

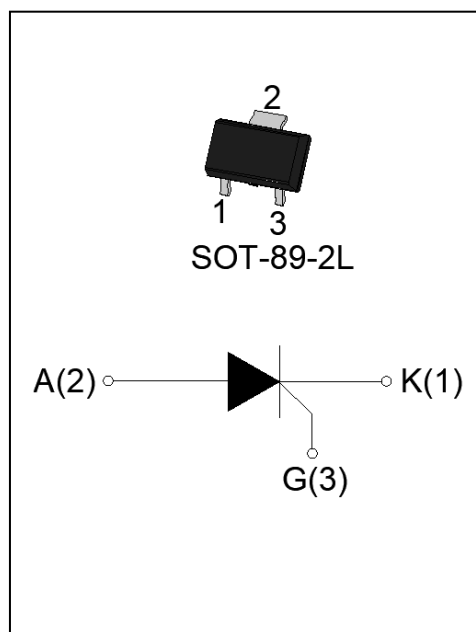


100-8 1A Sensitive SCR

Rev.A.1.0

The 100-8 SCR provides high dV/dt rate with strong resistance to electromagnetic interface. It is especially recommended for use on residual current circuit breaker, straight hair, igniter etc. Package SOT-89-2L is RoHS compliant.

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
V_{DRM} / V_{RRM}	800	V
I_{GT}	200	A



Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	°C
Operating junction temperature range	T_j	-40-125 ^①	°C
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	800	V
Average on-state current ($T_c \leq 72^\circ\text{C}$)	$I_{T(AV)}$	0.6	A
RMS on-state current ($T_c \leq 72^\circ\text{C}$)	$I_{T(RMS)}$	1	A
Non repetitive surge peak on-state current ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	12	A
Non repetitive surge peak on-state current ($t_p=8.3\text{ms}$, $T_j=25^\circ\text{C}$)		13	
I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I^2t	0.72	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100\text{Hz}$, $T_j=125^\circ\text{C}$)	di/dt	100	A/s
Peak gate current ($t_p=20\text{ s}$, $T_j=125^\circ\text{C}$)	I_{GM}	1	A
Average gate power dissipation ($T_j=125^\circ\text{C}$)	$P_{G(AV)}$	0.1	W

Peak gate power	P_{GM}	2	W
Peak pulse voltage ($T_j=25^\circ\text{C}$; non-repetitive, off-state; FIG.8)	V_{pp}	1	kV

NOTE 1: When we parallel connect a 1K resistor between Gate and Cathode, the T_j can reach 125°C ; if without this resistor, the T_j only can reach 110°C .

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V } R_L=33$	-	40	200	A
V_{GT}		-	0.6	0.8	V
V_{GD}	$V_D=V_{DRM } T_j=125^\circ\text{C}$	0.2	-	-	V
I_L	$I_G=1.2 I_{GT}$	-	-	5	mA
I_H	$I_T=0.05\text{A}$	-	-	4	mA
dV/dt	$V_D=540\text{V } T_j=125^\circ\text{C } R_{GK}=1\text{K}$	200	-	-	V/s
	$V_D=540\text{V } T_j=125^\circ\text{C } R_{GK}=\text{---}$	500	-	-	
t_{on}	$I_G=10\text{mA } I_A=20\text{mA } I_R=2\text{mA}$	-	2	-	s
t_{off}	$T_j=25^\circ\text{C}$	-	50	-	

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_T=2\text{A } t_p=380 \text{ s}$	$T_j=25^\circ\text{C}$	1.4	V
V_{TO}	Threshold voltage	$T_j=125^\circ\text{C}$	0.8	V
R_D	Dynamic Resistance	$T_j=125^\circ\text{C}$	0.1	
I_{DRM}	$V_D=V_{DRM } V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	A
I_{RRM}		$T_j=125^\circ\text{C}$	0.2	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	45	$^\circ\text{C/W}$
$R_{th(j-a)}$	junction to ambient (DC, in free air, $S=5\text{cm}^2$)	100	$^\circ\text{C/W}$

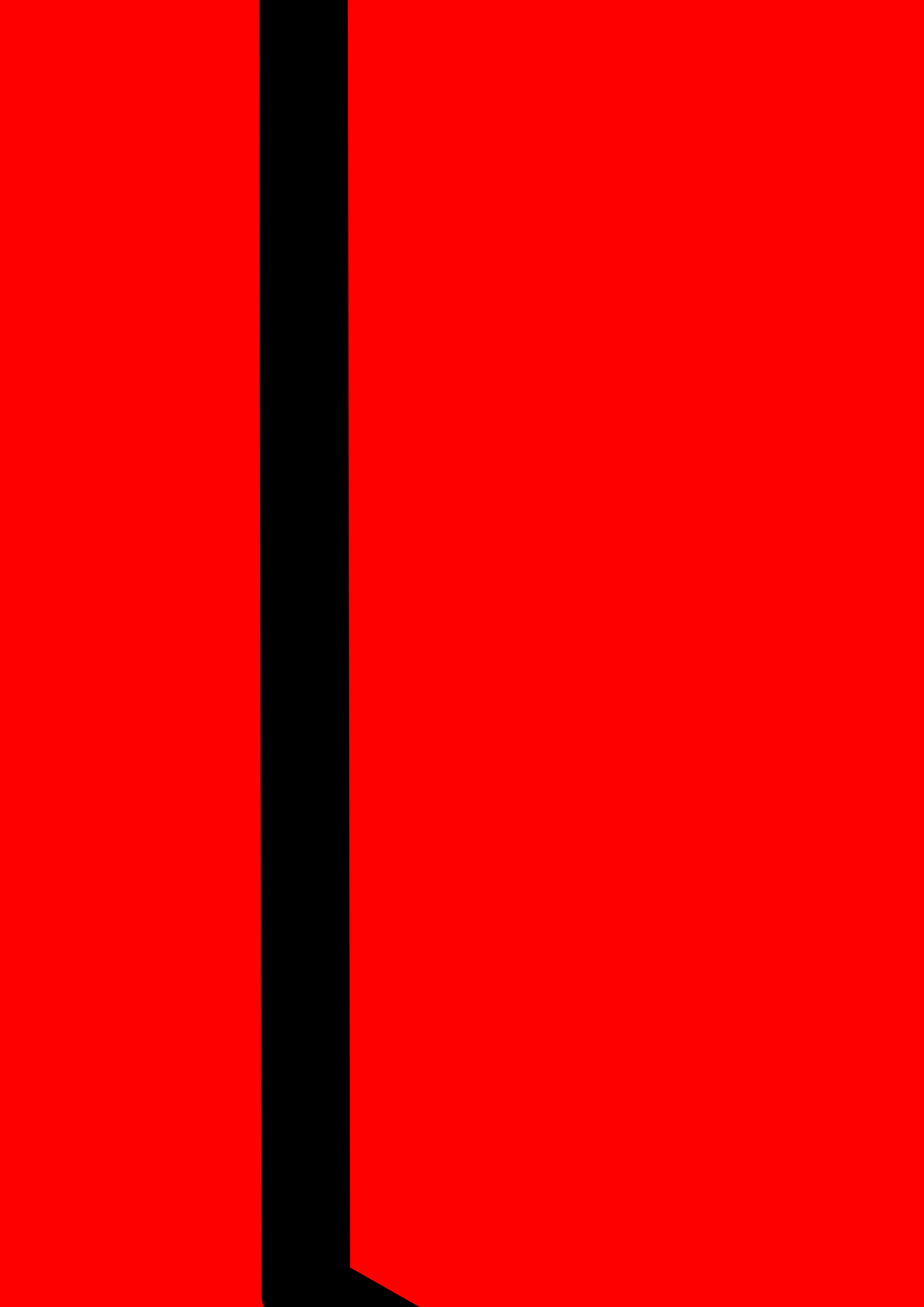
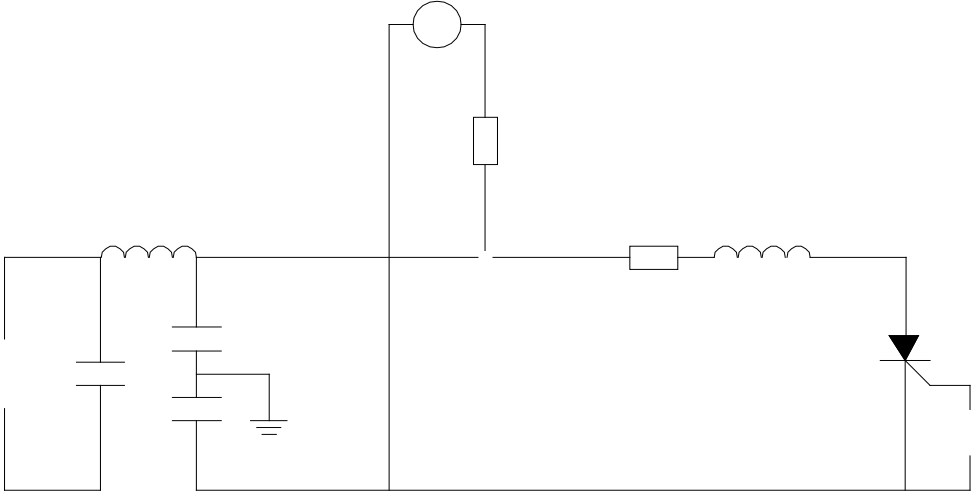


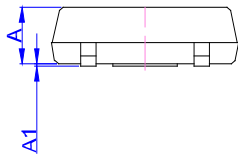
FIG.8: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(μ A)	Package	Base qty. (pcs)	Delivery mode
100-8	800	200	SOT-89-2L	4,000	Tape & Reel

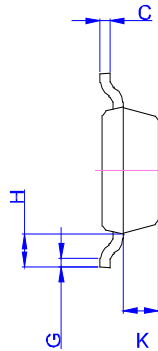
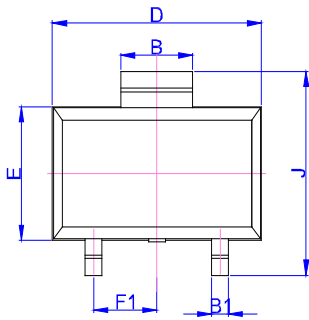
Document Revision History

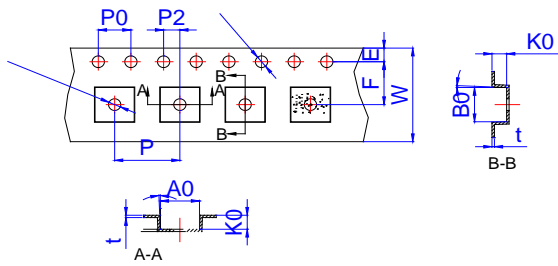
Date	Revision	Changes
Apr.12, 2023	A.1.0	Last update



Dimensions


Ref.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.3	1.4	1.5			





Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
E	1.65	1.75	1.85	0.065	0.069	0.073
F	5.45	5.50	5.55	0.215	0.217	0.219
P2	1.90	2.00	2.10	0.075	0.079	0.082
D	-	1.50	1.60	-	0.059	0.063
D1	1.50			0.059		
P0	3.90	4.00	4.10	0.154	0.157	0.161
10P0	39.80	40.00	40.20	1.567	1.575	1.583
W			12.30			0.482
P	7.90	8.00	8.10	0.311	0.315	0.319
A0	5.20	5.30	5.40	0.204	0.208	0.212
B0	4.80	4.90	5.00	0.188	0.192	0.196
K0	1.75	1.85	1.95	0.069	0.073	0.076
t	0.20	0.25	0.30	0.008	0.010	0.012
	3°		5°	3°		5°

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