

/ Descriptions

TO-220

Thyristor in a TO-220 Plastic Package.

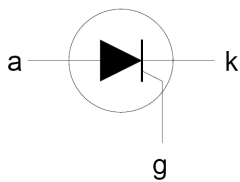
/ Features

Glass passivated thyristors in a plastic envelope.

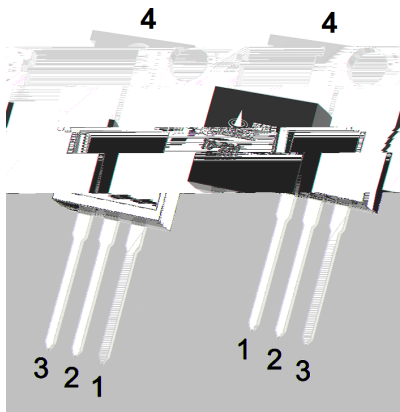
/ Applications

Use in applications requiring high bidirectional blocking voltage capability and high thermal cycling performance. Typical applications include motor control, industrial and domestic lighting, heating and static switching.

/ Equivalent Circuit



/ Pinning



PIN1 Cathode PIN 2,4 Anode PIN 3 Gate

/ Marking

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Repetitive peak off-state/reverse voltages($T_j=25^\circ\text{C}$)	$V_{\text{DRM}}/V_{\text{RRM}}$	650	V
Average on-state current ($T_c \leq 105^\circ\text{C}$)	$I_{\text{T(AV)}}$	8	A
RMS on-state current($T_c=105^\circ\text{C}$)	$I_{\text{T(RMS)}}$	12	A
Non repetitive surge peak on-state current ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	120	A
Non repetitive surge peak on-state current ($t_p=8.3\text{ms}$, $T_j=25^\circ\text{C}$)		132	
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	$-40 \sim 125$	
Storage junction temperature range	T_{stg}	$-40 \sim 150$	
Junction to ambient(AC)	$R_{\text{th(j-a)}}$	60	/W
Junction to case for(AC)	$R_{\text{th(j-c)}}$	1.3	

Symbol

Test Conditions

/ Electrical Characteristic Curve

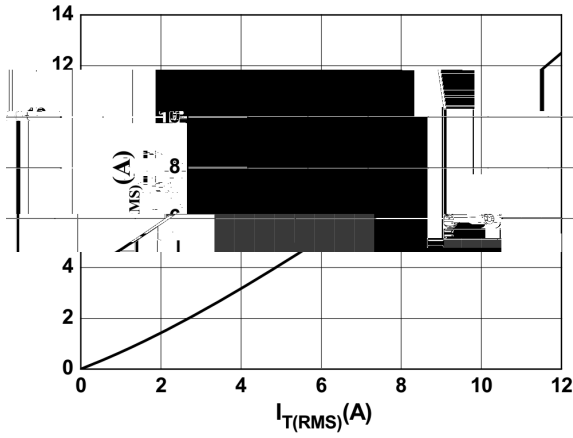


FIG.1 Maximum power dissipation versus RMS on-state current

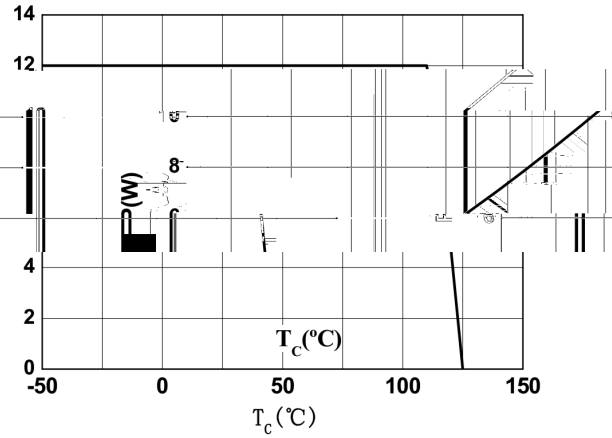


FIG.2: RMS on-state current versus case temperature

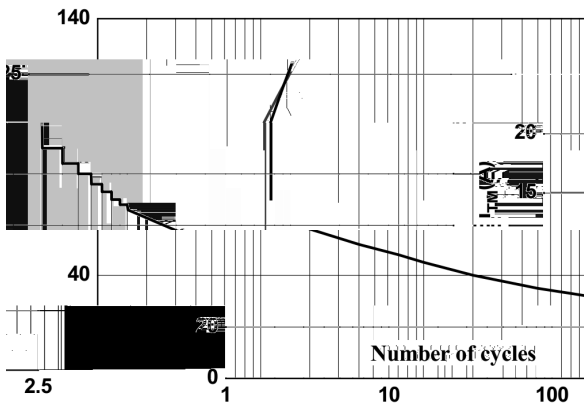


FIG.3: Surge peak on-state current versus number of cycles

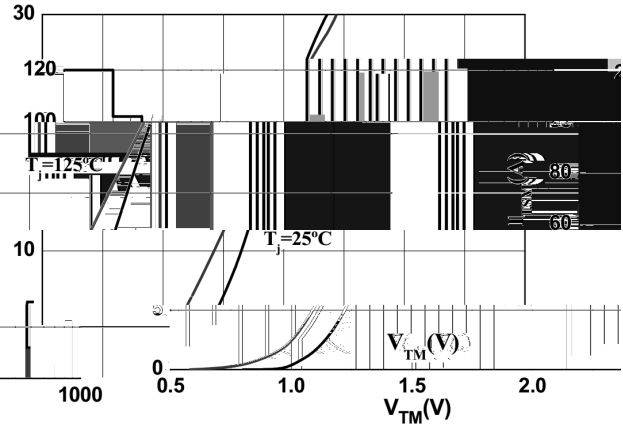


FIG.4: On-state characteristics

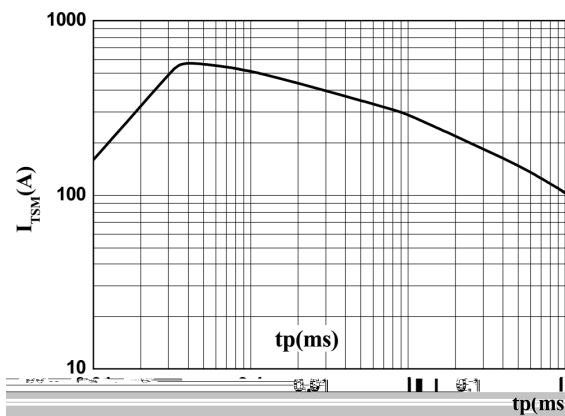
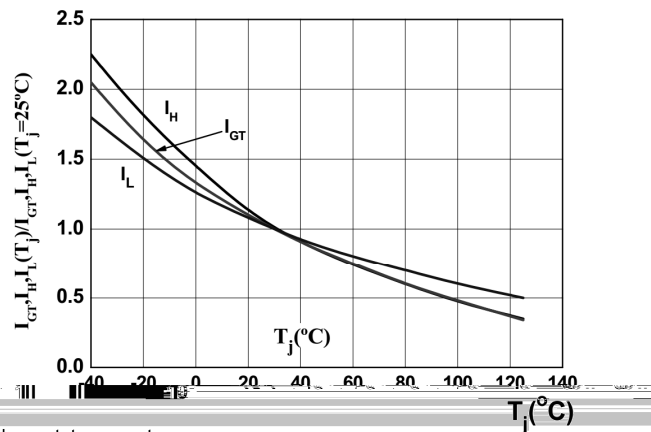
FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $tp < 20\text{ms}$, and corresponding value of I_2t ($di/dt < 100\text{A}/\mu\text{s}$)

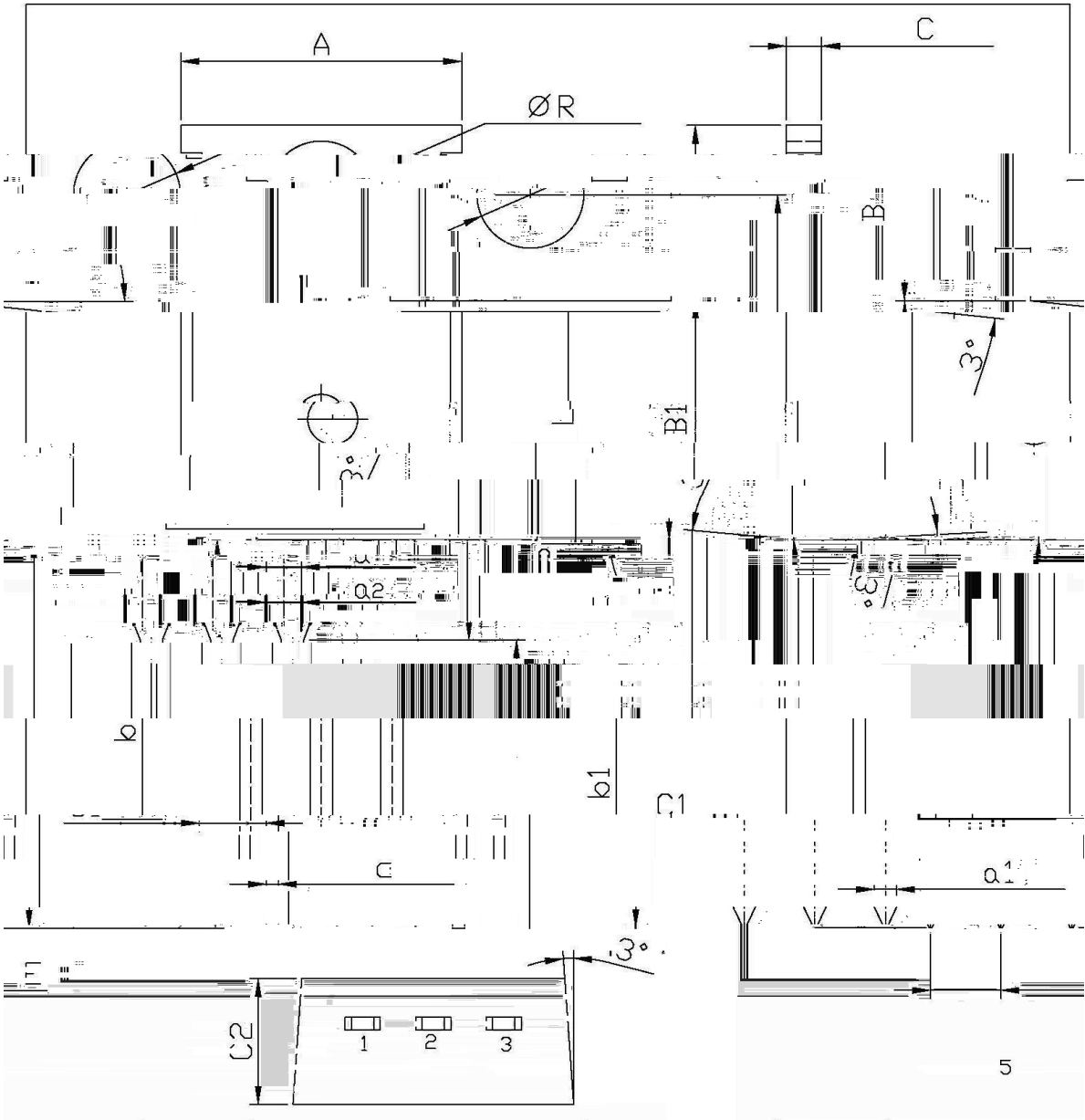
FIG.6: Relative variations of gate current, holding current and latch current versus junction temperature

I_{TSM} (A)
 tp (ms)

/ Package Dimensions

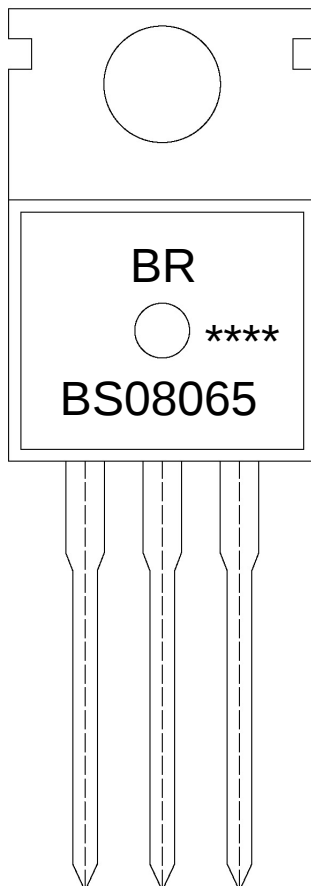
T□-220

单位: mm



Dimensions In Millimeters				Dimensions In Millimeters			
Symbol	Min	Max	Symbol	Min	Max	Symbol	Min
A	9.8	10.2	C	15.7	16.1	B	6
R	3.56	3.64	B1	12.6	13.6	B1	9
C	9.4	9.6	C1	12.6	13.6	C1	2
a	1.4	1.6	a1	12.6	13.6	a1	2
b	6.7	6.9	b1	12.6	13.6	b1	2
C2	9.4	9.6	C2	12.6	13.6	C2	2
1	1.4	1.6	1	12.6	13.6	1	2
2	6.7	6.9	2	12.6	13.6	2	2
3	9.4	9.6	3	12.6	13.6	3	2
5	1.4	1.6	5	12.6	13.6	5	2

/ Marking Instructions



BR

BS08065

Note:

BR: Company Code

****: Lot No. Code, code change with Lot No

BS08065: Product Type Code

() / 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 mm ³)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type Units/Inner Box Inner Boxes/Outer Box Units/Outer Box
(unit 10 - /- / D 10P •Å 9)â•5±!÷ • "R