

**RS0108 Series 1A TRIACs**

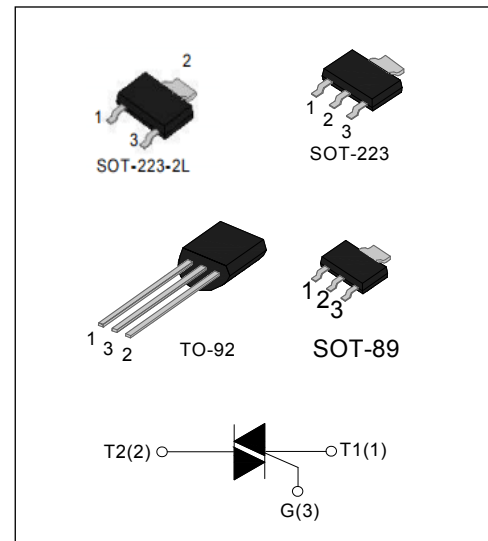
Rev:1.0

**DESCRIPTION:**

With low holding and latching current, RS 0108 series triacs provide high dv/dt rate, and are especially recommended for use on middle and small resistance type powerload.

**MAIN FEATURES**

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
$I_{TSM}$	12	A
$V_{TM}$	$\leq 1.5$	V


**ABSOLUTE MAXIMUM RATINGS**

Parameter	Symbol	Value	Unit	
Storage junction temperature range	$T_{stg}$	-40 - 150	$^{\circ}C$	
Operating junction temperature range	$T_j$	-40 - 125	$^{\circ}C$	
Repetitive peak off-state voltage ( $T_j=25^{\circ}C$ )	$V_{DRM}$	600/800	V	
Repetitive peak reverse voltage ( $T_j=25^{\circ}C$ )	$V_{RRM}$	600/800	V	
Non repetitive surge peak off-state voltage	$V_{DSM}$	$V_{DRM} + 100$	V	
Non repetitive peak reverse voltage	$V_{RSM}$	$V_{RRM} + 100$	V	
RMS on-state current	TO-92 ( $T_C=51^{\circ}C$ )	$I_{T(RMS)}$	1	A
	SOT-89/ SOT-223/ SOT-223-2L ( $T_C=70^{\circ}C$ )			
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	12	A	
$I^2t$ value for fusing ( $t_p=10ms$ )	$I^2t$	0.72	$A^2s$	
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	$di/dt$	50	$A/\mu s$	

Peak gate current	$I_{GM}$	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Peak gate power	$P_{GM}$	5	W

**ELECTRICAL CHARACTERISTICS** ( $T_j=25^\circ\text{C}$  unless otherwise specified)

Symbol	Test Condition	Quadrant		Value	Unit
				S	
$I_{GT}$	$V_D=12V R_L=33\Omega$	I - II -III	MAX	5	mA
$V_{GT}$		ALL	MAX	1.3	V
$V_{GD}$	$V_D=V_{DRM} T_j=125^\circ\text{C}$ $R_L=3.3K\Omega$	ALL	MIN	0.2	V
$I_L$	$I_G=1.2I_{GT}$	I -III	MAX	5	mA
		II		10	
$I_H$	$I_T=200\text{mA}$		MAX	5	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	100	V/ $\mu\text{s}$

**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=1.4A$ $t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.5	V
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	$\mu\text{A}$
$I_{RRM}$		$T_j=125^\circ\text{C}$	500	$\mu\text{A}$

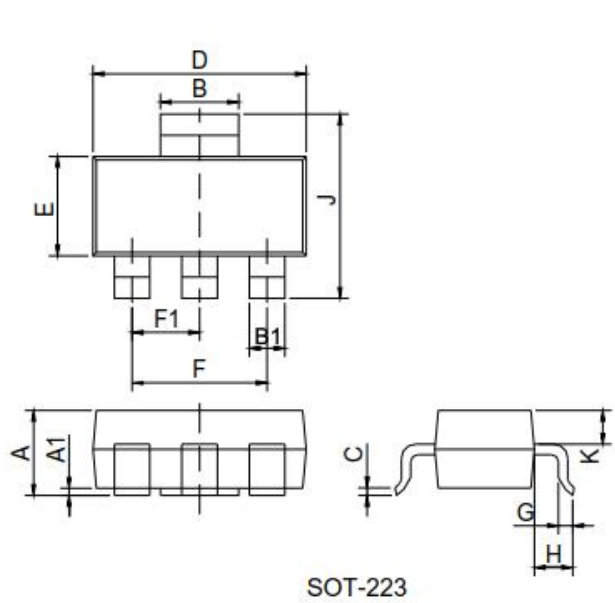
**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-92	60	$^\circ\text{C/W}$
		SOT-89/SOT-223/ SOT-223-2L	31	

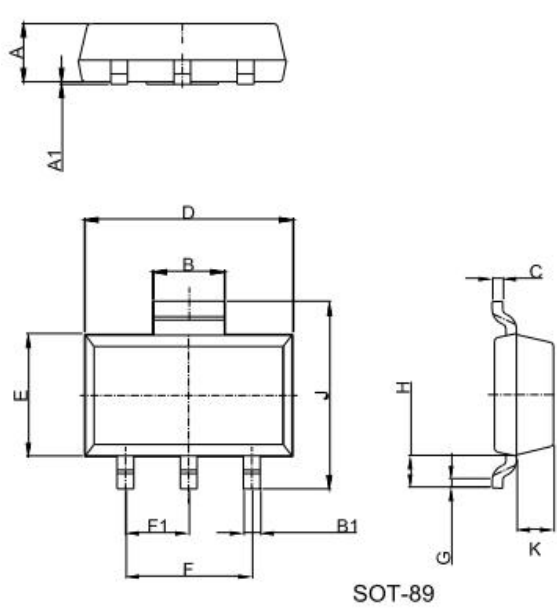
**ORDERING INFORMATION**

SIKA CO.,LIMITED	<b>R</b>	<b>S</b>	<b>01</b>	<b>08</b>	<b>S - U</b>	U:TO-92 W:SOT-223-2L V:SOT-223 E:SOT-89
TRIAC SERIES					S:IGT: 5mA	
			IT(RMS): 1A			
				06: V <sub>DRM</sub> /V <sub>RRM</sub> ≥600V		
				08: V <sub>DRM</sub> /V <sub>RRM</sub> ≥800V		

**PACKAGE MECHANICAL DATA**

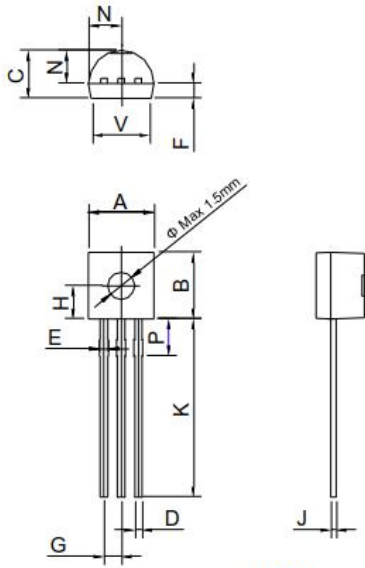


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.26	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	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	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K		0.9			0.035	



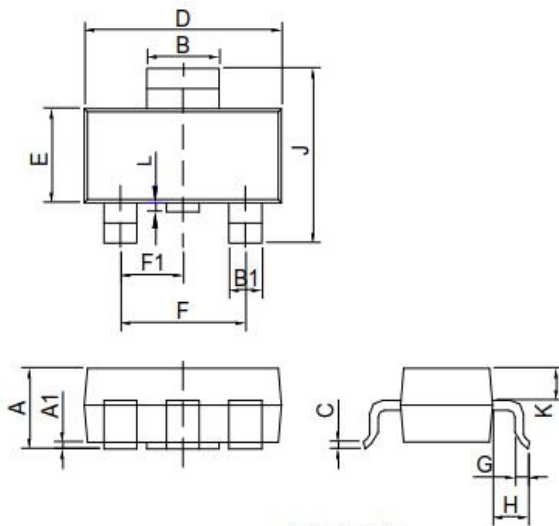
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.3	1.4	1.5	0.051	0.055	0.059
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	1.6	1.7	1.8	0.063	0.067	0.071
B1	0.3	0.4	0.5	0.012	0.016	0.020
C	0.22	0.254	0.32	0.009	0.010	0.013
D	4.75	4.95	5.15	0.187	0.195	0.203
E	2.75	2.95	3.15	0.108	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	

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

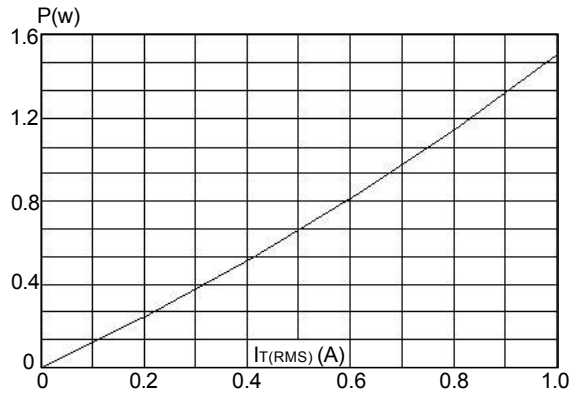


SOT-223-2L

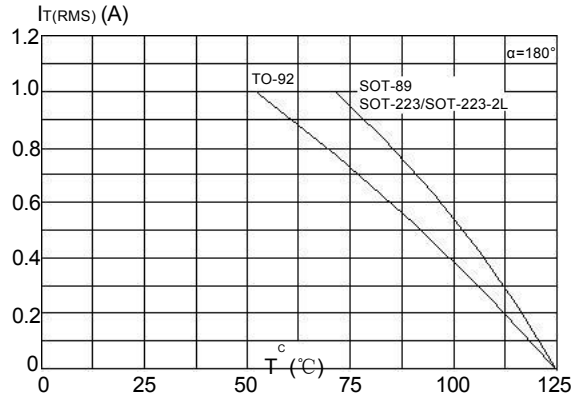
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	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.26	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	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	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K		0.9			0.035	
L	0	0.1	0.2	0	0.004	0.008

**PACKAGE MECHANICAL DATA**

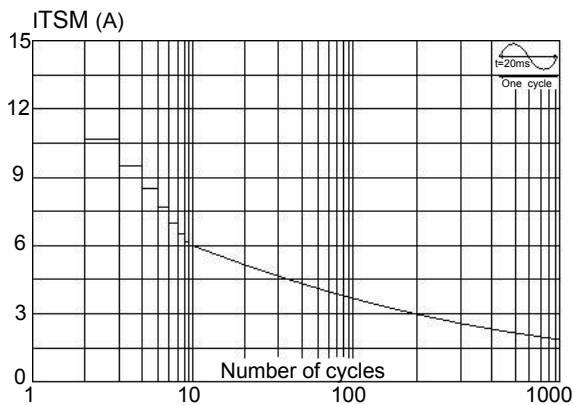
**FIG.1:** Maximum power dissipation versus RMS on-state current



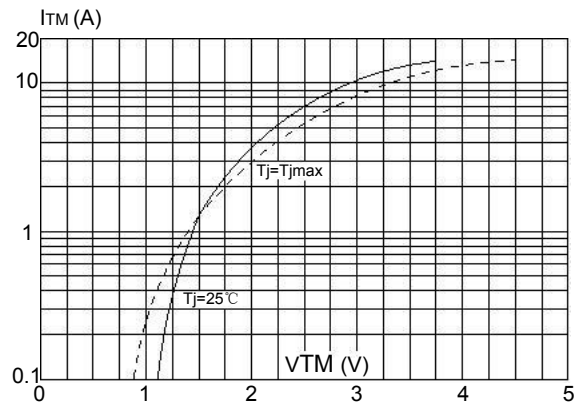
**FIG.2:** RMS on-state current versus case temperature



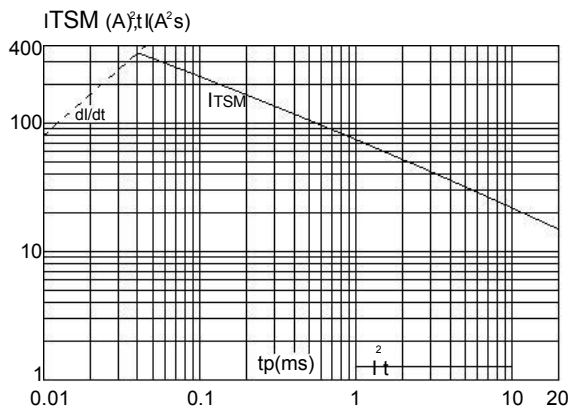
**FIG.3:** Surge peak on-state current versus number of cycles



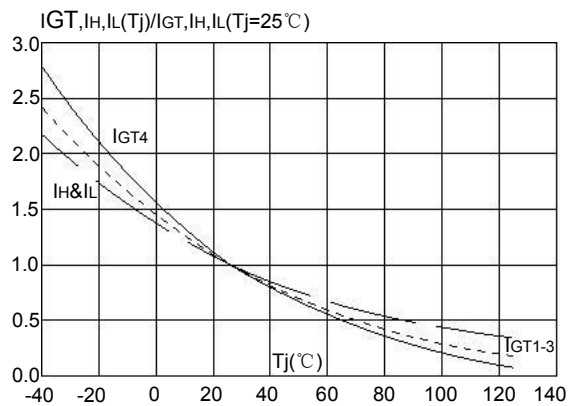
**FIG.4:** On-state characteristics (maximum values)



**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$  and corresponding value of  $I^2t$  ( $di/dt < 20\text{A}/\mu\text{s}$ )



**FIG.6:** Relative variations of gate trigger current, holding current and latching current versus junction temperature



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