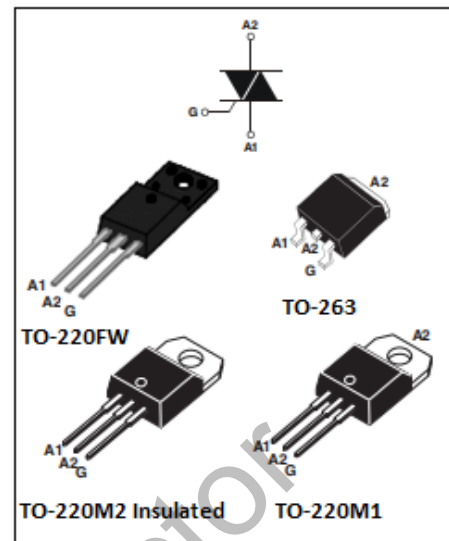


DESCRIPTION:

The BTA/B16 triac series is suitable to fit all models of control Found in applications such as motor control ,industrial and domestic lighting ,heating and static switching , motor speed controllers,...

By using an internal ceramic pad, the BTA series provides voltage insulated tab (rated at 2500VRMS) complying with UL standards



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	16	A
V_{DRM} V_{RRM}	800/1200	V
V_{TM}	1.55	V

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 ($T = 25^{\circ}C$)	V_{DRM}	800/1200	V
Repetitive peak reverse voltage ($T = 25^{\circ}C$)	V_{RRM}	800/1200	V
Non repetitive surge peak Off-state voltage	V_{DSM}	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage	V_{RSM}	$V_{RRM} + 100$	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 ($t_p=10ms$)	I^2t	144	A^2S
Critical rate of rise of on-state current ($I = 2 \times I_{GT}$)	dI/dt	50	$A/\mu S$
Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W

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

Symbol	Test Condition	Quadrant		Value				Unit
				TW	SW	CW	BW	
I_{GT}	$V = 12V$ $R = 33\Omega$	I II III	MAX.	5	10	25	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	$I_G = 1.2I_{GT}$	I II III	MAX.	15	30	60	80	mA
I_H	$I_T = 100mA$		MAX.	10	15	40	50	mA
dV/dt	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ C$		MIN.	20	40	400	1000	V/ μs
(dV/dt)c	Without snubber $T_j = 125^\circ C$		MIN.	-	-	9	15	V/ μs

4 Quadrants

Symbol	Test Condition	Quadrant		Value		Unit
				C	B	
I_{GT}	$V = 12V$ $R = 33\Omega$	I II III	MAX.	25	50	mA
		IV		50	100	
V_{GT}		I II III IV	MAX.	1.3	1.3	V
V_{GD}	$V_D = V_{DRM}$ $T_j = 125^\circ C$ $R = 3.3K\Omega$	I II III IV	MIN.	0.2	0.2	V
I_L	$I_G = 1.2I_{GT}$	I III IV	MAX.	60	50	mA
		II		100	100	
I_H	$I_T = 100mA$		MAX.	40	50	mA
dV/dt	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ C$		MIN.	20	40	V/ μs
(dV/dt)c	(dI/dt)c = 5.3 A/ms $T_j = 125^\circ C$		MIN.	5	10	V/ μs

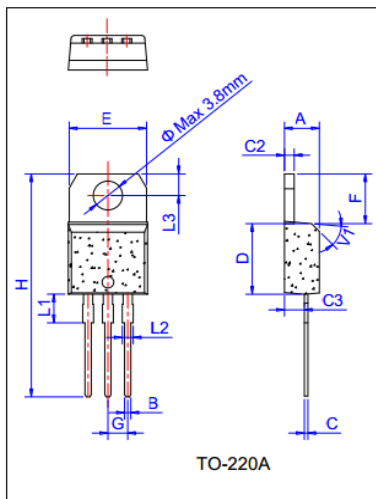
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM} = 22.5A$ $tp = 380\mu s$	$T_j = 25^\circ C$	1.55	V
I_{DRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ C$	5	μA
I_{RRM}		$T_j = 125^\circ C$	1	mA

Thermal Resistances

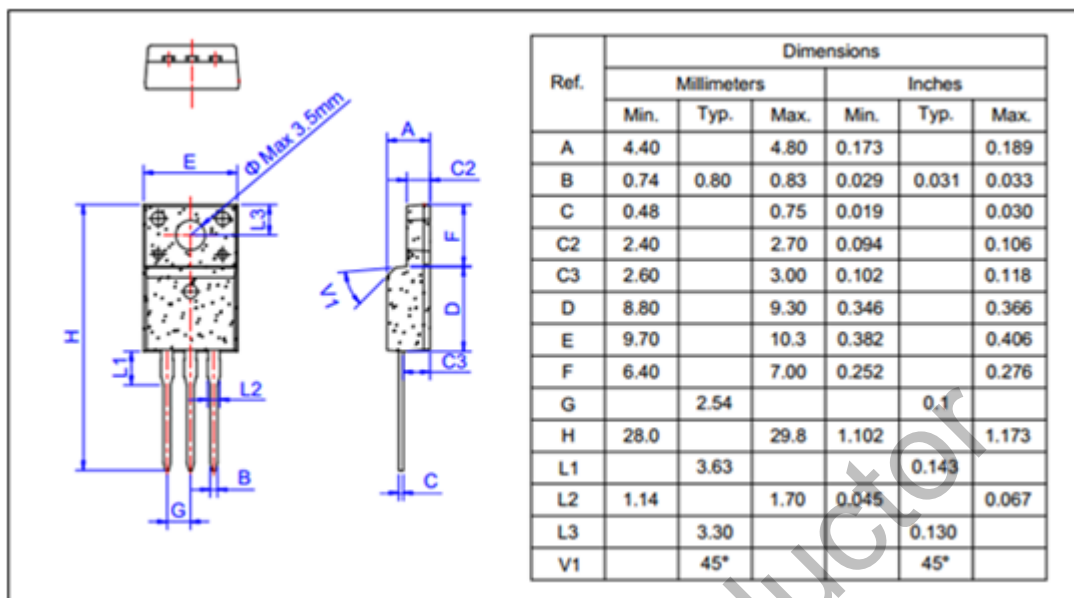
Symbol	Parameter		Value(MAX.)	Unit
Rth(j-a)	junction to ambient	TO-263	45	°C/W
		TO-220FW	50	
		TO-220M1/TO-220M2	60	
Rth(j-c)	Junction to case(AC)	TO-220M1/TO-263	1.2	
		TO-220M2	2.1	
		TO-220FW	2.8	

TO-220M1/TO-220M2 Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

TO-220FW Package Mechanical Data



TO-263 Package Mechanical Data

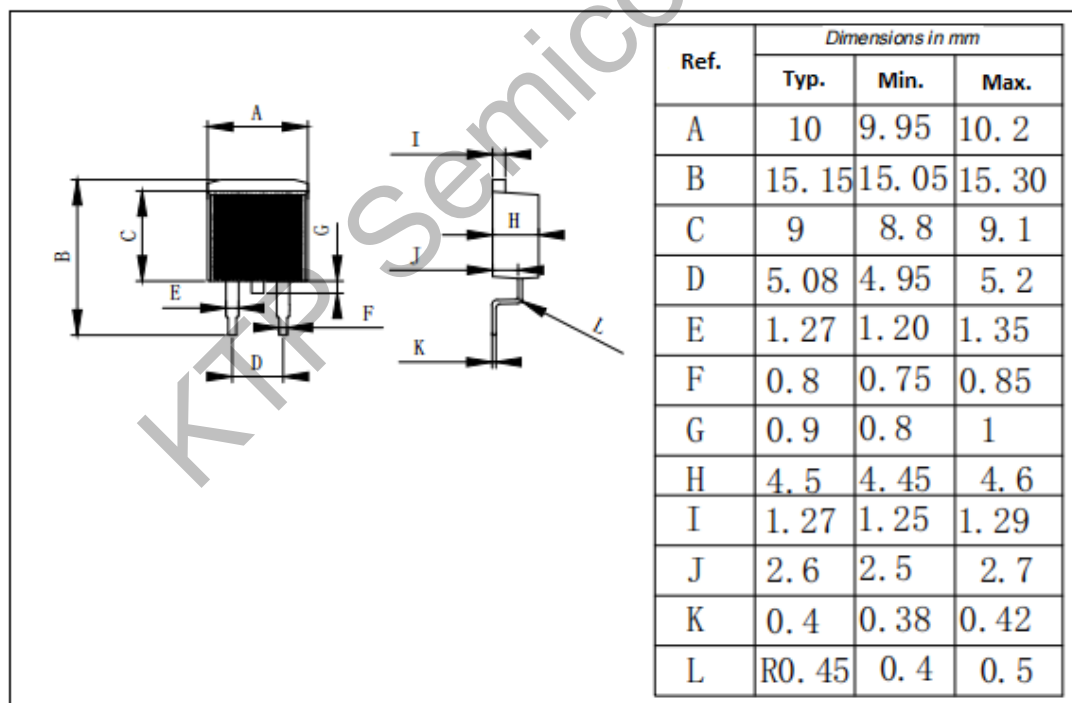


FIG.1 Maximum power dissipation versus RMS on-state current

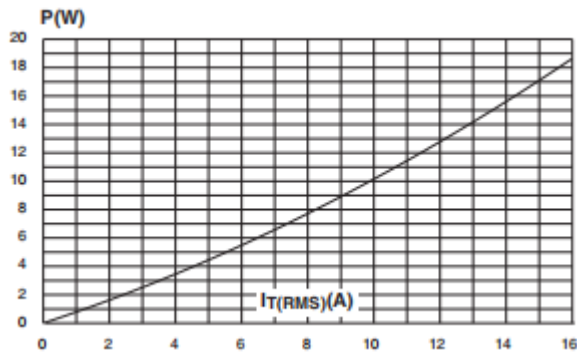


FIG.2: RMS on-state current versus base temperature

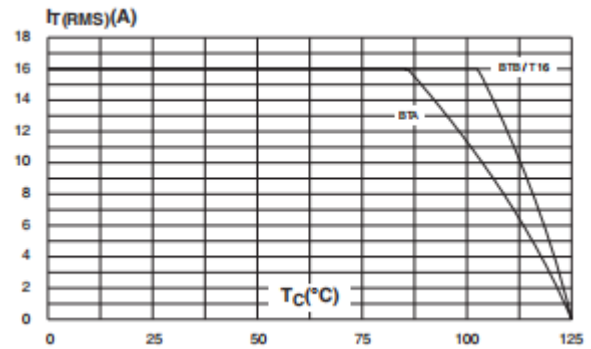


FIG.3: Surge peak on-state current versus number of cycles

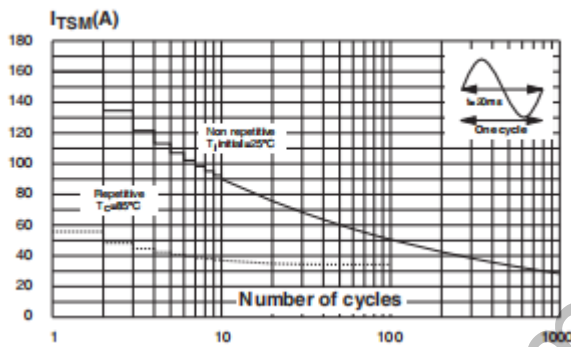


FIG.4: On-state characteristics (maximum values)

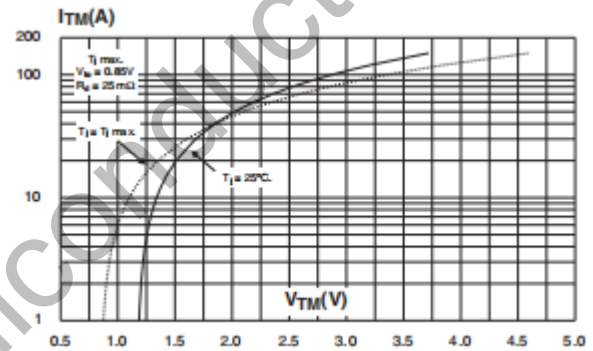


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of $I^2 t$ ($dI/dt < 50A/μs$)

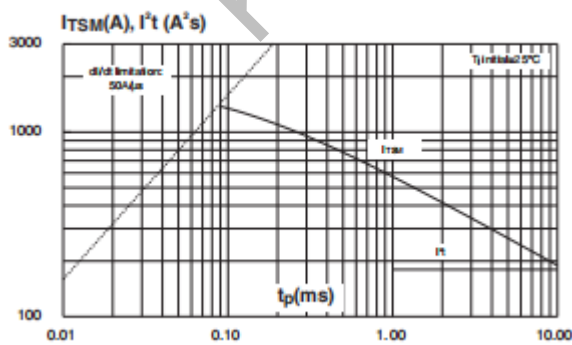


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

