

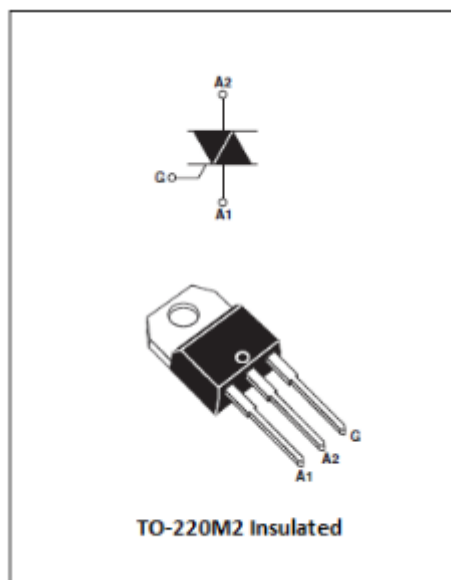
**DESCRIPTION:**

Especially designed to operate in high power density or universal motor applications such as vacuum cleaner and washing machine drum motor, these 16A triacs provide a very high switching capability up to junction temperatures of 150°C

The heatsink can be reduced, compared to traditional triacs, according to the high performance at given junction temperatures

**MAIN FEATURES**

Symbol	Value	Unit
$I_{T(RMS)}$	16	A
$V_{DRM}$ $V_{RRM}$	600	V
$I_{GT}$	50	mA



**ABSOLUTE MAXIMUM RATINGS**

Parameter	Symbol	Value	Unit
Storage junction temperature range	$T_{stg}$	-40 ~150	°C
Operating junction temperature range	$T_j$	-40~125	°C
Repetitive peak off-state voltage (T =25°C)	$V_{DRM}$	600	V
Repetitive peak reverse voltage (T =25°C)	$V_{RRM}$	600	V
RMS on-state current	$I_{T(RMS)}$	16	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	160	A
$I^2t$ value for fusing (tp=10ms)	$I^2t$	169	A <sup>2</sup> S
Critical rate of rise of on-state current (I =2× $I_{GT}$ )	dI/dt	50	A/μS
Peak gate current	$I_{GM}$	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W

**ELECTRICAL CHARACTERISTICS (T=25°C unless otherwise specified)**

Symbol	Test Condition	Quadrant		Value		Unit
				T1635	T1650	
$I_{GT}$	$V = 12V R = 33\Omega$	I II III	MAX.	35	50	mA
$V_{GT}$		I II III	MAX.	1.3		V
$V_{GD}$	$V_D = V_{DRM} T_j = 125^\circ C$ $R = 3.3K\Omega$	I II III	MIN.	0.2		V
$I_L$	$I_G = 1.2I_{GT}$	III III	MAX.	80	110	mA
$I_H$	$I_T = 100mA$		MAX.	50	75	mA
dV/dt	$V_D = 2/3 V_{DRM}$ Gate Open $T_j = 125^\circ C$		MIN.	1000	1500	V/ $\mu s$

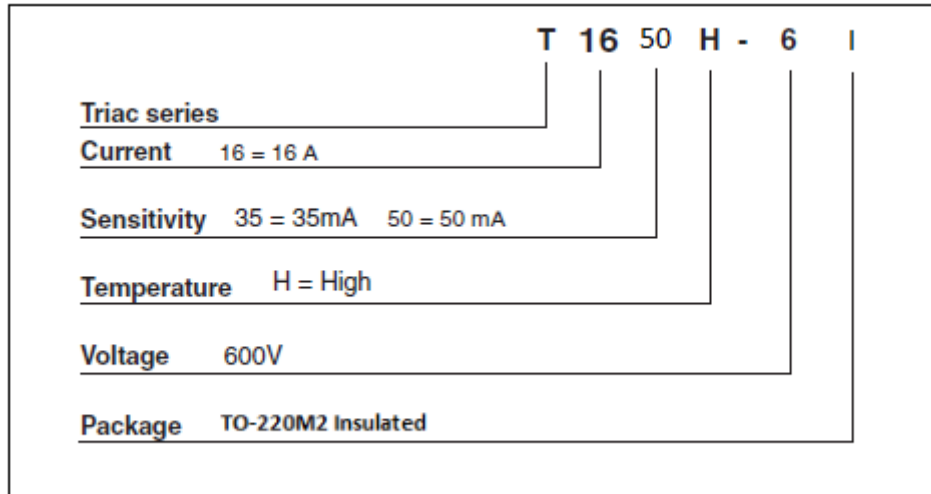
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value	Unit
$V_{TM}$	$I_{TM} = 23A$ $t_p = 380\mu s$	$T_j = 25^\circ C$	1.55	V
$I_{DRM}$	$V_D = V_{DRM} V_R = V_{RRM}$	$T_j = 25^\circ C$	5	$\mu A$
$I_{RRM}$		$T_j = 125^\circ C$	5.5	mA

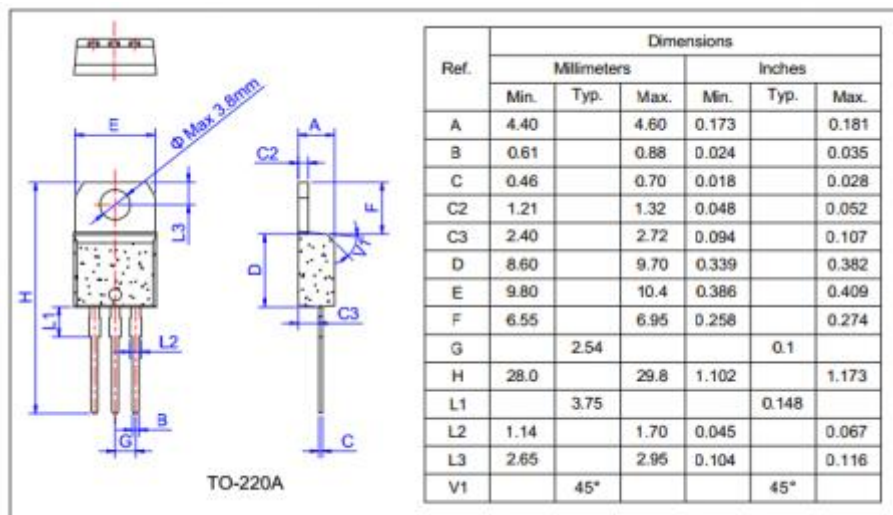
**Thermal Resistances**

Symbol	Parameter	Value	Unit
Rth(j-a)	junction to ambient	60	$^\circ C/W$
Rth(j-c)	Junction to case(AC)	2.1	

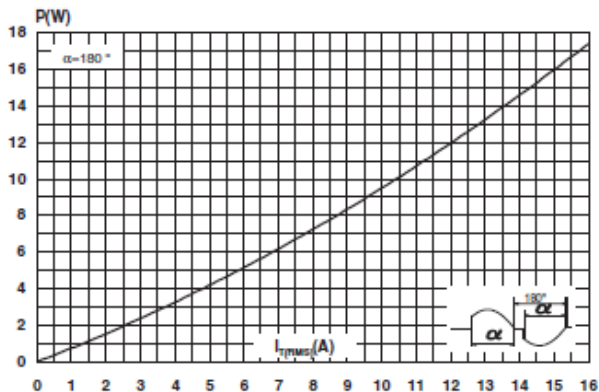
**Ordering Information Scheme**



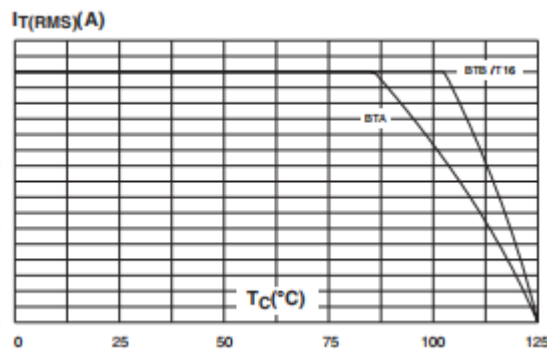
**TO-220M2 Package Mechanical Data**



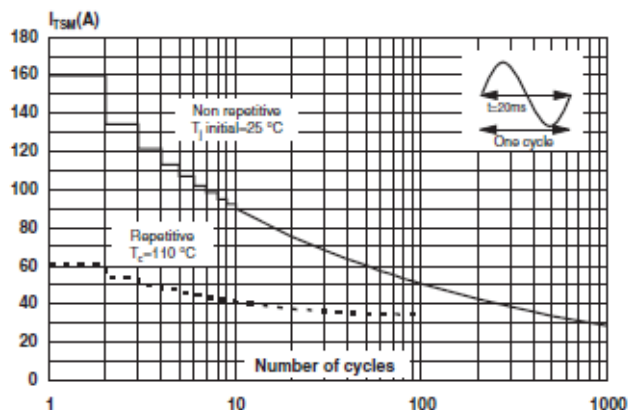
**FIG.1 Maximum power dissipation versus RMS on-state current**



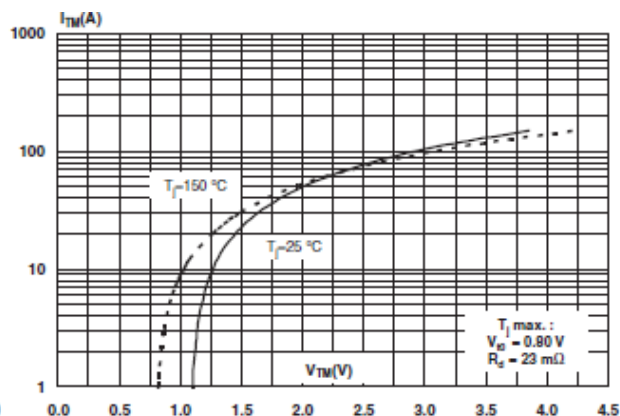
**FIG.2: RMS on-state current versus ambient temperature**



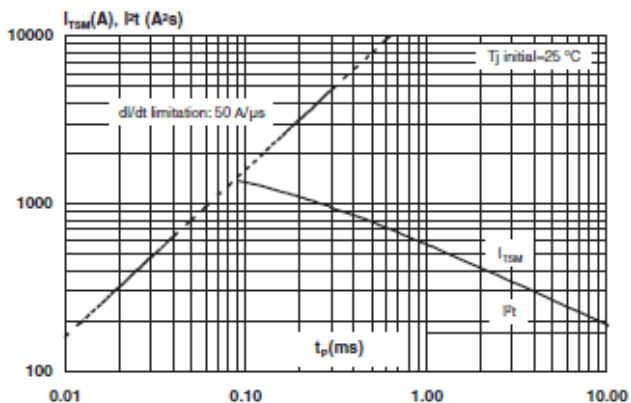
**FIG.3: Surge peak on-state current versus number of cycles**



**FIG.4: On-state characteristics (maximum values)**



**FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20ms$ , and corresponding value of  $I^2 t$  ( $di/dt < 50A/\mu s$ )**



**FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature**

