

/ Descriptions

TO-92

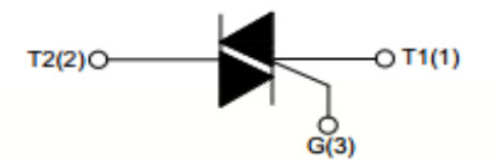
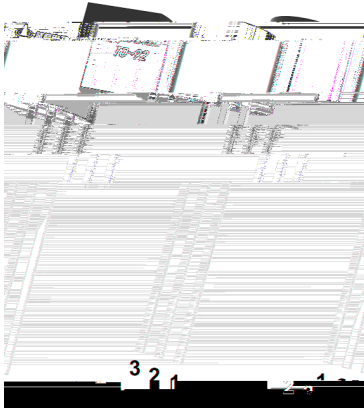
Triac in a TO-92 Plastic Package.

/ Features

Low power gate trigger circuits.

/ 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 2

PIN 2 Gate

PIN 3 Main Terminal 1

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$ -)

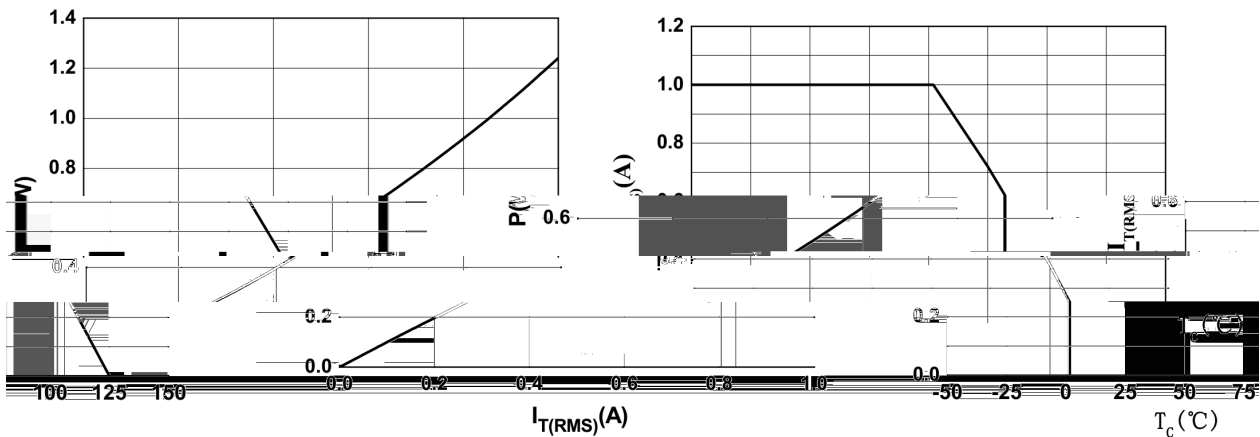
Parameter	Symbol	Rating	Unit
Repetitive peak off-state/reverse voltages($T_j=25^\circ\text{C}$)	$V_{\text{DRM}}/V_{\text{RRM}}$	600	V
RMS on-state current($T_c=110^\circ\text{C}$)	$I_{\text{T(RMS)}}$	1	A
Non repetitive surge peak on-state current(full cycle, $T_j=25^\circ\text{C}$)	$I_{\text{TSM}(t=20\text{ms})}$	16	A
Critical rate of rise of on-state current ($I_G=2I_{\text{GT}}$, $f=100\text{Hz}$ $T_j=125^\circ\text{C}$)	dI/dt I-II-III	50	A/ μs
	dI/dt IV	30	
Peak gate current($t_p=20\mu\text{s}$ $T_j=125^\circ\text{C}$)	I_{GM}	2.0	A
Average gate power dissipation($T_j=125^\circ\text{C}$)	$P_{\text{G(AV)}}$	0.5	W
Operating junction temperature range	T_j	-40 125	
Storage junction temperature range	T_{stg}	-40 150	
Junction to ambient(AC)	$R_{\text{th(j-a)}}$	150	/W
Junction to case for(AC)	$R_{\text{th(j-c)}}$	60	

/ Electrical Characteristics($T_j=25^\circ\text{C}$ -)

4 / Snubberless and logic level 4 quadrants)

Symbol	Test Conditions	Quadrant	Value		Unit
I_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	I-II-III	Max.	5	mA
		IV		10	
V_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	I-II-III-IV	Max.	1.3	V
V_{GD}	$V_D=V_{\text{DRM}}$ $R_L=3.3\text{K}\Omega$ $T_j=125^\circ\text{C}$	I-II-III-IV	Min.	0.2	V
I_{L}	$I_G=1.2I_{\text{GT}}$	I-III-IV	Max.	5	mA
		II		20	
I_{H}	$I_{\text{T}}=50\text{mA}$		Max.	7	mA
dV/dt	$V_D=67\% V_{\text{DRM}}$ Gate Open	$T_j=125^\circ\text{C}$	Min.	120	V/ μs
V_{TM}	$I_{\text{TM}}=1.4\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	Max.	1.45	V
I_{DRM}	$V_D=V_{\text{DRM}}$ $V_R=V_{\text{RRM}}$	$T_j=25^\circ\text{C}$		5	μA
I_{RRM}		$T_j=125^\circ\text{C}$		0.2	mA

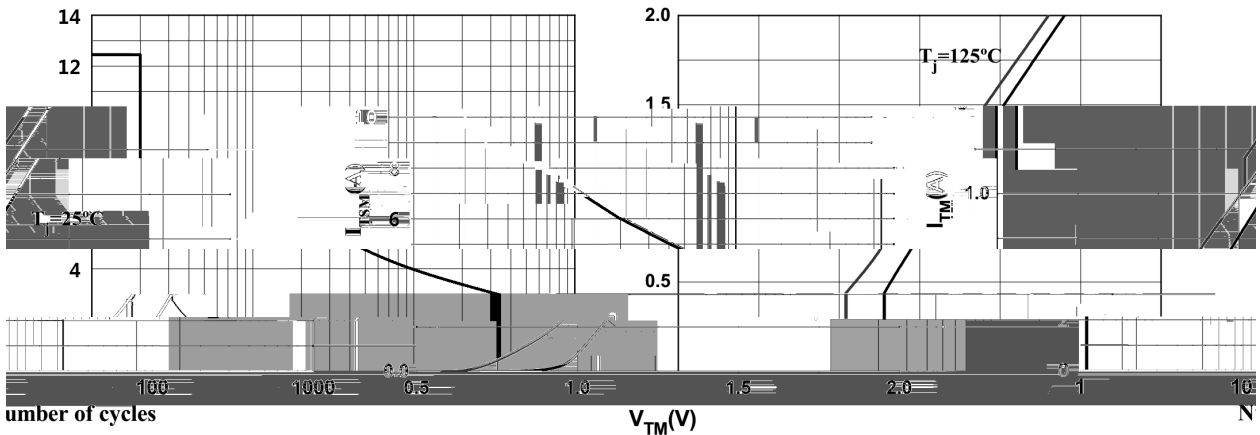
/ Electrical Characteristic Curve



versus case

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

FIG.2: RMS on-state current temperature



peak on-state current versus

number of cycles

FIG.4: On-state characteristics

FIG.3: Surge current

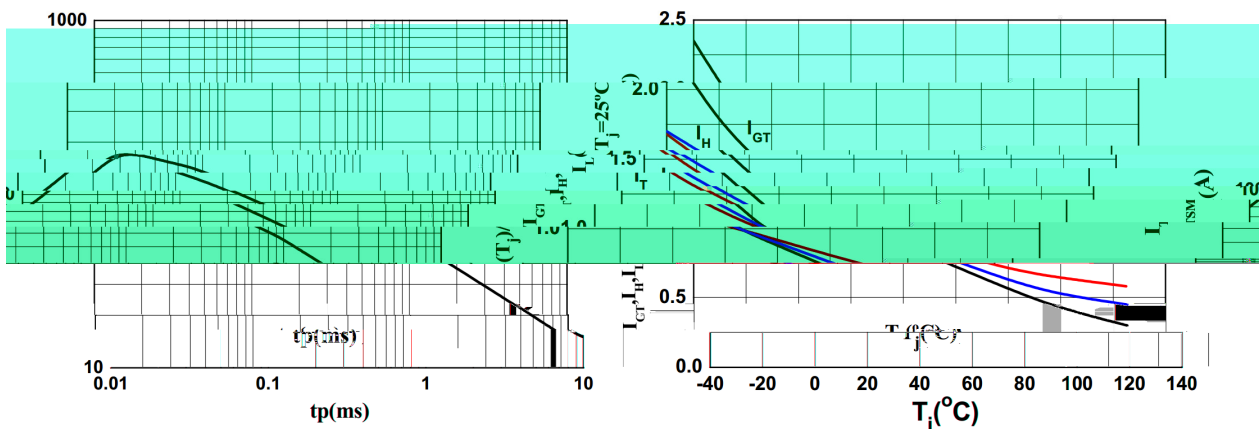


FIG.5: Switching characteristics versus junction temperature

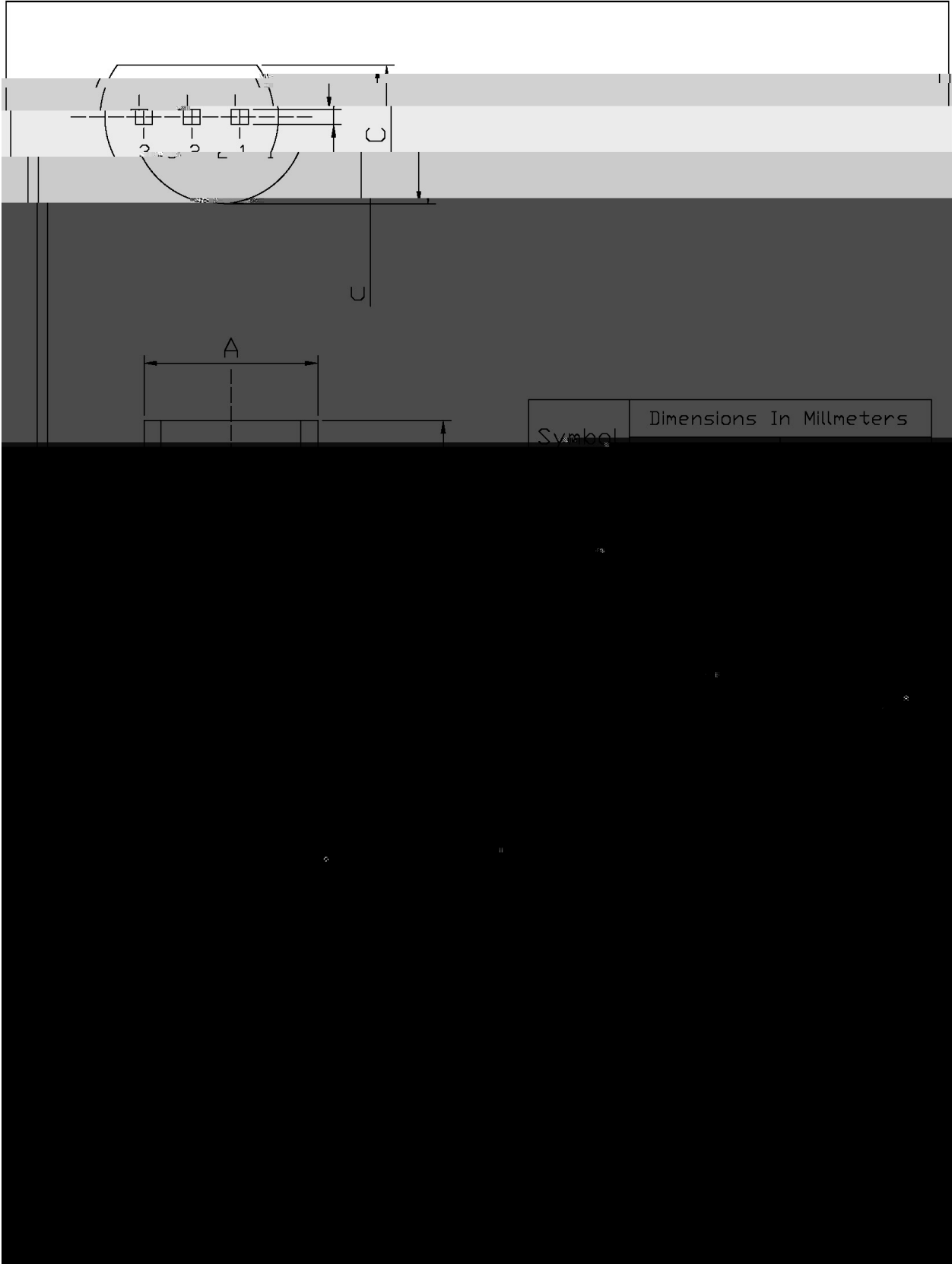
current, rising current and falling current
 versus junction temperature

IV: $dI/dt < 30 \text{ A}/\mu\text{s}$
 IV: $dI/dt < 30 \text{ A}/\mu\text{s}$

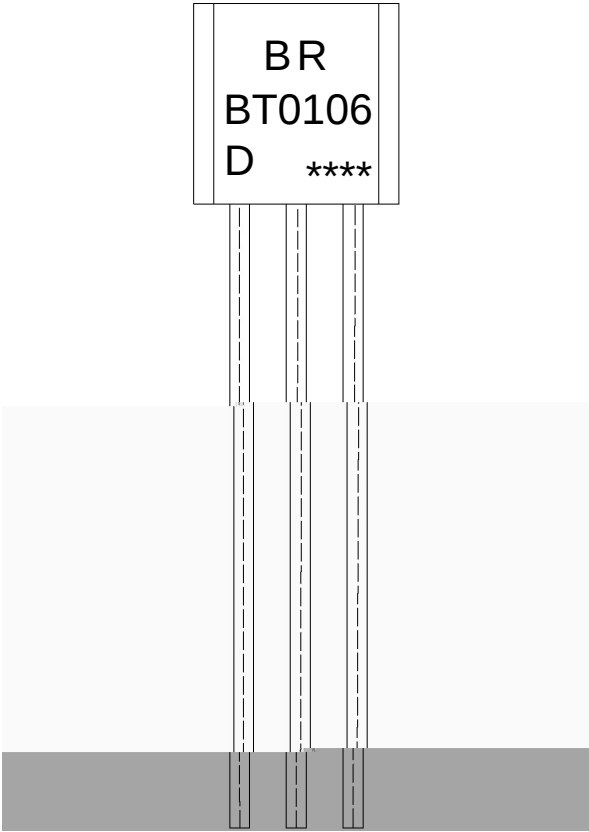
/ Package Dimensions

TO-92

Unit: mm



/ Marking Instructions



BR

BT0106

D: I_{GT}

Note:

BR: Company Code

BT0106: Product Type Code

D: I_{GT} Level 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 /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-92	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195

/ AMMO

Package Type	Units					Dimension (unit mm3)		
	Units/tape /	Tape/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box