

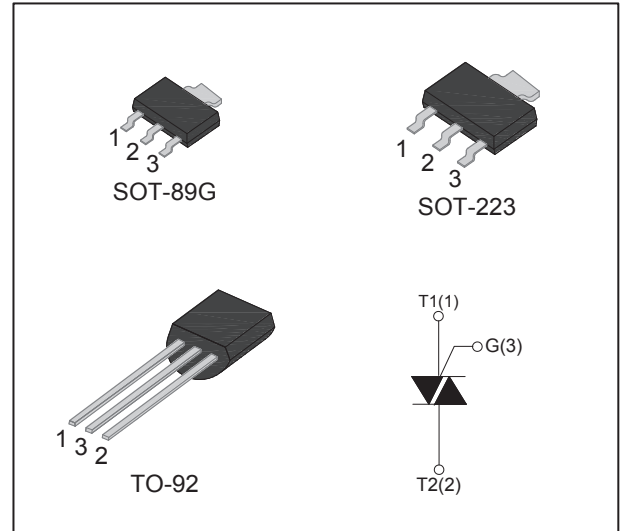
1A TRIACs

Features

- Glass passivated chip junction
- High voltage and surge capability
- Low thermal resistance and durability
- Triggering in four quadrants
- Pb-free
- RoHS compliant
- SMD device halogen free

Applications

- Static relays
- Heating regulation
- Induction motor starting circuits
- Phase control operation in light dimmers
- Motor speed controllers



Main Features

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
V_{DRM} / V_{RRM}	600 / 800	V

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{STG}	-40 to 150	°C
Operating junction temperature range	T_J	-40 to 125	°C
Repetitive peak off-state voltage ($T_J = 25^\circ\text{C}$)	V_{DRM}	600 / 800	V
Repetitive peak reverse voltage ($T_J = 25^\circ\text{C}$)	V_{RRM}	600 / 800	V
RMS on-state current	SOT-89G ($T_C=70^\circ\text{C}$)	1	A
	SOT-223 ($T_C=70^\circ\text{C}$)		
	TO-92 ($T_C=51^\circ\text{C}$)		
Non repetitive surge peak on-state current (180° conduction angle, $F = 50\text{Hz}$, $t_p = 20\text{ms}$, full cycle)	I_{TSM}	12	A
I^2t value for fusing ($t_p = 10\text{ms}$)	I^2t	0.72	A^2s
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$, $t_r \leq 100\text{ns}$)	dI/dt	20	$\text{A}/\mu\text{s}$
Peak gate current	I_{GM}	1	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W

Electrical Characteristics ($T_J = 25^\circ\text{C}$ unless otherwise specified)

Standard (4 Quadrants)

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	$V_D = 12\text{V}, R_L = 100\Omega$	I - II - III	MAX	3	mA
		IV		7	
V_{GT}	$V_D = 12\text{V}, R_L = 100\Omega$	ALL	MAX	1.3	V
V_{GD}	$V_D = V_{DRM}, T_J = 125^\circ\text{C}$	ALL	MIN	0.2	V
I_L	$I_G = 1.2 \times I_{GT}$	I - III	MAX	5	mA
		II - IV		15	
I_H	$V_{AK} = 12\text{V}, I_{GK} = 100\text{mA}$		MAX	5	mA
dV/dt	$V_D = 67\% V_{DRM}, \text{Gate open}, T_J = 125^\circ\text{C}$		MIN	20	V/ μs

Static Characteristics

Symbol	Test Condition			Value	Unit
V_{TM}	$I_{TM} = 1.4\text{A}, t_p = 380\mu\text{s}$	$T_J = 25^\circ\text{C}$	MAX	1.5	V
I_{DRM} I_{RRM}	$V_D = V_{DRM}, V_R = V_{RRM}$	$T_J = 25^\circ\text{C}$	MAX	5	μA
		$T_J = 125^\circ\text{C}$		5	mA

Thermal Resistances

Symbol	Parameter		Value	Unit
$R_{\theta JC}$	Junction to case(AC)	SOT-89G	30	$^\circ\text{C/W}$
		SOT-223	30	
		TO-92	60	

Ordering Information

Ordering Type	Marking	Package	Quantity	Delivery Mode
BT0107-600BG	B0107-6	SOT-89G	4,000	13" diameter reel
BT0107-800BG	B0107-8	SOT-89G	4,000	13" diameter reel
BT0107-600N	B0107-6	SOT-223	4,000	13" diameter reel
BT0107-800N	B0107-8	SOT-223	4,000	13" diameter reel
BT0107-600A	BT0107-600A	TO-92	1,000	Bag
BT0107-800A	BT0107-800A	TO-92	1,000	Bag

Ordering Information Scheme

BT 01 07 - 600 A

Triac series

BT = 4 Quadrants

$I_{T(RMS)}$

01 = 1A

I_{GT} Sensitivity

07 = 3/3/3/7mA

V_{DRM} / V_{RRM}

600 = 600V

800 = 800V

Package type

BG = SOT-89G

N = SOT-223

A = TO-92

Ratings and Characteristics Curves

Fig.1 - RMS on-state current versus case temperature

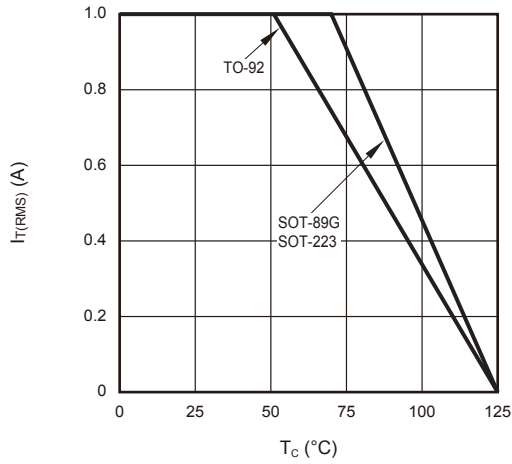


Fig.2 - Surge peak on-state current versus number of cycles

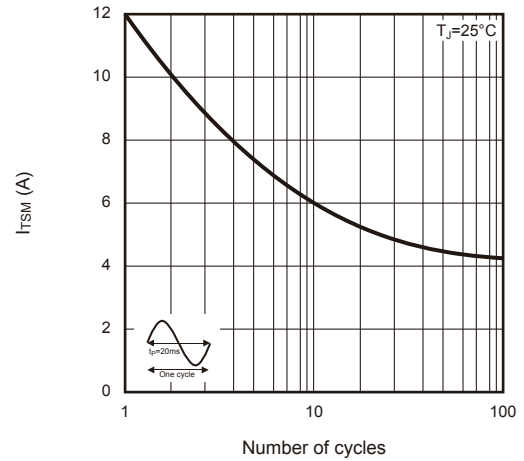


Fig.3 - On-state characteristics (maximum values)

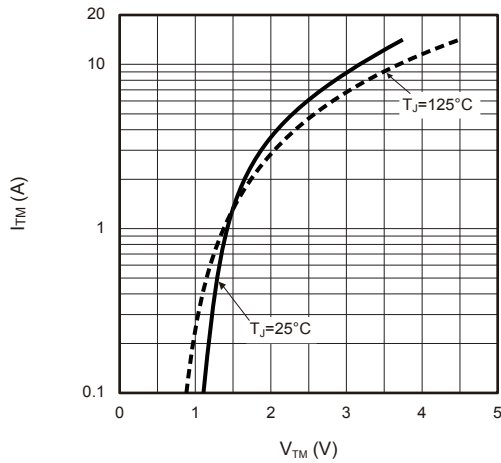


Fig.4 - Maximum power dissipation versus RMS on-state current

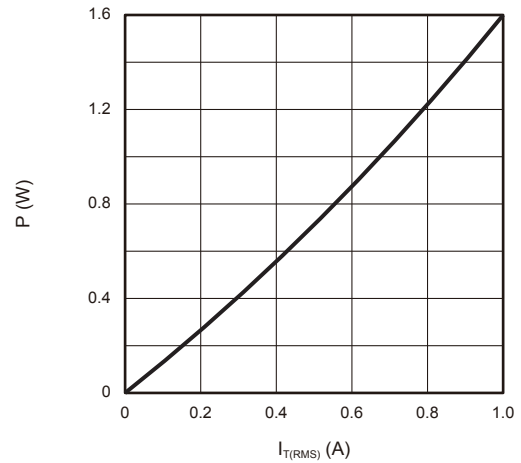
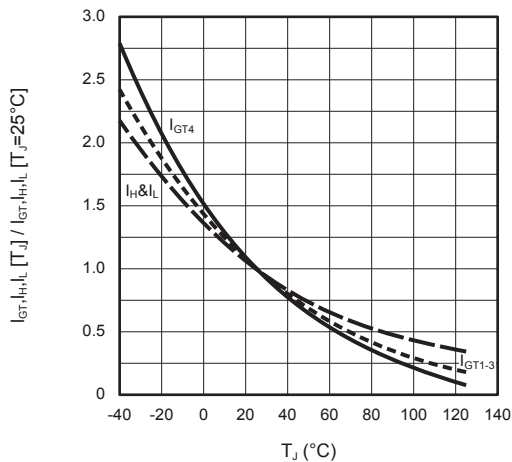
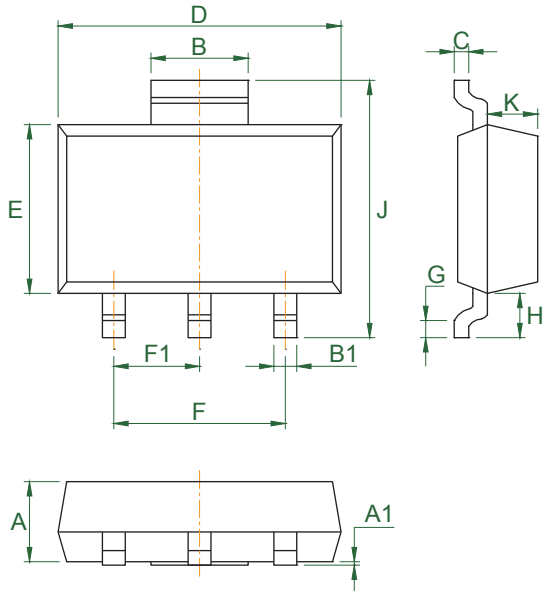


Fig.5 - Relative variations of gate trigger current, holding current and latching current versus junction temperature



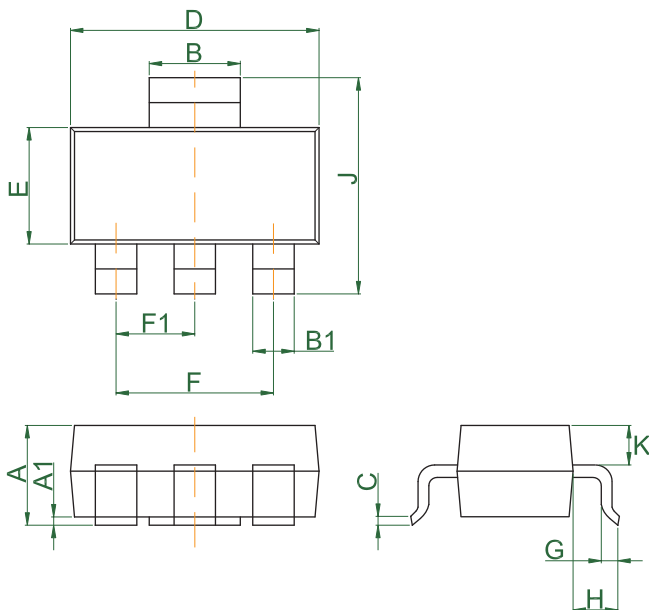
Package Outline Dimensions

SOT-89G



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.3	-	1.5	.051	-	.059
A1	0.01	-	0.1	.001	-	.004
B	1.6	-	1.8	.063	-	.071
B1	0.3	-	0.5	.012	-	.020
C	0.22	-	0.32	.009	-	.013
D	4.75	-	5.15	.187	-	.203
E	2.75	-	3.15	.108	-	.124
F	-	3.0	-	-	.118	-
F1	-	1.5	-	-	.059	-
G	0.2	-	0.4	.008	-	.016
H	0.58	-	0.98	.023	-	.039
J	4.3	-	4.7	.169	-	.185
K	-	0.88	-	-	.035	-

SOT-223



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	-	1.8	.059	-	.071
A1	0	-	0.12	.000	-	.005
B	2.9	-	3.1	.114	-	.122
B1	0.6	-	0.8	.024	-	.032
C	0.22	-	0.32	.009	-	.013
D	6.2	-	6.7	.244	-	.264
E	3.3	-	3.7	.130	-	.146
F	-	4.6	-	-	.181	-
F1	-	2.3	-	-	.091	-
G	0.7	-	1.1	.028	-	.043
H	1.5	-	2.0	.059	-	.079
J	6.7	-	7.3	.264	-	.287
K	0.8	-	1.0	.031	-	.039

