

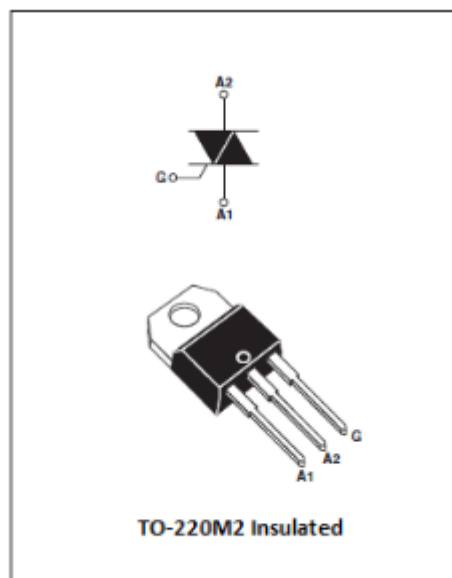
DESCRIPTION:

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}	35	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 ² S
Critical rate of rise of on-state current ($I = 2 \times I_{GT}$)	dI/dt	50	A/ μ S
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	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ C$		MIN.	1000	1500	V/ μs

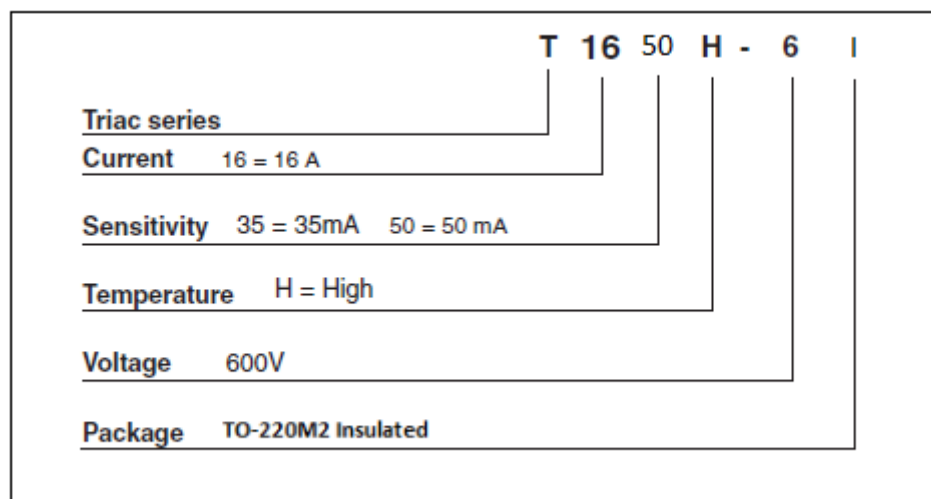
STATIC CHARACTERISTICS

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	μA
I_{RRM}		$T_j = 125^\circ C$	5.5	mA

Thermal Resistances

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

Ordering Information Scheme



TO-220M2 Package Mechanical Data

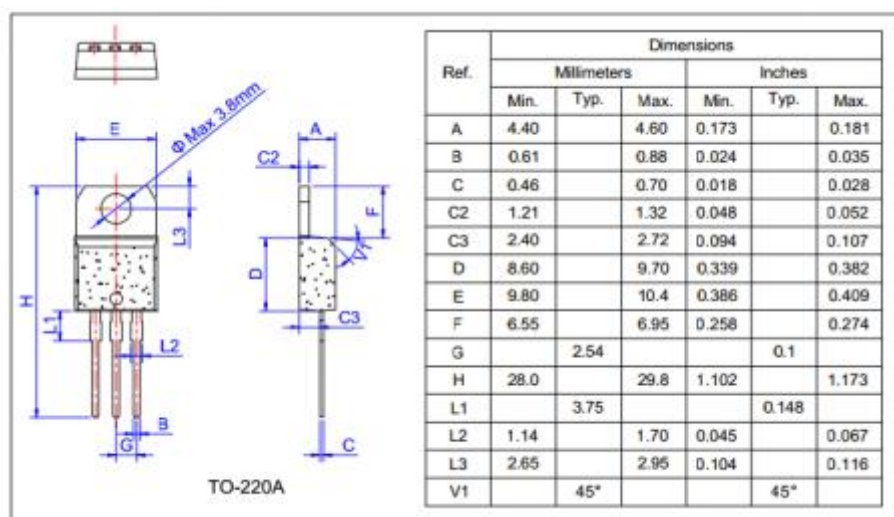


FIG.1 Maximum power dissipation versus RMS on-state current

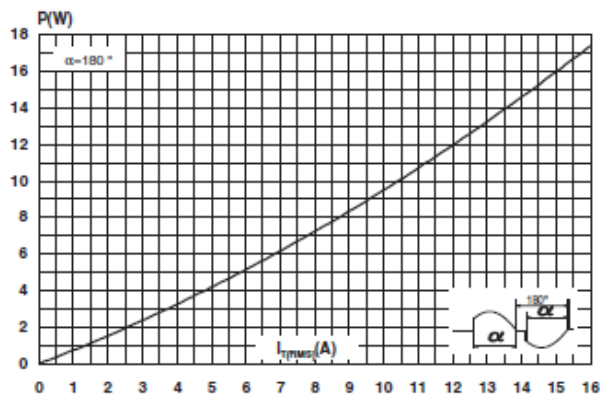


FIG.2: RMS on-state current versus ambient temperature

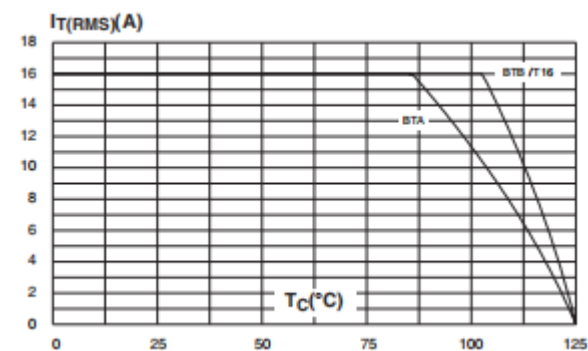


FIG.3: Surge peak on-state current versus number of cycles

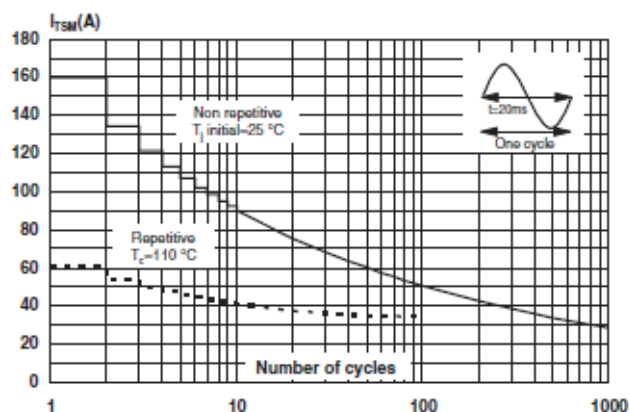


FIG.4: On-state characteristics (maximum values)

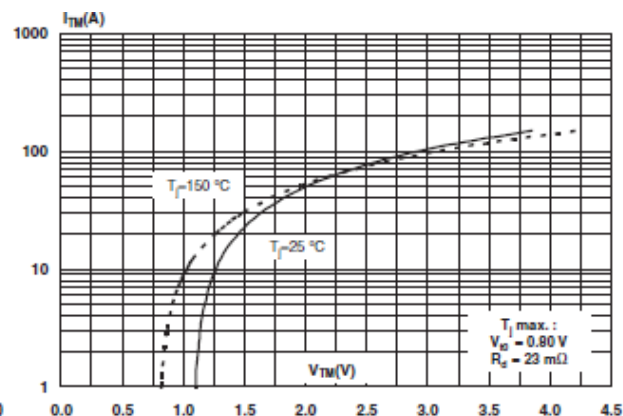


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of $I^2 t$ ($dI/dt < 50A/\mu s$)

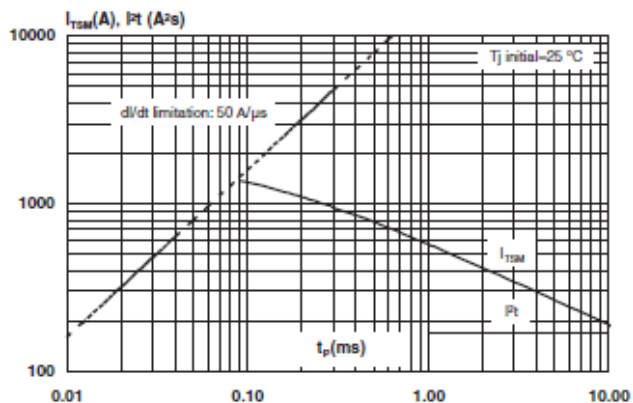


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

