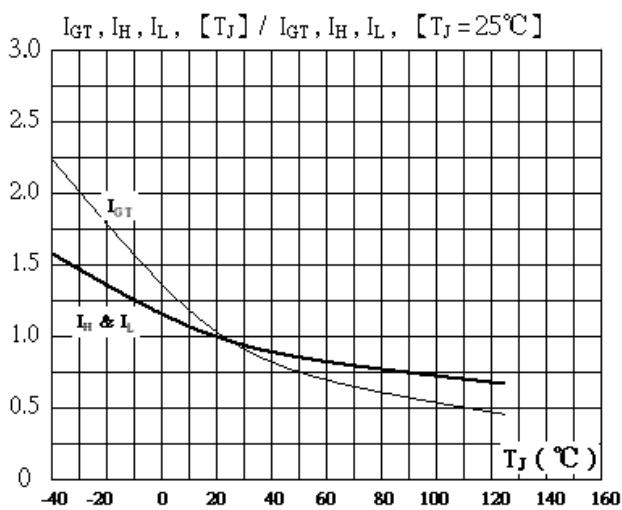


Fig. 3 Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

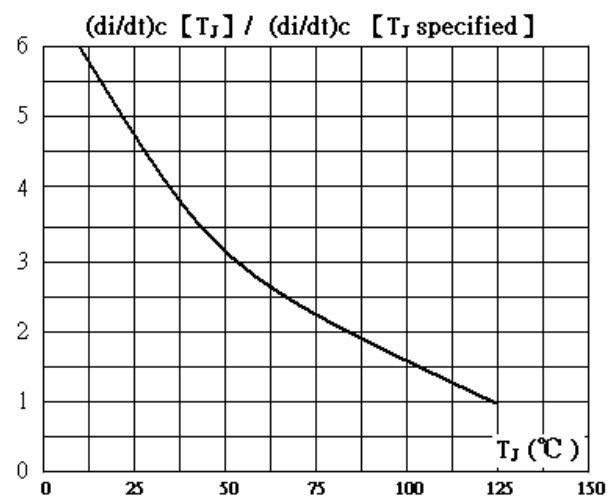


Fig. 4 Relative variation of critical rate of decrease of main current versus junction temperature (typical values).



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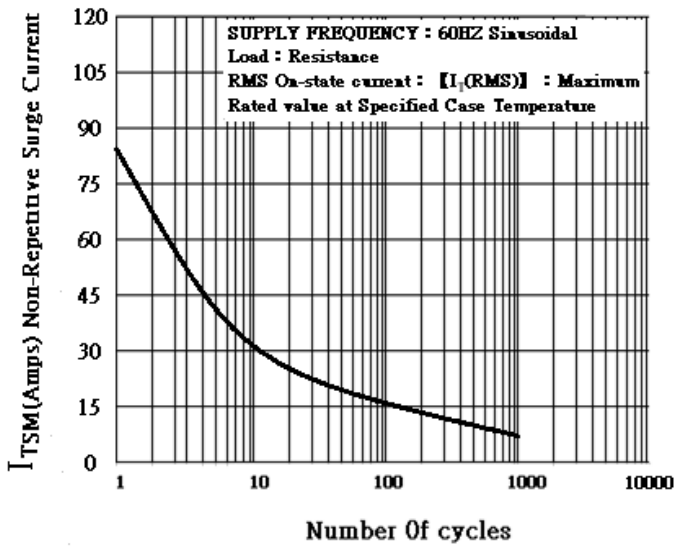


Fig. 5 Surge peak on-state current versus number of

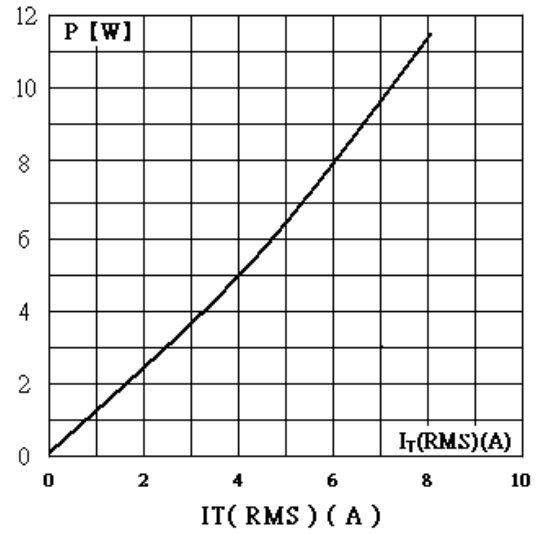
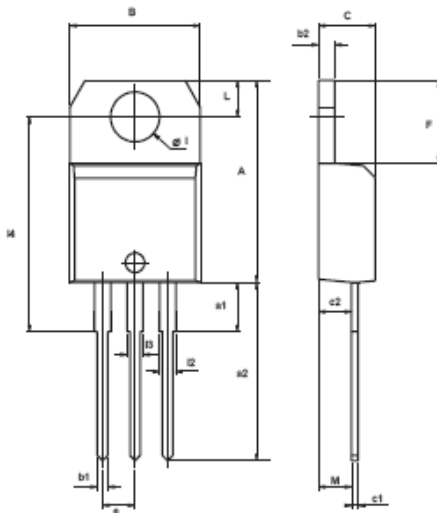


Fig.6 Maximum power dissipation versus Rms on-state current (full cycle)

Outline Drawings

TO-220AB [INSULATED]



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.20		15.90	0.598		0.625
a1		3.75			0.147	
a2	13.00		14.00	0.511		0.551
B	10.00		10.40	0.393		0.409
b1	0.61		0.88	0.024		0.034
b2	1.23		1.32	0.048		0.051
C	4.40		4.60	0.173		0.181
c1	0.49		0.70	0.019		0.027
c2	2.40		2.72	0.094		0.107
e	2.40		2.70	0.094		0.106
F	6.20		6.60	0.244		0.259
l	3.75		3.85	0.147		0.151
l4	15.80	16.40	16.80	0.622	0.646	0.661
L	2.65		2.95	0.104		0.116
l2	1.14		1.70	0.044		0.066
l3	1.14		1.70	0.044		0.066
M		2.60			0.102	



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D-PAI

REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
B	0.75		0.85	0.030		0.034
B2	0.75		0.85	0.030		0.034
C	0.45		0.55	0.018		0.022
C2	0.45		0.55	0.018		0.022
D	5.96		6.16	0.235		0.245
E	6.50		6.70	0.255		0.265
G	4.47		4.67	0.176		0.184
L	9.60		10.0	0.378		0.394
L2	0.47		0.87	0.180		0.035
L3	1.40		1.75	0.055		0.070
R			40°			

ITO-220

REF	DIMENSIONS					
	Millimeters			Inchs		
	Min	Typ.	Max	Min	Typ.	Max
A	10.0		10.4	0.393		0.410
a1		7.0			0.275	
a2		2.7			0.106	
B	14.8		15.2	0.582		0.600
b1		0.9			0.035	
b2		2.2			0.086	
b3		6.3			0.248	
C	13.0		13.8	0.511		0.544
F	4.30		4.70	0.169		.186
f1	2.85		3.25	0.112		0.128
f2	0.55		0.65	0.021		0.026
L	2.49	2.54	2.59	0.098	0.100	0.102
L2	1.15		1.25	0.045		0.049
L3	1.20		2.00	0.047		0.079
L4	1.18		1.22	0.046		0.048
L5	1.58		1.62	0.062		0.064
L6	0.55		0.65	0.021		0.026
M	28.0		29.0	1.102		1.142