

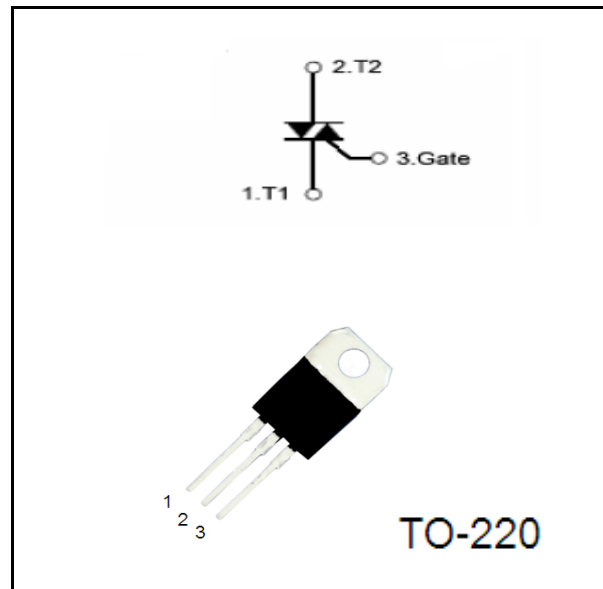
## 3 Quadrants / 4 Quadrants TRIAC

### Features

- IT(RMS): 25A
- VGT: 1.5V
- VDRM VRRM:800Vand1000V

### Applications

Washing machine,vacuums,  
massager,solid state relay, AC  
Motor speed regulation and so on.



### Absolute Maximum Ratings(Tc=25°C unless otherwise specified)

Symbol	parameter	Conditions	Ratings	Unit
VDRM VRRM	Repetitive Peak Off- State Voltage	BTA24-800	800	V
		BTA24-1000	1000	V
IT(RMS)	R.M.S On-State Current	Tc=110°C	25	A
ITSM	Surge On-State Current	f=50/60Hz tp=16.7ms/20ms	250/260	A
I <sup>2</sup> t	I <sup>2</sup> t for fusing	Tp=10ms	340	A <sup>2</sup> s
PG(AV)	Average Gate Power Dissipation	Tj=125°C	1	W
IGM	Peak Gate Current	Tj=125°C	4	A
Tj	Operating Junction Temperature		-40~125	°C
TSTG	Storage Temperature		-40~150	°C

Electrical Characteristics( $T_c=25^\circ\text{C}$  unless otherwise specified)

symbol	parameter		Test Conditions	Value			Unit
				CW	BW	B	
IDRM	Repetitive Peak Off-State Current		$T_c=25^\circ\text{C}$	5			$\mu\text{A}$
			$T_c=125^\circ\text{C}$	3			$\text{mA}$
IRRM	Repetitive Peak Reverse Current		$T_c=25^\circ\text{C}$	5			$\mu\text{A}$
			$T_c=125^\circ\text{C}$	3			$\text{mA}$
V <sub>TM</sub>	Forward "on" voltage		$I_T=35\text{A}$ , $t_p=380\mu\text{s}$	1.55			V
V <sub>GT</sub>	Gate trigger voltage		$V_D=12\text{V}$ , $R_L=30\Omega$	$\leq 1.5$			V
di/dt	Critical rate of rise of on-state current	I,II,III	$F=120\text{Hz}$ , $T_J=125^\circ\text{C}$ , $I_G=2 \times I_{GT}$ , $t_r \leq 100\text{ns}$	$\geq 50$			$\text{A}/\mu\text{s}$
		IV		$\geq 10$			$\text{A}/\mu\text{s}$
I <sub>GT</sub>	Gate trigger current	I,II,III	$V_D=12\text{V}$ , $R_L=30\Omega$	$\leq 35$	$\leq 50$	$\leq 50$	$\text{mA}$
		IV		/	/	$\leq 100$	$\text{mA}$
I <sub>H</sub>	Holding current		$I_T=0.2\text{A}$	$\leq 60$	$\leq 80$	$\leq 80$	$\text{mA}$
V <sub>DG</sub>	Gate non-trigger voltage	ALL	$V_D=V_{DRM}$ , $T_J=125^\circ\text{C}$	$\geq 0.2$			V
dv/dt	Critical-rate of rise of commutation voltage		$T_J=125^\circ\text{C}$ , $V_D=2/3V_{DRM}$ , Gate open circuit	$\geq 400$	$\geq 1000$	$\geq 500$	$\text{V}/\mu\text{s}$
R <sub>th(j-c)</sub>	Thermal resistance		Junction to case	1.7			$^\circ\text{C}/\text{W}$
R <sub>th(j-a)</sub>	Thermal resistance		Junction to ambient	60			$^\circ\text{C}/\text{W}$

## characteristic curve

FIG.1: Gate characteristics

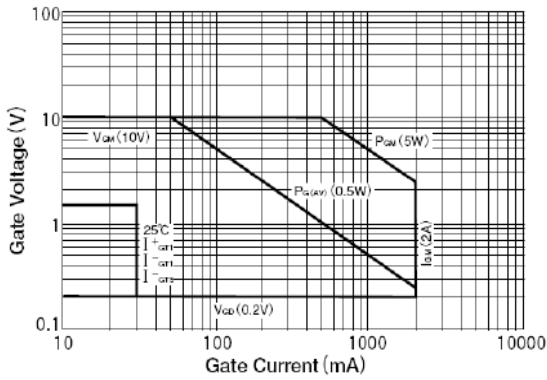


FIG.2: On-state characteristics(max)

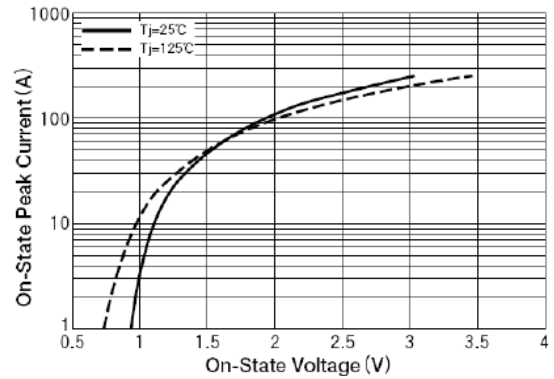


FIG.3: Gate trigger voltage vs junction temperature

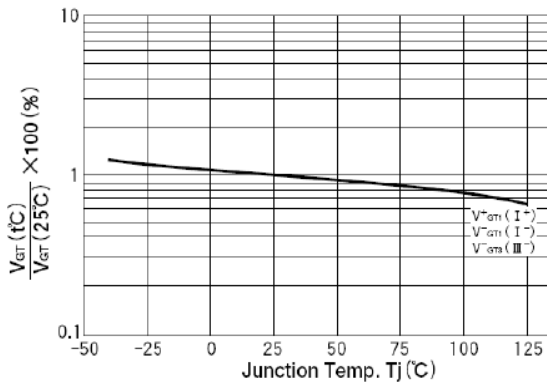


FIG.4: on-state current vs max power Dissipation

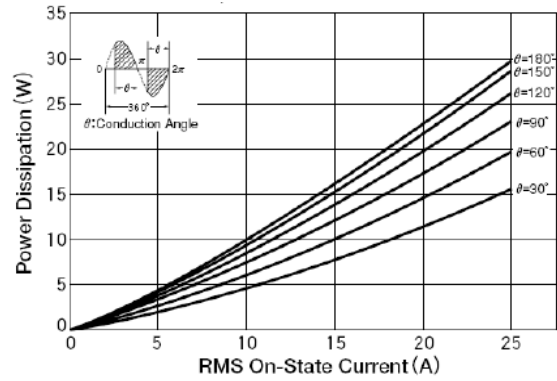


FIG.5: RMS On-state vs Allowable Case Temperature

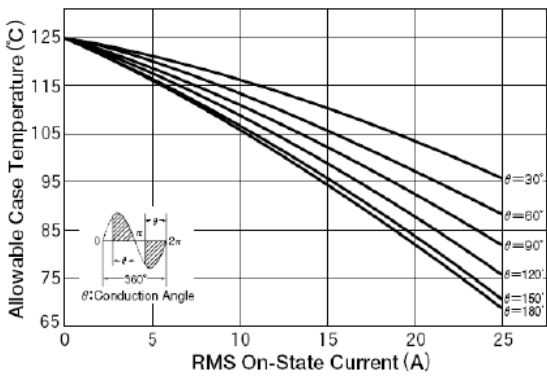
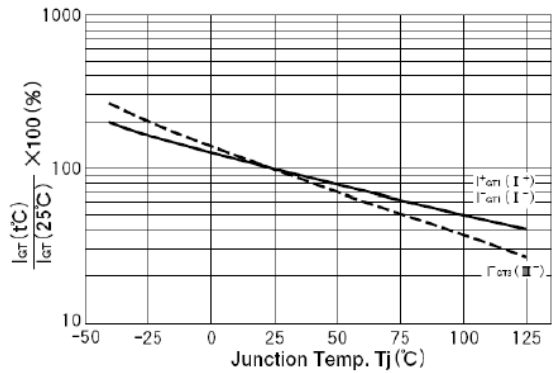
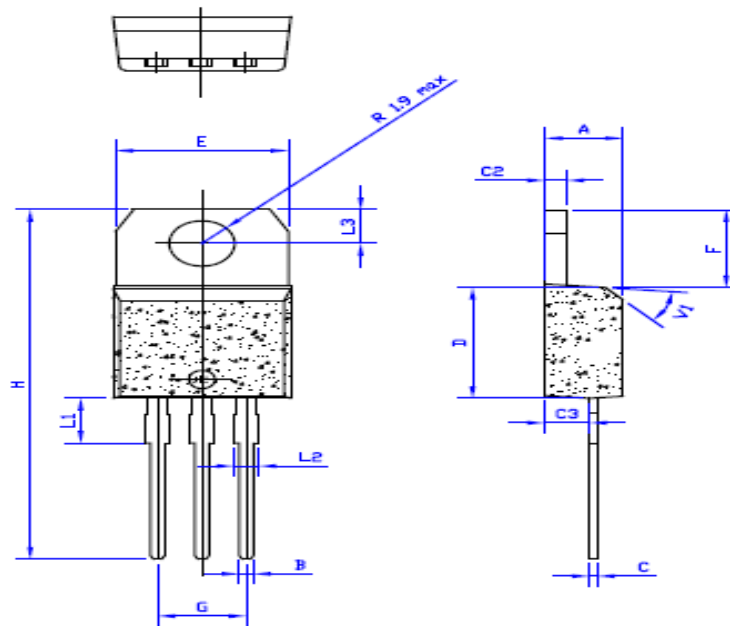


FIG.6: Gate trigger current vs junction temperature



# PACKAGE MECHANICAL DATA

## TO-220 Package Dimension



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.4		4.6	0.173		1.181
B	0.61		0.88	0.024		0.034
C	0.46		0.70	0.018		0.027
C2	1.23		1.32	0.048		0.051
C3	2.4		2.72	0.094		0.107
D	8.6		9.7	0.338		0.382
E	9.8		10.4	0.386		0.409
F	6.2		6.6	0.244		0.259
G	4.8		5.4	0.189		0.213
H	28.0		29.8	11.0		11.7
L1		3.75			0.147	
L2	1.14		1.7	0.044		0.066
L3	2.65		2.95	0.104		0.116
V1		40°			40°	

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