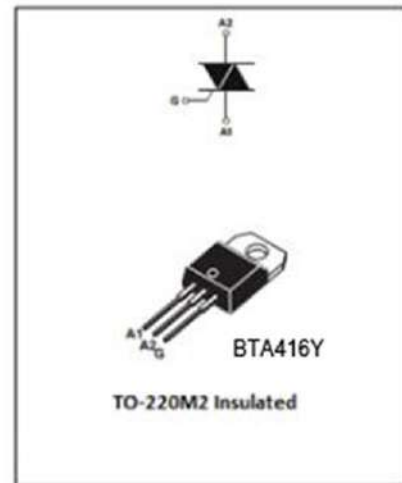


BTA416Y Series 16A TRIACs

DESCRIPTION:

The BTA416Y 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 at2500VRMS) complying with UL standards



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	16	A
$V_{DRM} \ V_{RRM}$	600	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°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	144	A ² S
Critical rate of rise of on-state current ($I =2 \times I_{GT}$)	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℃ unless otherwise specified)
3 Quadrants

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	$V = 12V$ $R = 33\Omega$	I II III	MAX.	35	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.	80	mA
I_H	$I_T = 100mA$		MAX.	50	mA
dV/dt	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ C$		MIN.	800	V/ μs

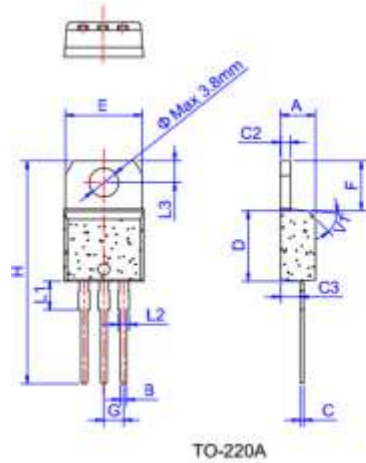
STATIC CHARACTERISTICS

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

TO-220M2 Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.30		4.60	0.170		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°	

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

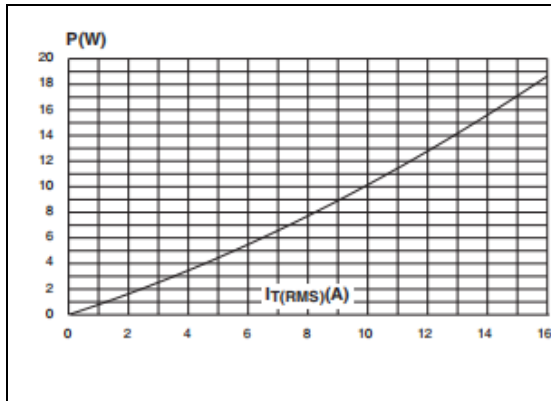


FIG.2: RMS on-state current versus case temperature

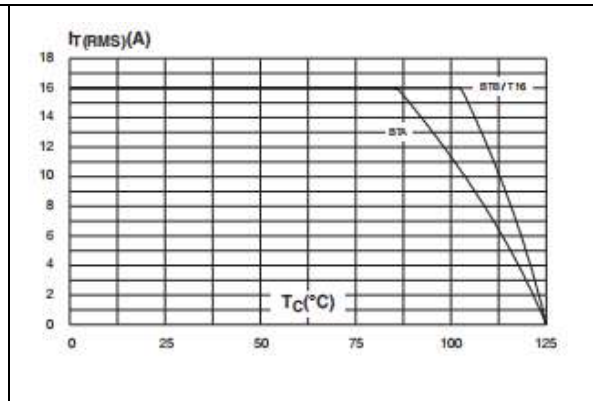


FIG.3: Surge peak on-state current versus number of cycles

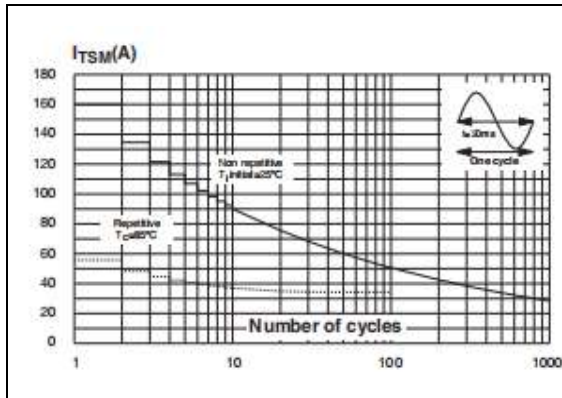


FIG.4: On-state characteristics (maximum values)

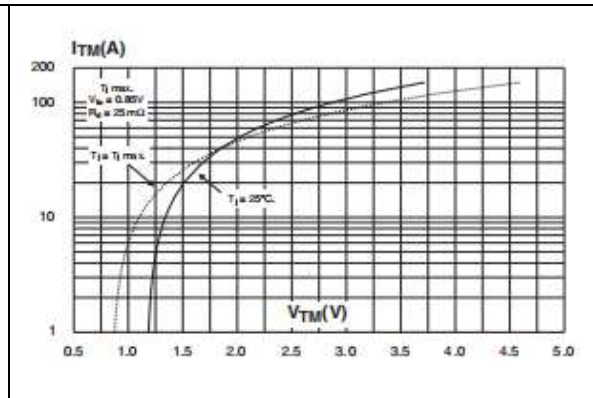


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of $I^2 t$ ($dI/dt < 50\text{A}/\mu\text{s}$)

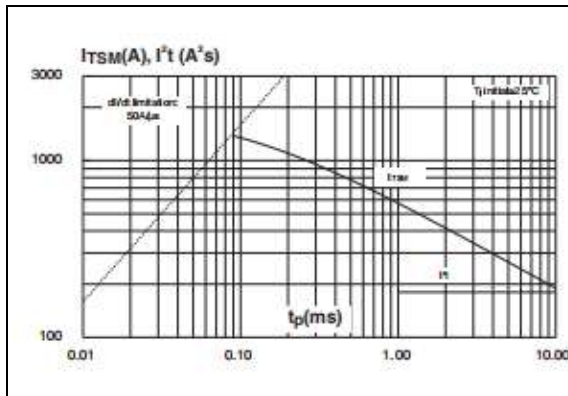


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

