

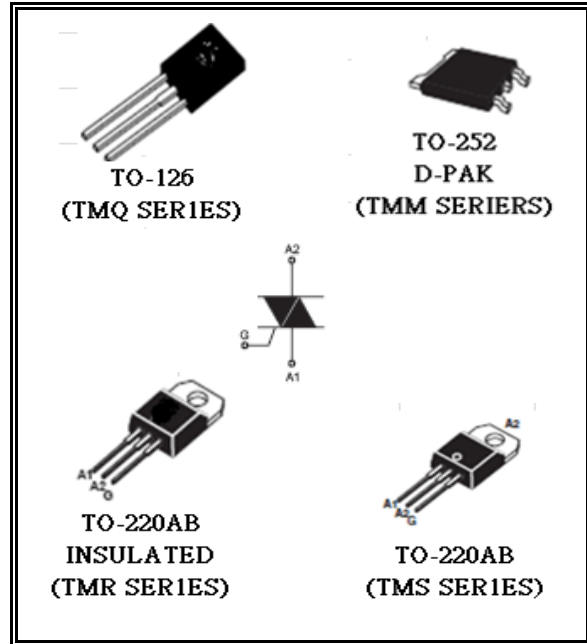


TRIAC 4 AMPERES SERIES

Features

- ◆ Voltage Capability Up to 800 Volts
- ◆ Surge Capability 31A
- ◆ Electrically - Isolated Packages
- ◆ Hi-Reliability and Parameter Stability.
- ◆ Low Level Triggering and Characteristics.
- ◆ Apply for Inductance Load · Universal Motors, Electro Valves, Kitchen Aid Equipments, Power tools.
- ◆ Case Material : Molded Plastic 【UL Flammability Classification Rating 94V-0】

PACKAGE OUTLINE



Absolute Maximum Ratings 【TA=25°C】

Parameter	Symbol	TMR4004	TMR6004	TMR8004	Unit
Peak Repetitive Off-State Voltage	V_{Dm}	400	600	800	V
On-State RMS Current	$I_T (RMS)$	4.0			A
Peak Non-Repetitive Surge Current (one full cycle 60Hz $T_J=25^\circ C$)	I_{TSM}	31			A
Circuit Fusing Consideration ($t=8.3ms$)	I^2T	5.1			A ² S
Average Gate Power (pulse width $\leq 8.3ms$, $TC=125^\circ C$)	$P_{G(AV)}$	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	TMQ	-	75	-	°C /W
		TMM	-	58	-	
		TMR	-	60	-	
		TMS	-	56	-	
	junction to case	TMQ	-	3.5	-	°C /W
		TMM	-	1.8	-	
		TMR	-	2.5	-	
		TMS	-	1.5	-	
Maximum Lead Temperature for Soldering (1/8" from case for 10seconds)		T_L	-	-	260	°C



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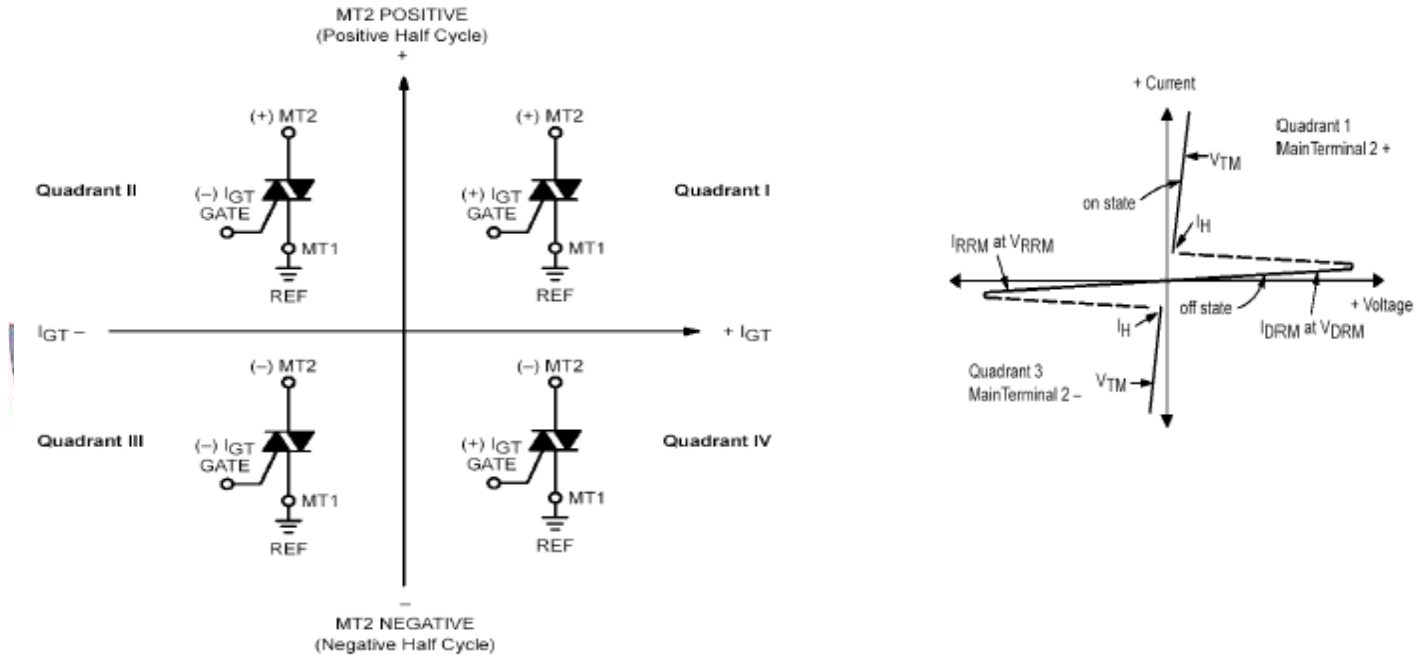
Electrical Characteristics

On Characteristics						
Parameter	Teat Conditions	Symbol	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	mA
		I_{GT2}	5	10	35	
		I_{GT3}	5	10	35	
		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	Volts / uS
commutation voltage at rated V_{DRM} and $I_{T(RMS)}$ commutating $di/dt = 0.54 \text{ rated } I_{T(RMS)} / \text{ms}; \text{ gate unenergized}$	$(di/dt)_c = 13.3A/\text{ms}$	$(dv/dt)_c (2)$	5.4			Volts / uS
Gate Trigger Voltage	$V_D = 12V, R_L = 100\Omega$	V_{GT}	1.3			V
Holding Current	$I_T = 100mA$	I_H	10	15	35	mA
Latching Current MT(+) G(+) MT(+) G(-) MT(-) G(-) MT(-) G(+)		I_L	10	25	50	mA
			15	30	60	
			10	25	50	
			-	-	-	

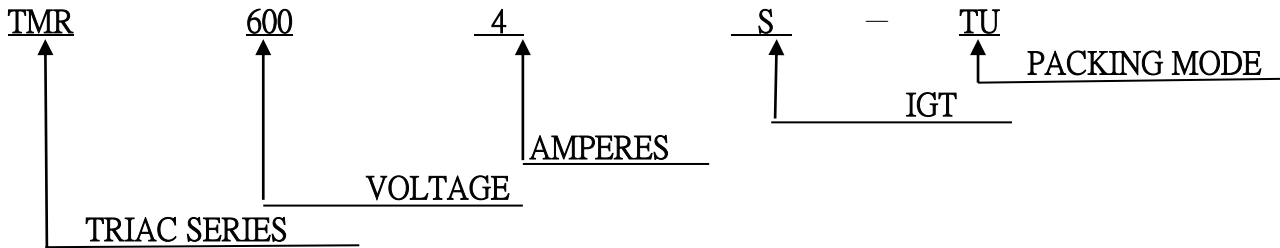
Off Characteristics						
Parameter		Symbol	Min	Typ.	Max	Units
Peak Repetitive Forward or Reverse Blocking Current	$T_J = 25^\circ C$	I_{DRM}		-	5	uA
	$T_J = 125^\circ C$	I_{RRM}		-	1	mA



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TYPE NUMBER CODING SYSTEM :



OTHER INFORMATION:

Parts Number	Marking	Weight	Base Quantity	Packing Mode	
TMR4006T-TU	TMR4006T	2.5	50	TUBE	TU
TMR6006T-TU	TMR6006T	2.5	50	TUBE	TU
TMR8006T-TU	TMR8006T	2.5	50	TUBE	TU
TMS4006T-TR	TMS4006T	2.5	50	TUBE	TU
TMS6006T-TR	TMS6006T	2.5	50	TUBE	TU
TMS8006T-TR	TMS8006T	2.5	50	TUBE	TU
TMM4006T-TR	TMM4006T	1.6	1000	TAPING REEL	TR
TMM6006T-TR	TMM6006T	1.6	1000	TAPING REEL	TR
TMM8006T-TR	TMM8006T	1.6	1000	TAPING REEL	TR
TMQ4006T-TR	TMQ4006T	0.8	1000	TAPING REEL	TU
TMQ6006T-TR	TMQ6006T	0.8	1000	TAPING REEL	TU
TMQ8006T-TR	TMQ8006T	0.8	1000	TAPING REEL	TU



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ELECTRONICS CHARACTERISTICS CURVE

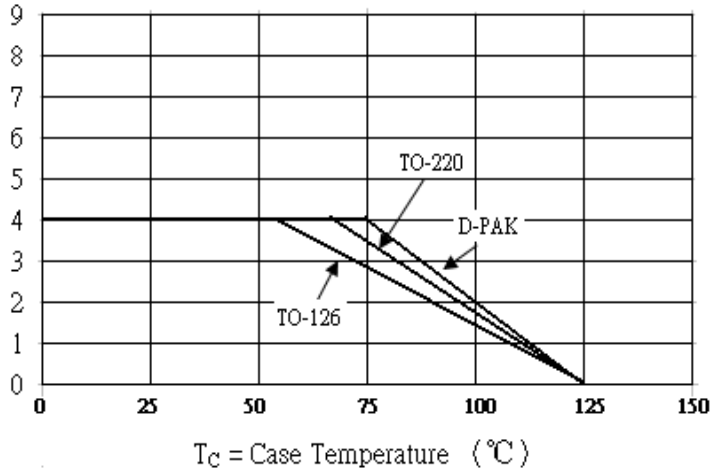


Fig. 1 RMS on-state current versus case temperature (full cycle)

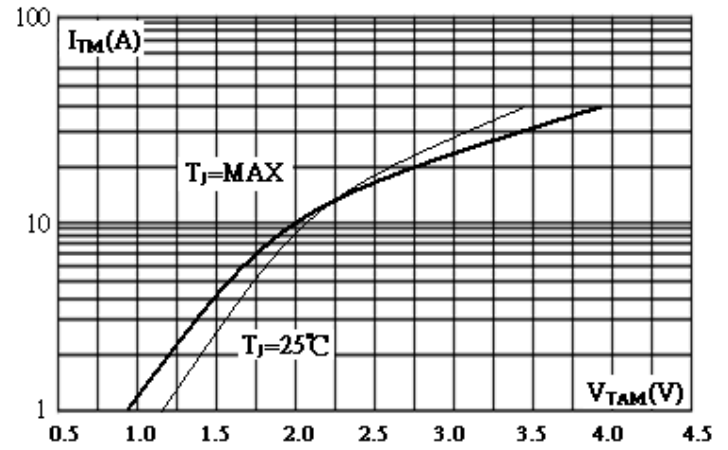


Fig. 2 On-state characteristics (maximum values)

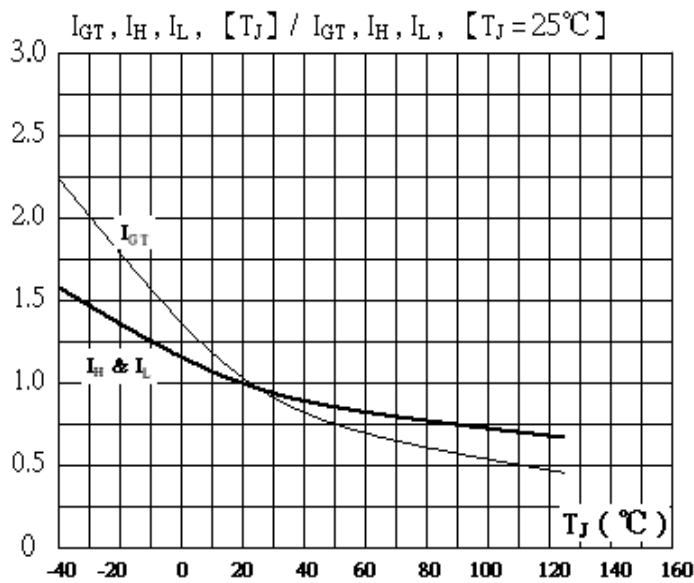


Fig. 3 Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

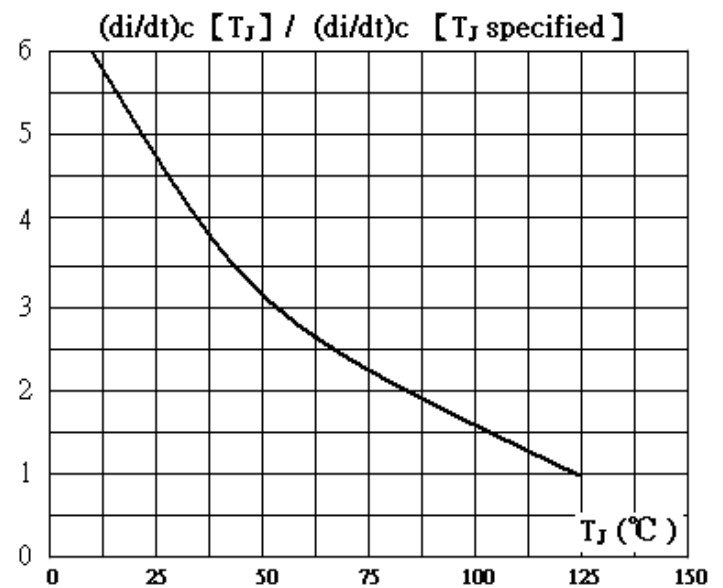


Fig. 4 Relative variation of critical rate of decrease of main current versus junction temperature (typical values).



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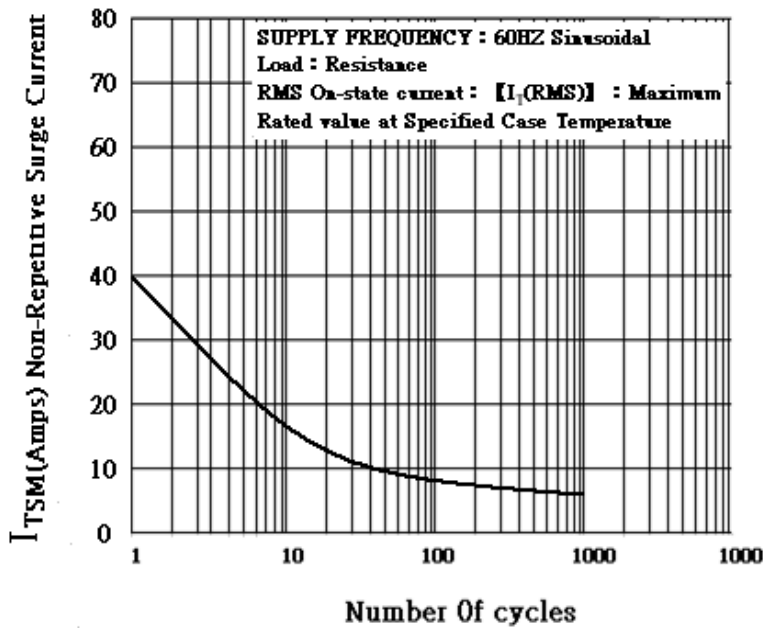


Fig. 5 Surge peak on-state current versus number of cycles.

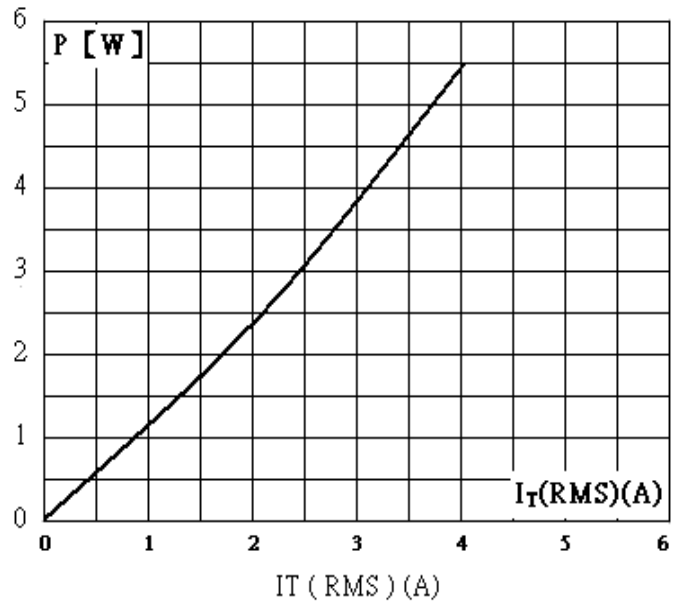
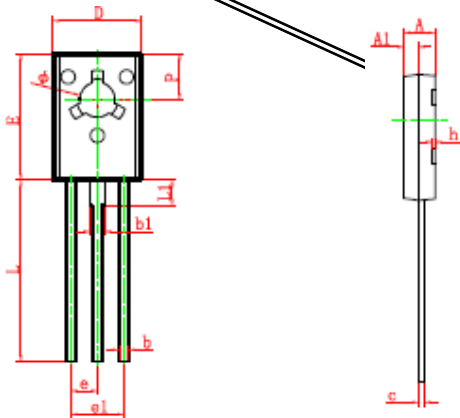


Fig. 6 Maximum power dissipation versus RMS on-state current (full cycle)

Outline Drawings

TO-126

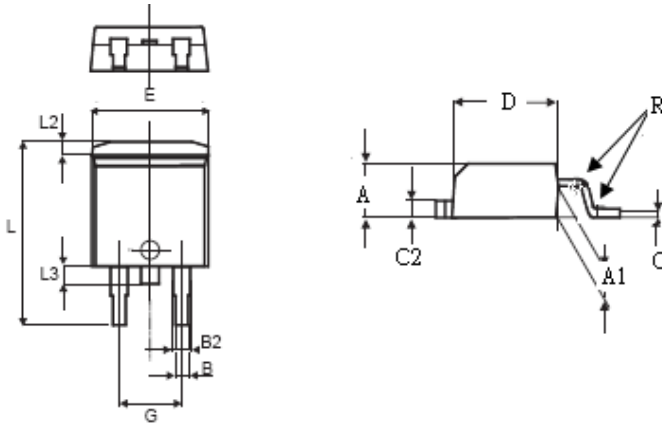


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.500	2.900	0.098	0.114
A1	1.100	1.500	0.043	0.059
b	0.660	0.860	0.026	0.034
b1	1.170	1.370	0.046	0.054
c	0.450	0.600	0.018	0.024
D	7.400	7.800	0.291	0.307
E	10.600	11.000	0.417	0.433
e	2.290 TYP		0.090 TYP	
e1	4.480	4.680	0.176	0.184
h	0.000	0.300	0.000	0.012
L	15.300	15.700	0.602	0.618
L1	2.100	2.300	0.083	0.091
P	3.900	4.100	0.154	0.161
Φ	3.000	3.200	0.118	0.126



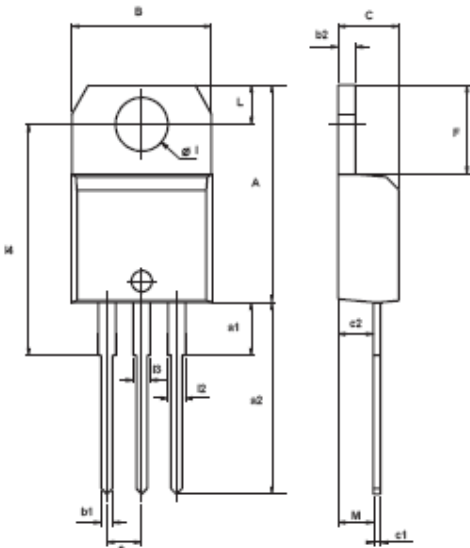
TRIAC 4 AMPERES SERIES

D-PAK



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°			

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
I	3.75		3.85	0.147		0.151
I4	15.80	16.40	16.80	0.622	0.646	0.661
L	2.65		2.95	0.104		0.116
I2	1.14		1.70	0.044		0.066
I3	1.14		1.70	0.044		0.066
M		2.60			0.102	