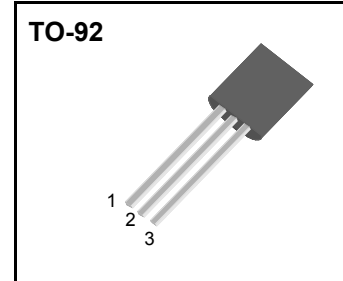
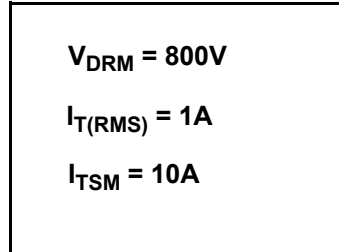
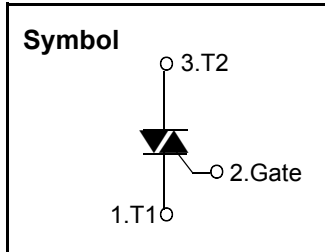


Sensitive Triac



Features

- ◆ Repetitive Peak Off-State Voltage : 800V
- ◆ R.M.S On-State Current ($I_{T(RMS)} = 1 A$)
- ◆ High Commutation dv/dt

General Description

This device is suitable for low power AC switching application, phase control application such as fan speed and temperature modulation control, lighting control and static switching relay where high sensitivity is required in all four quadrants.

This device may substitute for Z0107MA, BT131, BCR1AM-12 series.

Absolute Maximum Ratings ($T_j = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Condition	Ratings	Units
V_{DRM}	Repetitive Peak Off-State Voltage	Sine wave, 50 to 60 Hz	800	V
$I_{T(RMS)}$	R.M.S On-State Current	$T_j = 110^{\circ}C$, Full Sine Wave	1.0	A
I_{TSM}	Surge On-State Current	One Cycle, 50Hz/60Hz, Peak, Non-Repetitive	10	A
I^2t	I^2t for Fusing	$t_p = 10ms$	0.41	A ² s
P _{GM}	Peak Gate Power Dissipation		1	W
P _{G(AV)}	Average Gate Power Dissipation		0.1	W
I_{GM}	Peak Gate Current		1	A
T_j	Operating Junction Temperature		- 40 ~ 125	$^{\circ}C$
T_{STG}	Storage Temperature		- 40 ~ 150	$^{\circ}C$



TN1A80

Electrical Characteristics (T_j = 25°C unless otherwise specified)

Symbol	Items		Conditions	Ratings			Unit
				Min.	Typ.	Max.	
I _{DRM}	Repetitive Peak Off-State Current		V _D = V _{DRM} , Single Phase, Half Wave	-	-	0.5	mA
V _{TM}	Peak On-State Voltage		I _{TM} = 1 A, t _p =380μs	-	-	1.6	V
I ⁺ _{GT1}	I	Gate Trigger Current	V _D = 12V, R _L =100 Ω	-	-	10	mA
I ⁻ _{GT1}	II			-	-	10	
I ⁻ _{GT3}	III			-	-	10	
I ⁺ _{GT3}	IV			-	-	30	
V ⁺ _{GT1}	I	Gate Trigger Voltage	V _D = 12V, R _L =100 Ω	-	-	1.8	V
V ⁻ _{GT1}	II			-	-	1.8	
V ⁻ _{GT3}	III			-	-	1.8	
V ⁺ _{GT3}	IV			-	-	2.0	
V _{GD}	Non-Trigger Gate Voltage		V _D =1/2 V _{DRM}	0.1	-	-	V
dv/dt	Critical Rate of Rise Off-State Voltage		T _j = 110 °C V _D =2/3 V _{DRM}	5	-	-	V/μs
I _H	Holding Current		V _D =12V, I _T =0.1A	-	-	25	mA



Fig 1. Gate Characteristics

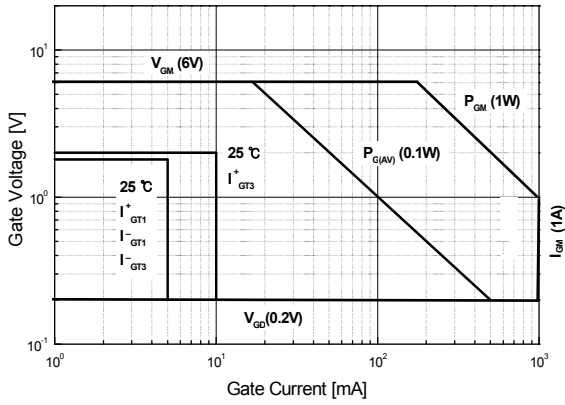


Fig 2. On-State Voltage

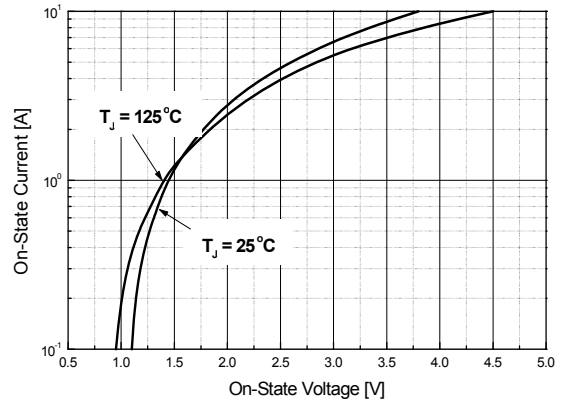


Fig 3. On State Current vs. Maximum Power Dissipation

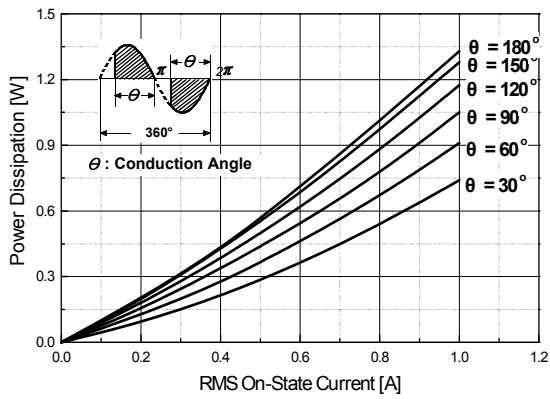


Fig 4. On State Current vs. Allowable Case Temperature

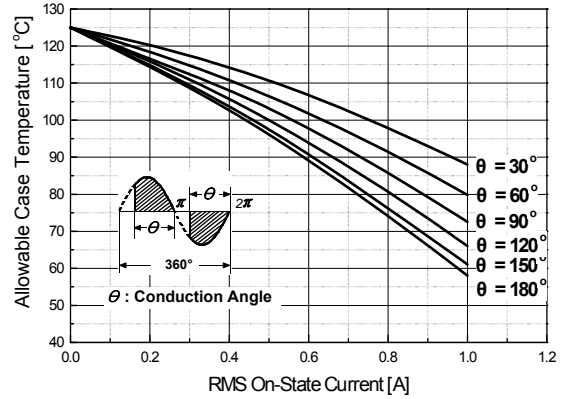


Fig 5. Surge On-State Current Rating (Non-Repetitive)

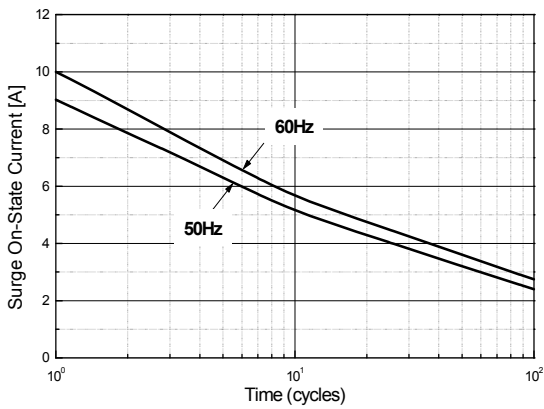


Fig 6. Gate Trigger Voltage vs. Junction Temperature

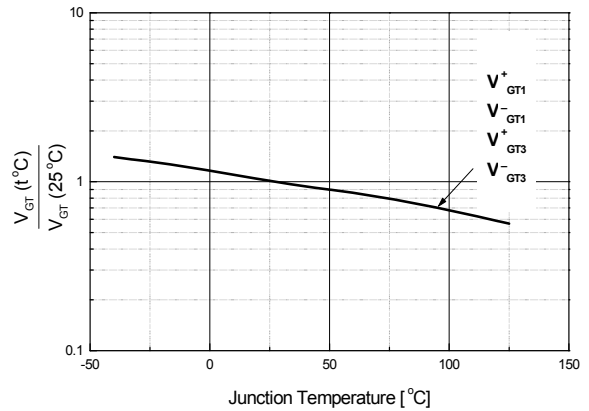




Fig 7. Gate Trigger Current vs. Junction Temperature

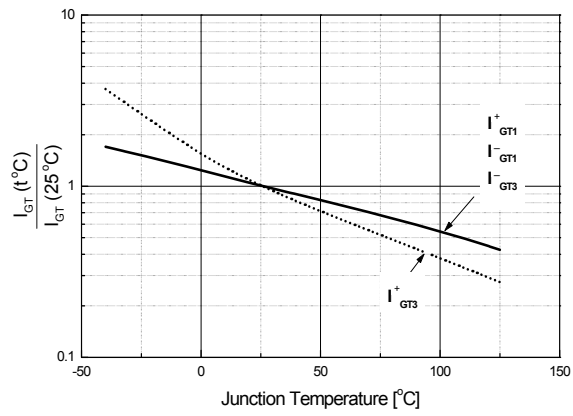
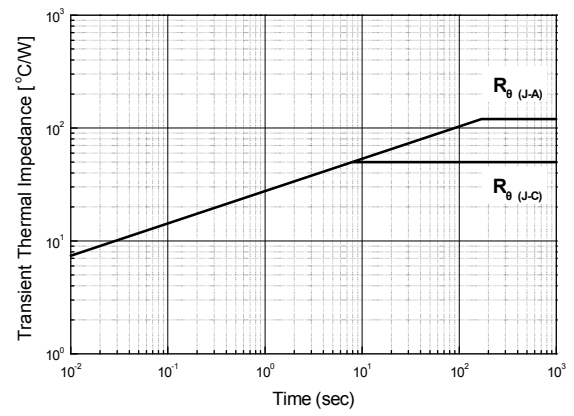


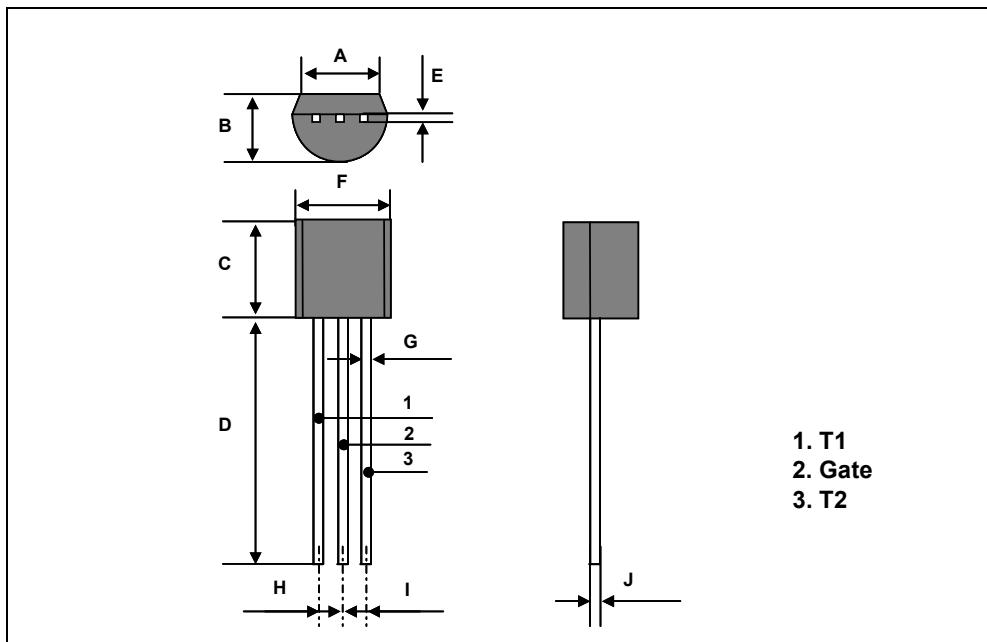
Fig 8. Transient Thermal Impedance





TO-92 Package Dimension

Dim.	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		4.2			0.165	
B			3.7			0.146
C	4.43		4.83	0.174		0.190
D	14.07		14.87	0.554		0.585
E			0.4			0.016
F	4.43		4.83	0.174		0.190
G			0.45			0.017
H		2.54			0.100	
I		2.54			0.100	
J	0.33		0.48	0.013		0.019





TO-92 Package Dimension, Forming

Dim.	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		4.2			0.165	
B			3.7			0.146
C	4.43		4.83	0.174		0.190
D	14.07		14.87	0.554		0.585
E			0.4			0.016
F	4.43		4.83	0.174		0.190
G			0.45			0.017
H		2.54			0.100	
I		2.54			0.100	
J	0.33		0.48	0.013		0.019
K	4.5		5.5	0.177		0.216
L	7.8		8.2	0.295		0.323
M	1.8		2.2	0.070		0.086
N	1.3		1.7	0.051		0.067

