

BTA100 Series

- Description:**

High current density due to double mesa technology;
BTA100 Series triacs is suitable for general purpose AC switching.

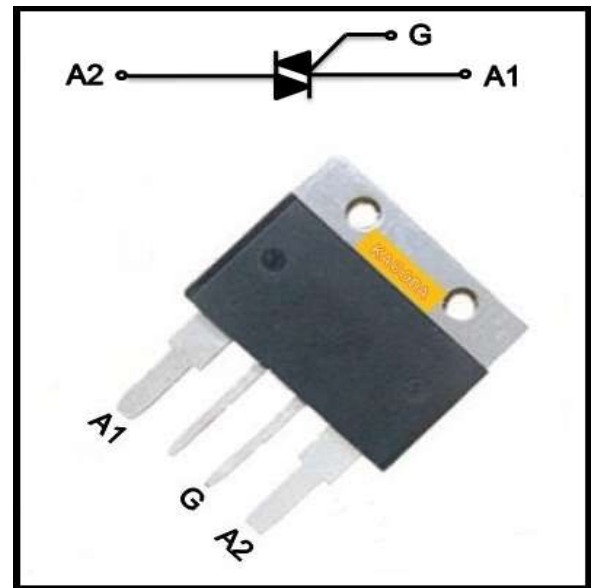
- Applications:**

they can be used as an ON/OFF function in applications such as static relays, heating regulation, induction motor starting circuits... or for phase control operation light dimmers, motor speed controllers

- Features:**

BTA100 series are insulated design
Blocking voltage to 800/1000/12000/1600V
On-state RMS current to 100A
Non-repetitive peak on-state current to 1000A

- Absolute Maximum Ratings**

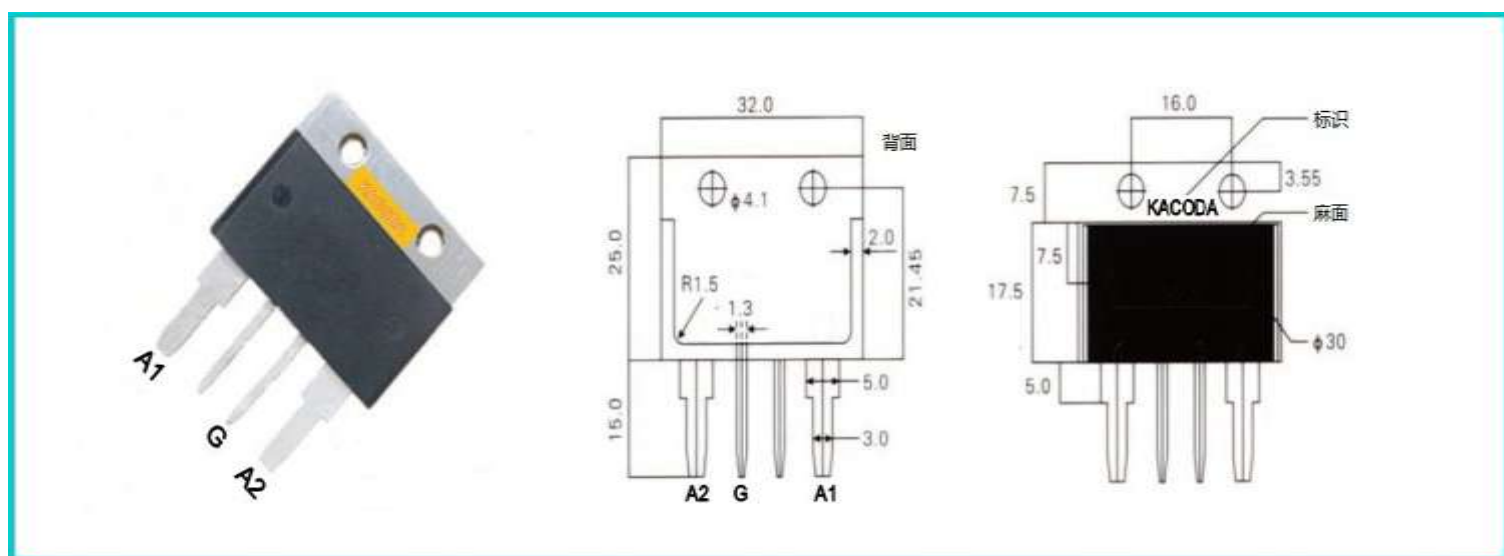


Symbol	Parameter	Conditions	Min	Max	Unit
V_{DRM}	Repetitive peak off-state voltage	$T_J=25^{\circ}\text{C}$	800	1600	V
V_{RRM}	Repetitive peak Reverse voltage	$T_J=25^{\circ}\text{C}$	800	1600	V
$I_{T(RMS)}$	RMS on-state current	$F=60\text{Hz}, T_c=110^{\circ}\text{C}$	-	100	A
I_{TSM}	Non-repetitive peak On-state current	$F=50\text{Hz}, t=10\text{ms}$	-	1000	A
		$F=60\text{Hz}, t=8.3\text{ms}$	-	1000	A
I^2t	I^2t for fusing	$T_P=10\text{ms}$	-	4000	A^2S
di/dt	Rate of rise of on-state current	$I_G=2 \times I_{GT}, t_r \leq 100\text{ns}, T_J=125^{\circ}\text{C}$	-	50	$\text{A}/\mu\text{s}$
I_{GM}	Peak gate current		-	8.0	A
P_{GM}	Peak gate power	$T_P=20\mu\text{s}, T_J=125^{\circ}\text{C}$	-	10	W
$P_{G(AV)}$	Average gate power		-	2.0	W
T_{STG}	Storage temperature		-40	150	$^{\circ}\text{C}$
T_J	Junction temperature		-40	125	$^{\circ}\text{C}$

Electrical Characteristics

Symbol	Conditions	Quadrant	Numerical				Unit
			BTA100-800	BTA100-1000	BTA100-1200	BTA100-1600	
V_{TM}	$I_T=17A, t_p=380\mu s$	$T_J=25^{\circ}C$ MAX	1.3	1.3	1.3	1.55	V
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$	$T_J=25^{\circ}C$ MAX			50		μA
I_{RRM}		$T_J=125^{\circ}C$ MAX			15		mA
I_{GT}	$V_D=12V, R_L=33\Omega$	I-II-III MAX			50		mA
		IV MAX			80		
V_{GT}		I-II-III-IV MAX			1.5		V
V_{GD}	$V_D=V_{DRM}, R_L=3.3K\Omega, T_J=125^{\circ}C$	I-II-III-IV MIN			0.2		V
I_L	$I_T=1.2I_{GT}$	I-III-IV MAX			120		mA
		II MAX			200		mA
I_H	$I_T=0.5A$	MAX			120		mA
dv/dt	$V_{DM}=67\%V_{DRM}, \text{gate open}, T_J=125^{\circ}C$	MIN			500		V/ μs

Package Outline Dimensions



Typical Characteristics

FIG.1:Maximum power dissipation versus RMS on-state current(full cycle)

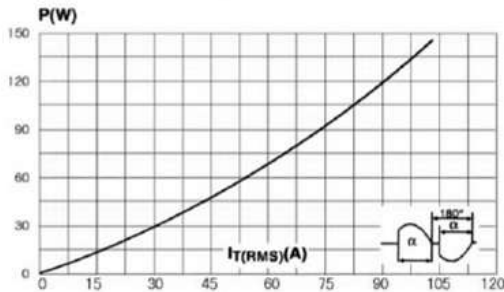


FIG.2:RMS on-state current versus case temperature(full cycle)

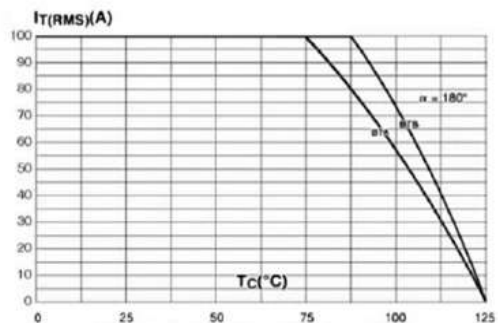


FIG.3:Relative variation of thermal impedance versus pulse duration

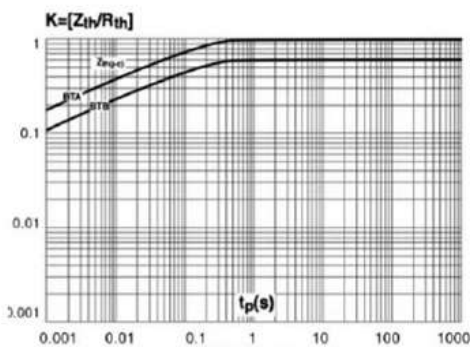


FIG.4:On-state characteristics(maximum values)

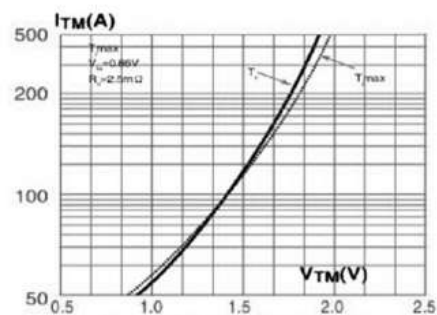


FIG.5:Surge peak on-state current versus number of cycles

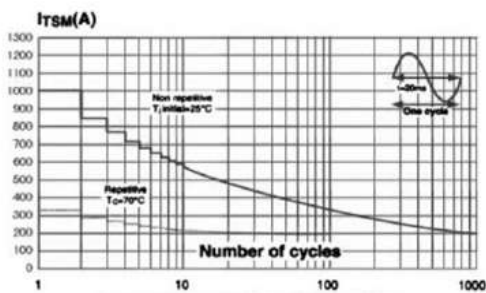


FIG.6:Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10$ ms and corresponding value of I_T

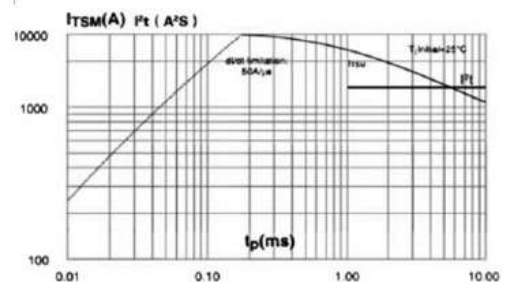


FIG.7:Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values)

