

/ Descriptions

TO-220F

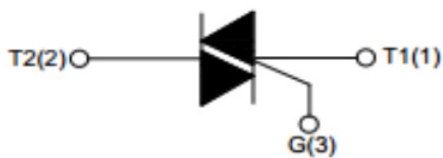
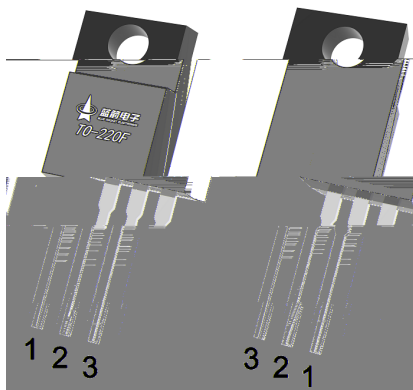
Triac in a TO-220F Plastic Package.

/ Features

Medium current triac, Low on state voltage drop, High reliability and stability, Low thermal resistance.

/ Applications

Suitable for general purpose AC switching .Such as static relays, heating regulation, induction motor starting circuits, motor speed controllers, etc.

/ Equivalent Circuit**/ Pinning**

PIN1 Main Terminal 1 PIN 2 Main Terminal 2 PIN 3 Gate

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25$)

Parameter	Symbol	Rating	Unit
Repetitive peak off-state/reverse voltages($T_j=25$)	V_{DRM}/V_{RRM}	800	V
RMS on-state current($T_C \leq 73$)	$I_{T(RMS)}$	16	A
Non repetitive surge peak on-state current(full cycle, $T_j=25^\circ\text{C}$)	$I_{TSM}(t=20\text{ms})$	160	A
I^2t value for fusing($T_j=25$)	$I^2t_{(tp=10\text{ms})}$	128	A^2s
Critical rate of rise of on-state current ($I_G=2I_{GT}$, $f=120\text{Hz}$ $T_j=125$)	dI/dt I-II-III	50	$\text{A}/\mu\text{s}$
Peak gate current($t_p=20\mu\text{s}$ $T_j=125$)	I_{GM}	4	A
Average gate power dissipation($T_j=125$)	$P_{G(AV)}$	0.5	W
Operating junction temperature range	T_j	-40 125	
Storage junction temperature range	T_{stg}	-40 150	
Junction to ambient(AC)	$R_{th(j-a)}$	60	/W
Junction to case for(AC)	$R_{th(j-c)}$	2.3	

/ Electrical Characteristics($T_j=25$)

3 / Snubberless and logic level 3 quadrants)

Symbol	Test Conditions	Quadrant	Value		Unit
I_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	I-II-III	Max.	35	mA
V_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	I-II-III	Max.	1.3	V
V_{GD}	$V_D=V_{DRM}$ $R_L=3.3\text{K}\Omega$ $T_j=125$	I-II-III	Min.	0.2	V
I_L	$I_G=1.2I_{GT}$	I-III	Max.	50	mA
		II		70	
I_H	$I_T=500\text{mA}$		Max.	50	mA
(dV/dt)	$V_D=67\% V_{DRM}$ Gate Open	$T_j=125$	Min.	1000	$\text{V}/\mu\text{s}$
V_{TM}	$I_{TM}=23\text{A}$ $t_p=380\mu\text{s}$	$T_j=25$	Max.	1.55	V
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$		10	μA
I_{RRM}		$T_j=125$		1	mA

/ Electrical Characteristic Curve

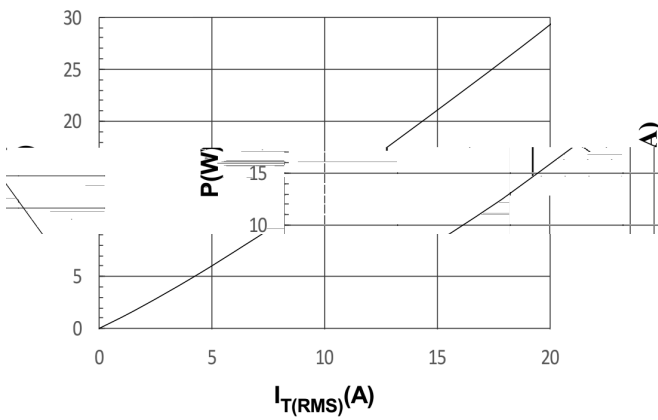


FIG.1 Maximum power dissipation versus RMS on-state current

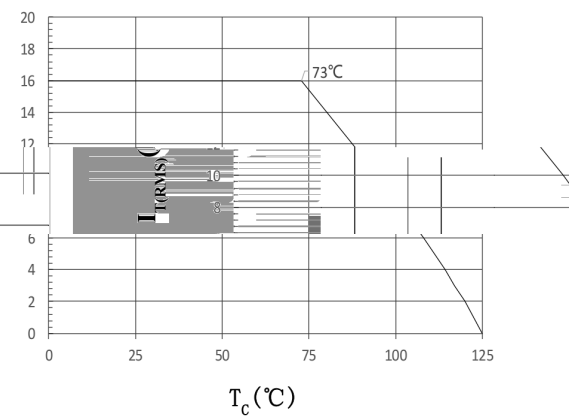


FIG.2: RMS on-state current versus case temperature

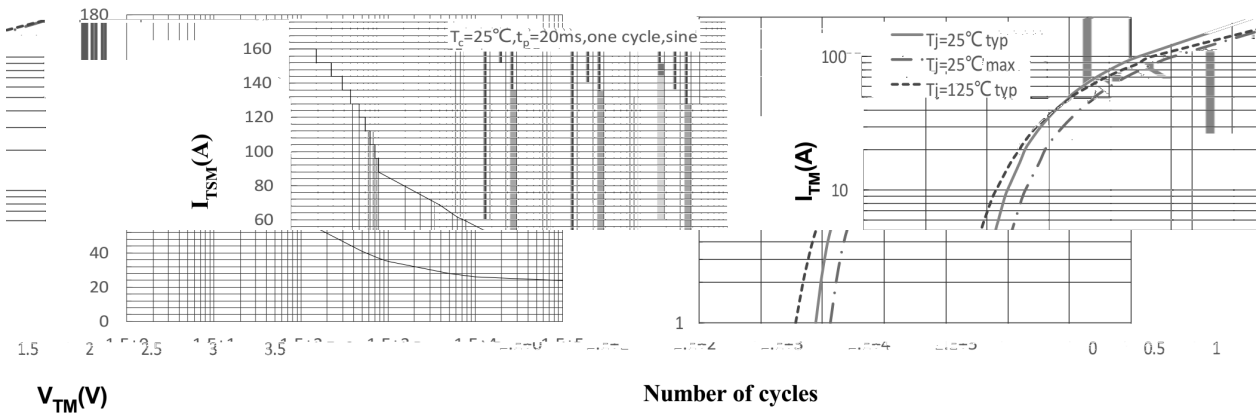


FIG.3: Surge peak on-state current versus number of cycles

FIG.4: (

On-state characteristics

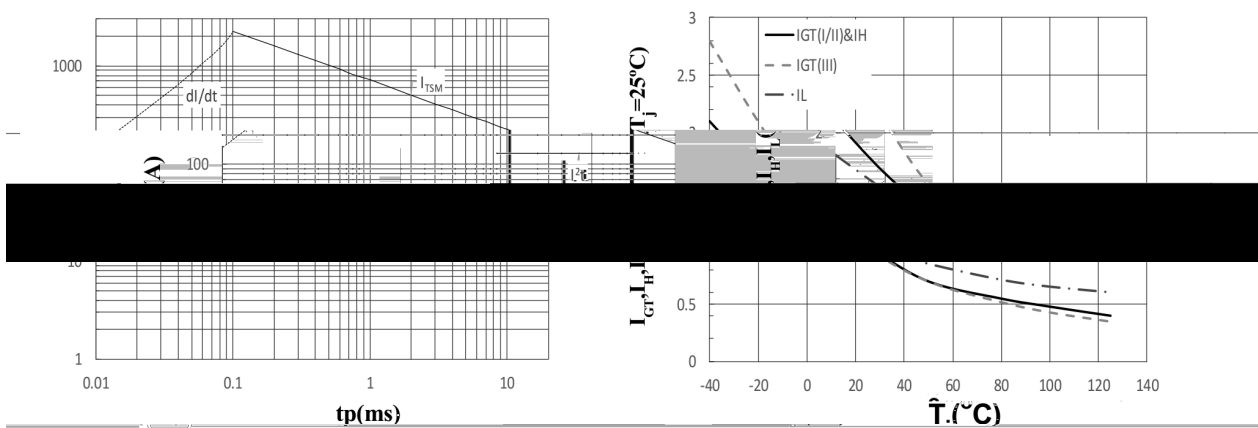
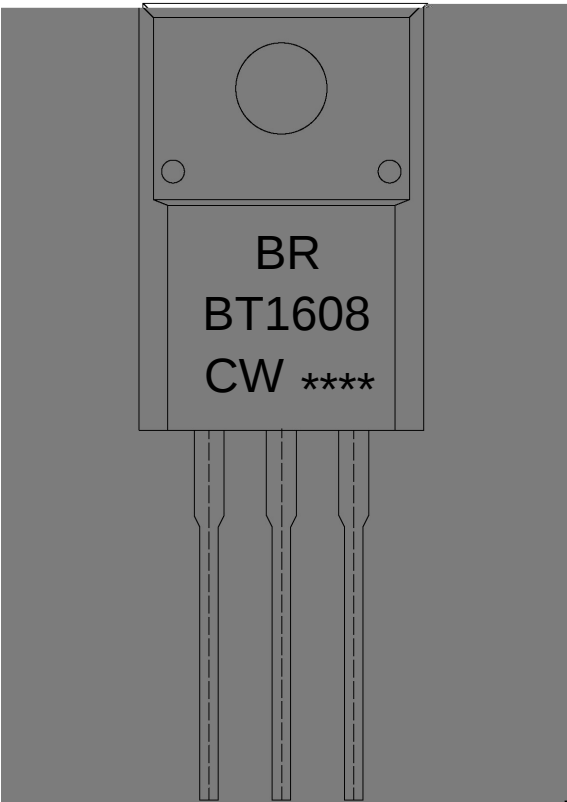


FIG.5: Non-repetitive surge peak on-state current

For a sinusoidal pulse with width $t_p \leq 10\text{ms}$ and corresponding value of I_{TSM} at $T_c = 125^\circ\text{C}$, the value of I_{TSM} at $T_c = 25^\circ\text{C}$ is given by:

/ Marking Instructions



BR	
BT1608	
CW	I _{GT}

Note:	
BR:	Company Code
BT1608:	Product Type Code
CW:	I _{GT} Bracket code
****:	Lot No. Code, code change with Lot No

() / Temperature Profile for Dip Soldering(Pb-Free)

- Note:

1

25 150

60 90sec;

1.Preheating:25~150 , Time:60~90sec.

2

255±5

5±0.5sec;

2.Peak Temp.:255±5 , Duration:5±0.5sec.

3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

270±5 10±1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type	Units		Dimension	(unit mm³)
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	
(unRes0 Ouner. 48 1.26 ref55382250 63.84 .480010.38 ref02250 650 247.56 .48001 reffB3ef.9.6 350 .4 .48005				