

4 Quadrants TRIAC

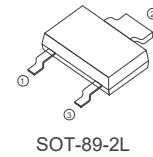
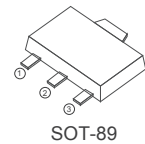
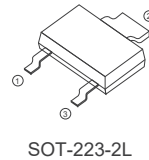
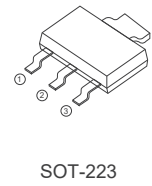
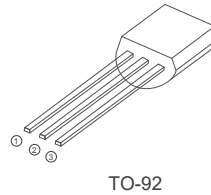
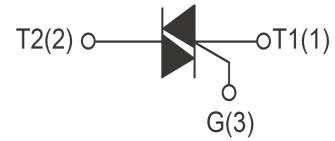
FEATURES

- > $I_T(\text{RMS})$: 1A
- > VGT: 1.2V
- > VDRM VRRM: 600V and 800V

APPLICATIONS

Washing machine, vacuums, massager, solid state relay,

AC Motor speed regulation and so on.



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

Symbol	Parameter	Conditions	Ratings	Unit
VDRM VRRM	Repetitive Peak Off-State Voltage	BT131	600-800	V
$I_T(\text{RMS})$	R.M.S On-State Current	$T_c=110^\circ\text{C}$	1	A
I_{TSM}	Surge On-State Current	$T_p=10\text{ms}$	12	A
I^2t	I^2t for fusing	$T_p=10\text{ms}$	0.72	A^2s
PG(AV)	Average Gate Power Dissipation	$T_j=125^\circ\text{C}$	0.3	W
IGM	Peak Gate Current	$t_p=20\mu\text{s}$ $T_j=125^\circ\text{C}$	1.2	A
T_j	Operating Junction Temperature		$\sim 40\sim 125$	$^\circ\text{C}$
TSTG	Storage Temperature		$\sim 40\sim 150$	$^\circ\text{C}$

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

Symbol	Parameter	Test Conditions	Value	Unit	
IDRM	Repetitive Peak Off-State Current	T _j =25°C	≤10	uA	
		T _j =110°C	≤200	uA	
IRRM	Repetitive Peak Reverse Current	T _j =25°C	≤10	uA	
		T _j =110°C	≤200	uA	
V _{TM}	Forward "on" voltage	I _T =1.6A t _p =380us	≤1.5	V	
V _{GD}	Gate non-trigger voltage	V _D =V _{DRM} , T _j =110°C	≥0.2	V	
I _H	Holding current	V _D =12V, I _{GT} =0.1A	I,II,III	≤5	mA
			IV	≤10	mA
V _{GT}	Gate trigger voltage	V _D =12V	≤1.2	V	
I _{GT}	Gate trigger current	V _D =12V	I,II,III	≤3	mA
			IV	≤7	mA
di/dt	Critical-rate of rise of commutation current.	I _T =1A I _G =0.2A, dI _G /dt=0.2A/us	I,II,III	≥50	A /us
			IV	≥10	A /us
dv/dt	Critical-rate of rise of commutation voltage	T _J =110°C V _D =2/3V _{DRM}	≥30	V/us	

FIG1

Maximum power dissipation versus RMS on-state current

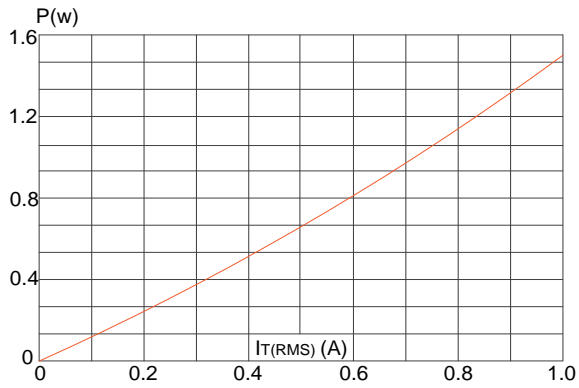


FIG2

RMS on-state current versus case temperature

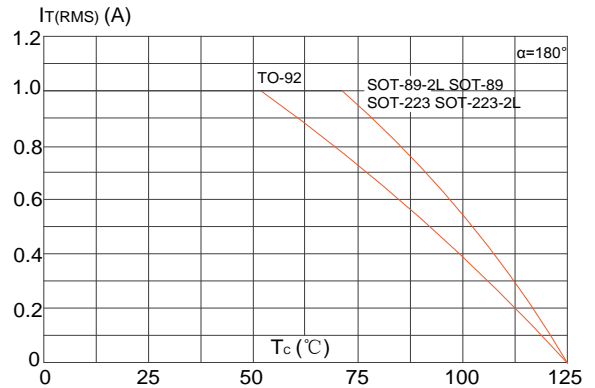


FIG3

Surge peak on-state current versus number of cycles

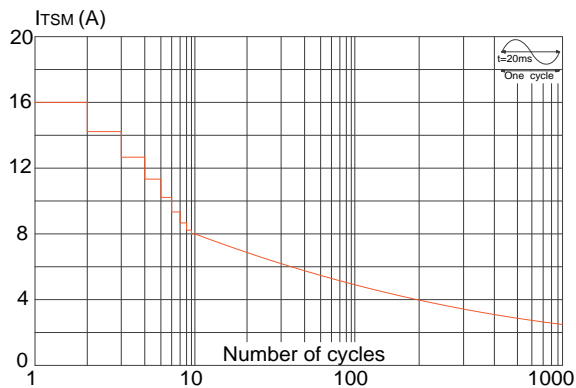


FIG4

On-state characteristics (maximum values)

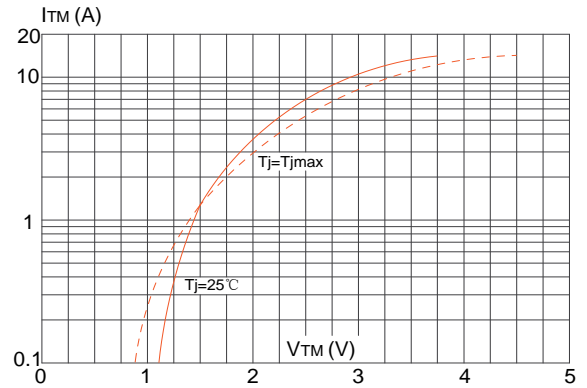


FIG5

Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

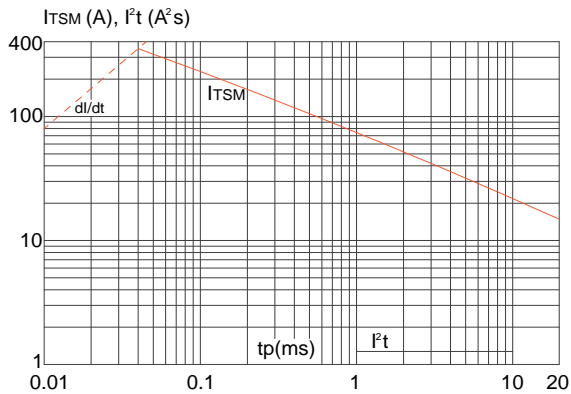
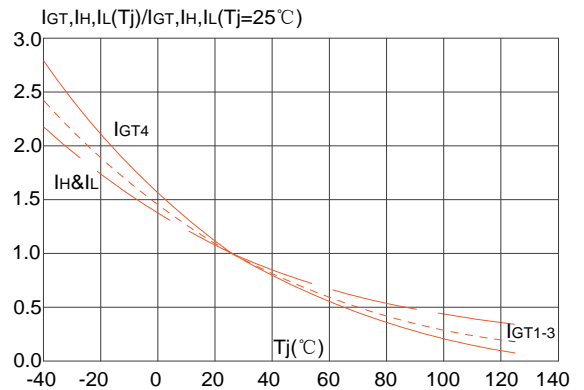
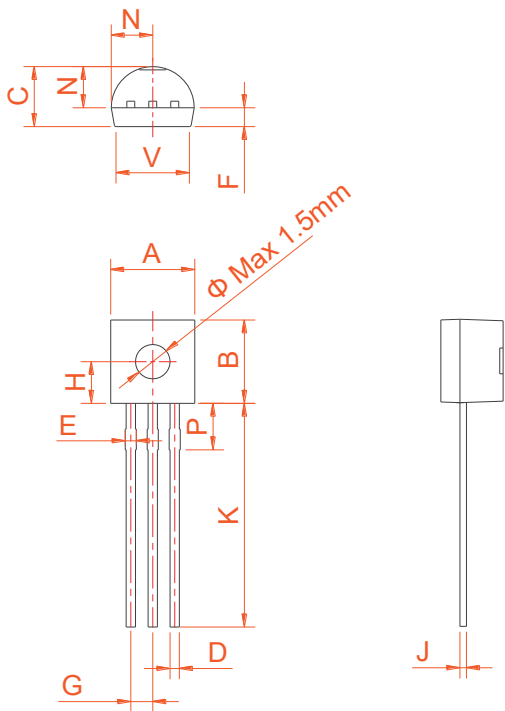


FIG6

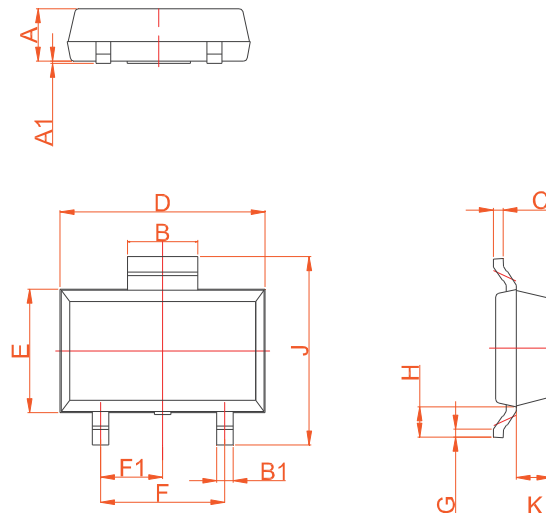
Relative variations of gate trigger current, holding current and latching current versus junction temperature

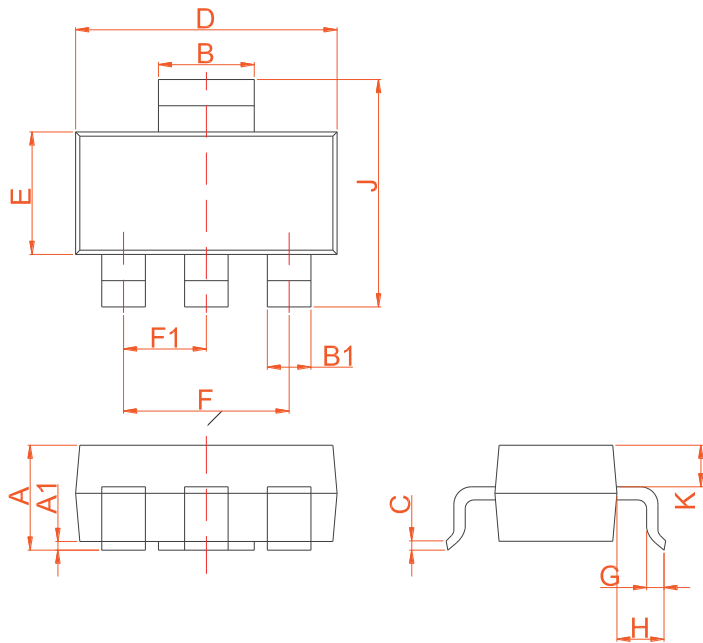


PACKAGE MECHANICAL DATA

TO-92

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.407		0.533	0.016		0.021
E	0.60		0.80	0.024		0.031
F	-	1.1	-	-	0.043	-
G	-	1.27	-	-	0.050	-
H	-	2.30	-	-	0.091	-
J	0.36		0.50	0.014		0.020
K	12.70		15.0	0.500		0.591
N	2.04		2.66	0.080		0.105
P	1.86		2.06	0.073		0.081
V	-		4.3	-		0.169

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.3	1.4	1.5	0.051	0.055	0.059
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	1.6	1.7	1.8	0.063	0.067	0.071
B1	0.3	0.4	0.5	0.012	0.016	0.020
C	0.22	0.254	0.32	0.009	0.010	0.013
D	4.75	4.95	5.15	0.187	0.195	0.203
E	2.75	2.95	3.15	0.108	0.116	0.124
F		3.0			0.118	
F1		1.5			0.059	
G	0.2	0.3	0.4	0.008	0.012	0.016
H	0.58	0.78	0.98	0.023	0.031	0.039
J	4.3	4.5	4.7	0.169	0.177	0.185
K		0.88			0.035	

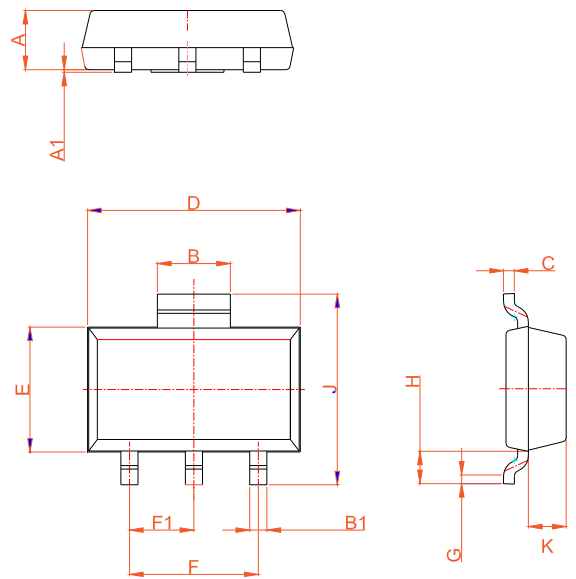

SOT-89-2L

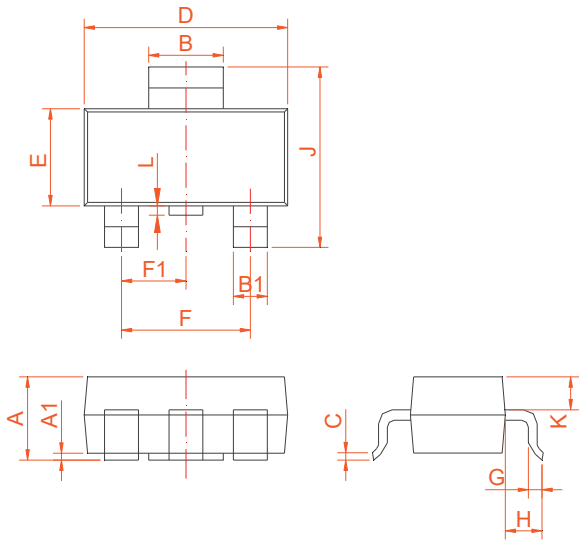
PACKAGE MECHANICAL DATA


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0	0.06	0.10	0	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.26	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	0.146
F		4.6			0.181	
F1		2.3			0.091	
G	0.7	0.9	1.1	0.028	0.035	0.043
H	1.5	1.75	2.0	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K	0.8	0.9	1.0	0.031	0.035	0.039

SOT-223

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.3	1.4	1.5	0.051	0.055	0.059
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	1.6	1.7	1.8	0.063	0.067	0.071
B1	0.3	0.4	0.5	0.012	0.016	0.020
C	0.22	0.254	0.32	0.009	0.010	0.013
D	4.75	4.95	5.15	0.187	0.195	0.203
E	2.75	2.95	3.15	0.108	0.116	0.124
F		3.0			0.118	
F1		1.5			0.059	
G	0.2	0.3	0.4	0.008	0.012	0.016
H	0.58	0.78	0.98	0.023	0.031	0.039
J	4.3	4.5	4.7	0.169	0.177	0.185
K		0.88			0.035	


SOT-89

PACKAGE MECHANICAL DATA

SOT-223-2L

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.50	1.60	1.80	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.90	3.00	3.10	0.114	0.118	0.122
B1	0.60	0.70	0.80	0.024	0.028	0.031
C	0.22	0.254	0.32	0.009	0.010	0.013
D	6.30	6.50	6.70	0.248	0.256	0.264
E	3.30	3.50	3.70	0.130	0.138	0.146
F		4.60			0.181	
F1		2.30			0.091	
G	0.70	0.90	1.10	0.028	0.035	0.043
H	1.50	1.75	2.00	0.059	0.069	0.079
J	6.70	7.00	7.30	0.264	0.276	0.287
K		0.90			0.035	
L	0	0.10	0.20	0	0.004	0.008