/ Descriptions

TO-220F

Triac in a TO-220F Plastic Package.

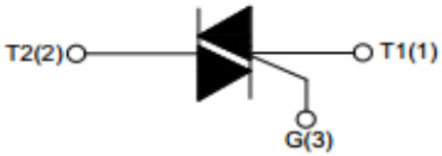
/ Features

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

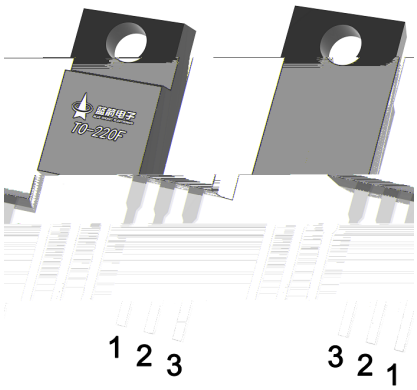
/ Applications

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(Ta=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°C)	$I_{TSM(t=20ms)}$	160	A
I^2t value for fusing(T_j=25)	$I^2t_{(tp=10ms)}$	128	A^2s
Critical rate of rise of on-state current (I_G =2I_{GT}, f=120Hz T_j=125)	dI/dt I-II-III	50	A/μs
Peak gate current(t_p =20μs 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(Tj=25)

3 / Snubberless and logic level 3 quadrants)

Symbol	Test Conditions	Quadrant	Value		Unit
I_{GT}	V_D=12V R_L=33Ω	I-II-III	Max.	35	mA
V_{GT}	V_D=12V R_L=33Ω	I-II-III	Max.	1.3	V
V_{GD}	V_D=V_{DRM} R_L=3.3KΩ 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=500mA		Max.	50	mA
(dV/dt)	V_D=67% V_{DRM} Gate Open	Tj=125	Min.	1000	V/μs
V_{TM}	I_{TM} =23A t_p=380μs	Tj=25	Max.	1.55	V
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	Tj=25		10	μA
I_{RRM}		Tj=125		1	mA

/ Electrical Characteristic Curve

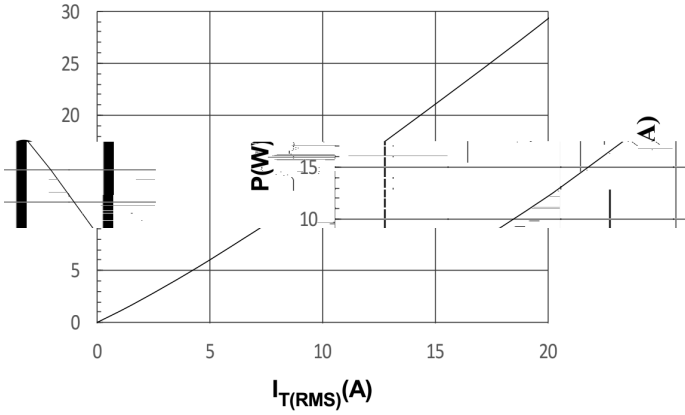


FIG.1 Maximum power dissipation versus RMS on-state current

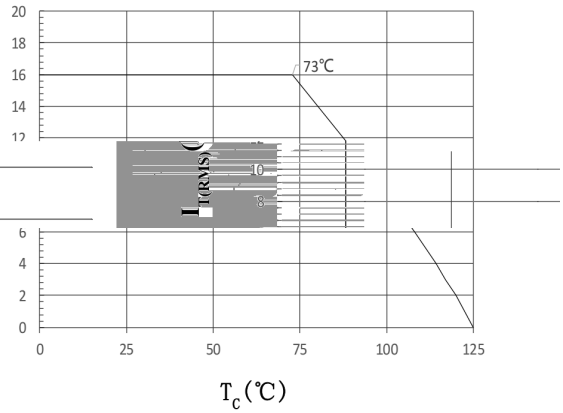


FIG.2: RMS on-state current versus case temperature

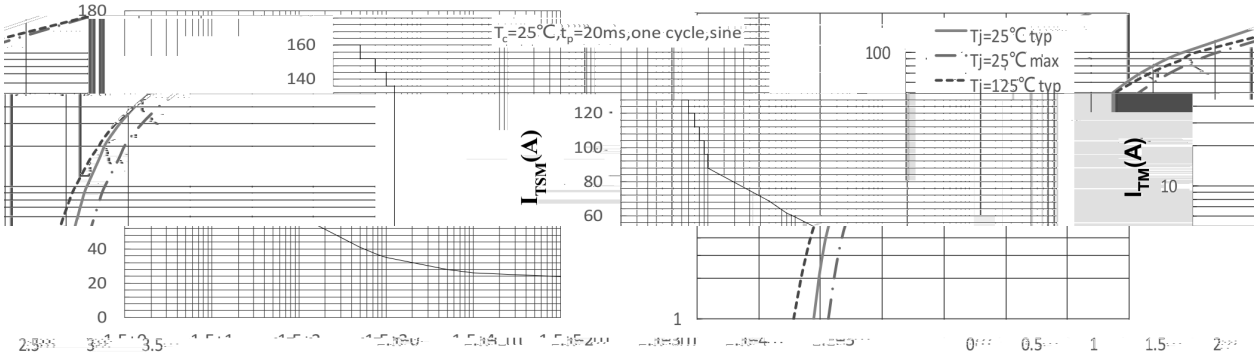


FIG.3: Surge peak on-state current versus number of cycles

acteristics

FIG.4: On-state char

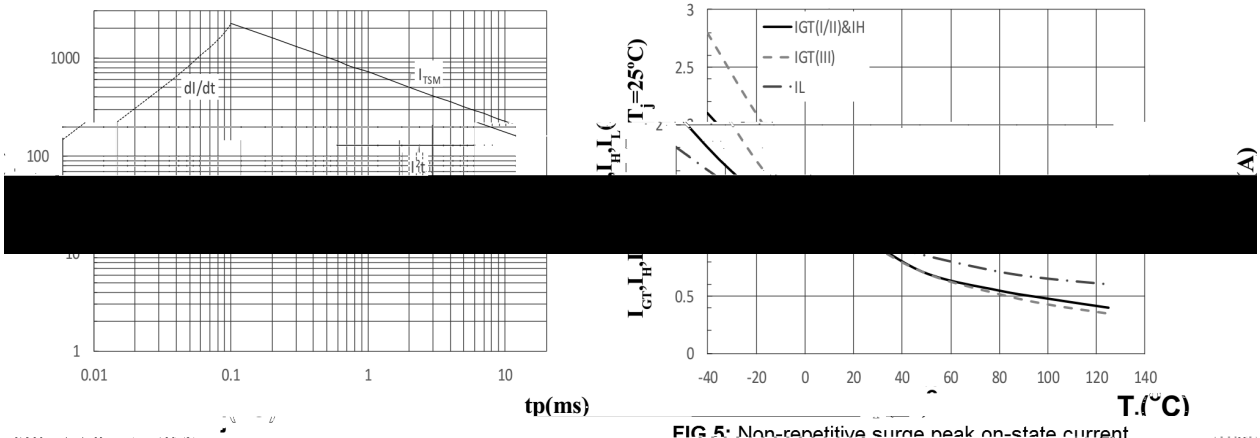
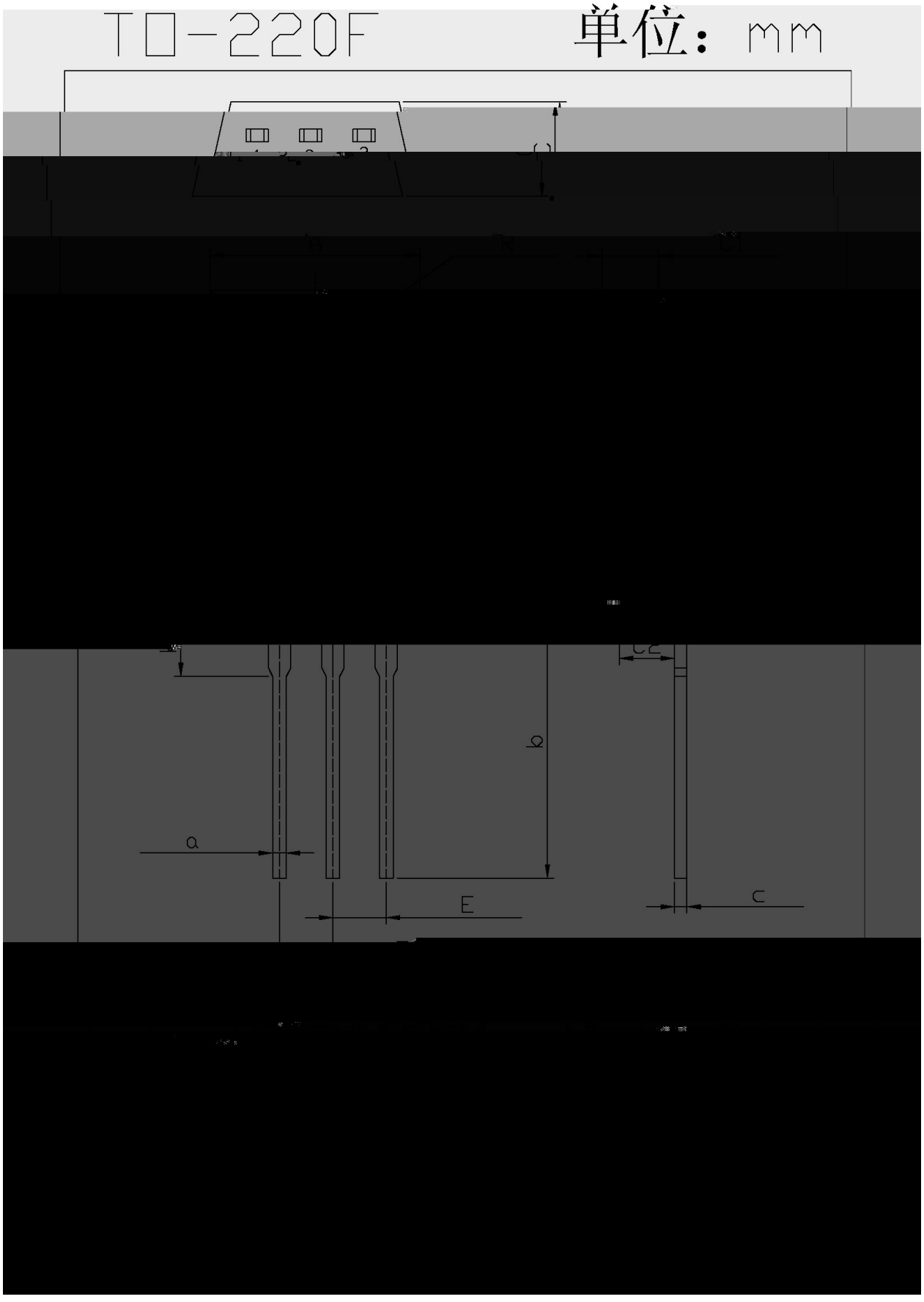
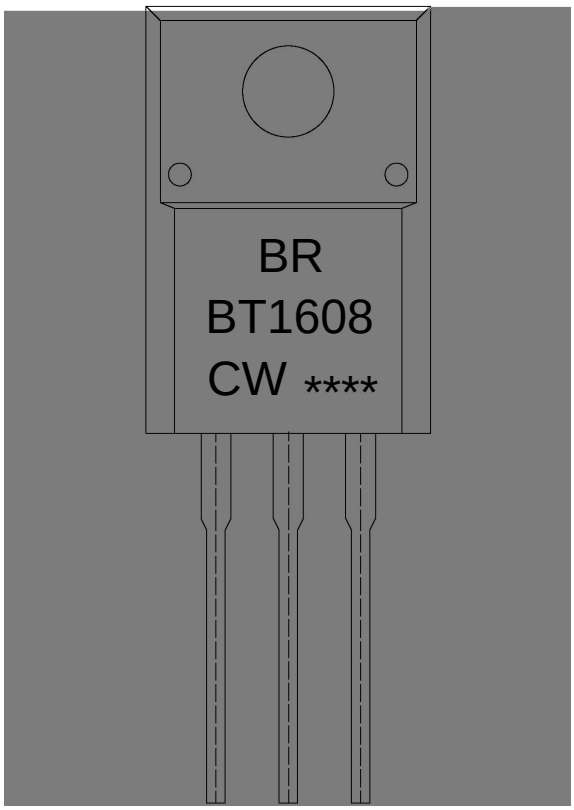


FIG.5: Non-repetitive surge peak on-state current

/ Package Dimensions



/ 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;

2 255±5 5±0.5sec;

3 2 10 /sec.

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

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

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 /	Inner/Outer Box	