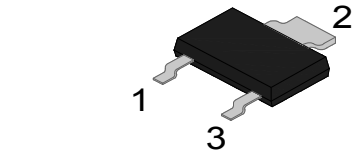
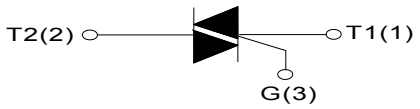
RS0106 Series 1A TRIACs

DESCRIPTION:

With low holding and latching current, RS0106 series triacs are especially recommended for use on middle and small resistance type power load.



SOT-89-2L



MAIN FEATURES

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

ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T_{stg}	-40 - 150	℃
Operating junction temperature range		T_j	-40 - 125	℃
Repetitive peak off-state voltage (T_j=25℃)		V_{DRM}	600/700	V
Repetitive peak reverse voltage (T_j=25℃)		V_{RRM}	600/700	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	SOT-89-2L(T_C=60℃)	$I_{T(RMS)}$	1	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I_{TSM}	9	A
I^2t value for fusing (tp=10ms)		I^2t	0.45	A^2s
Critical rate of rise of on-state current (I_G=2×I_{GT})	Ⅰ-Ⅱ-Ⅲ	dI/dt	50	A/μs
	Ⅳ		20	
Peak gate current		I_{GM}	1	A

Average gate power dissipation	$P_{G(AV)}$	0.1	W
Peak gate power	P_{GM}	1	W

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value		Unit
				S	T	
I_{GT}	V_D=12V	Ⅰ-Ⅱ-Ⅲ	MAX	5	5	mA
		Ⅳ		10	5	
V_{GT}		ALL	MAX	1.3		V
V_{GD}	V_D=V_{DRM} T_j=125℃ R_L=3.3KΩ	ALL	MIN	0.2		V
I_L	I_G=1.2I_{GT}	Ⅰ-Ⅲ-Ⅳ	MAX	10	5	mA
		Ⅱ		20	15	
I_H	I_T=100mA		MAX	7	5	mA
dV/dt	V_D=2/3V_{DRM} Gate Open T_j=125℃		MIN	30	10	V/μs

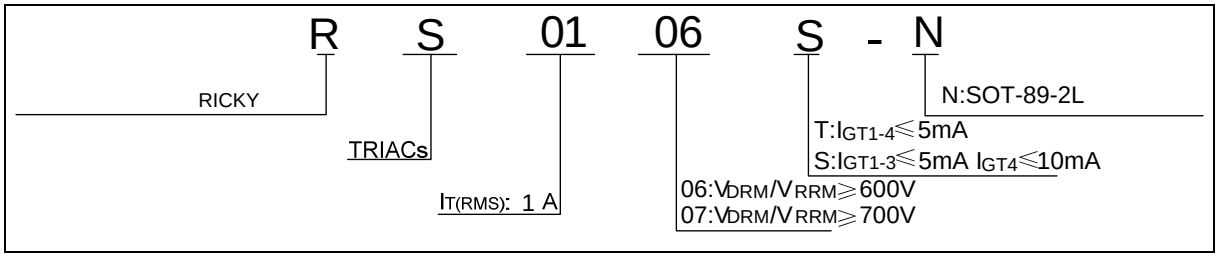
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	I_{TM}=1.1A tp=380μs	T_j=25℃	1.5	V
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25℃	5	μA
I_{RRM}		T_j=125℃	100	μA

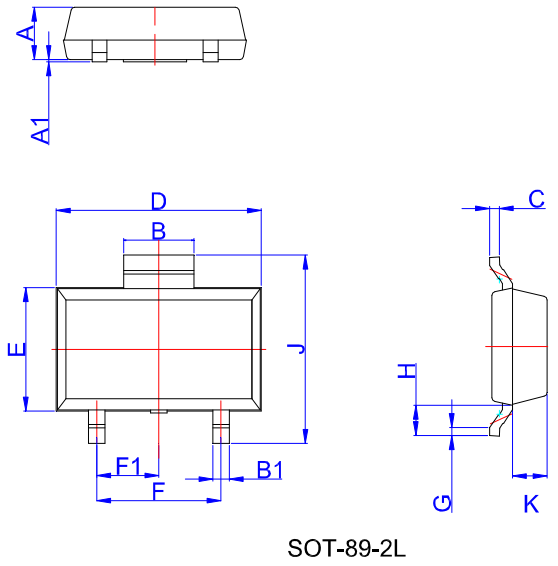
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	SOT-89-2L	60	℃/W

ORDERING INFORMATION



PACKAGE MECHANICAL DATA



SOT-89-2L

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	

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

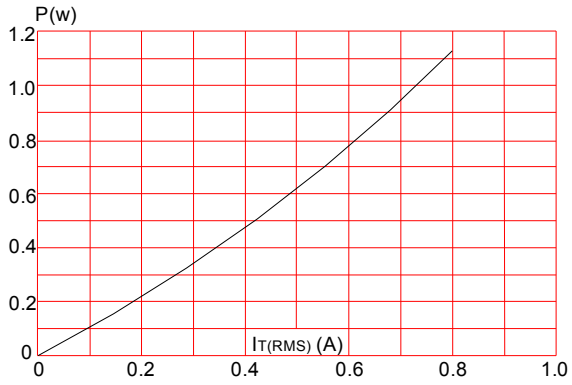


FIG.2: RMS on-state current versus case temperature

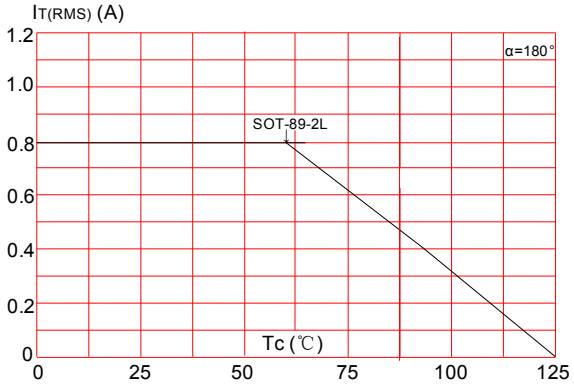


FIG.3: Surge peak on-state current versus number of cycles

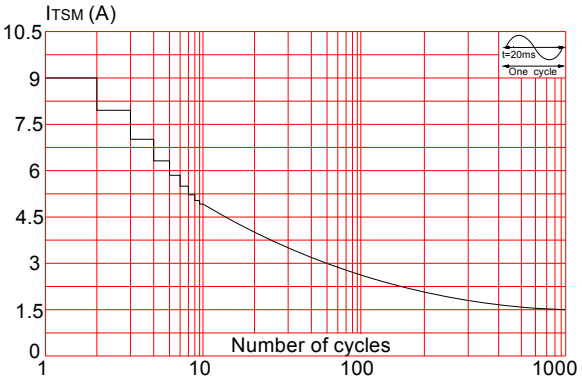


FIG.4: On-state characteristics (maximum values)

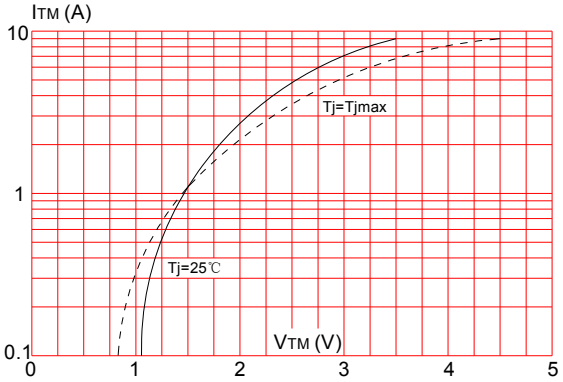


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms (Ⅰ-Ⅱ-Ⅲ:dI/dt < 50A/μs; Ⅳ:dI/dt < 20A/μs)

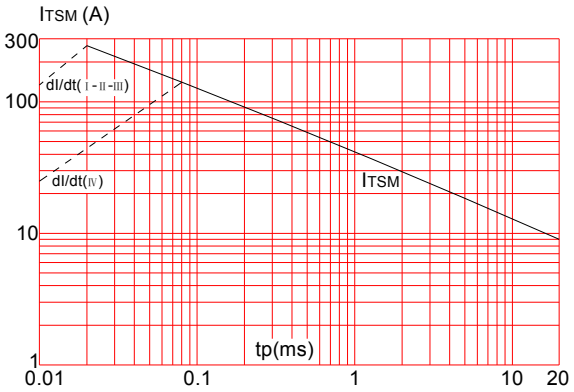
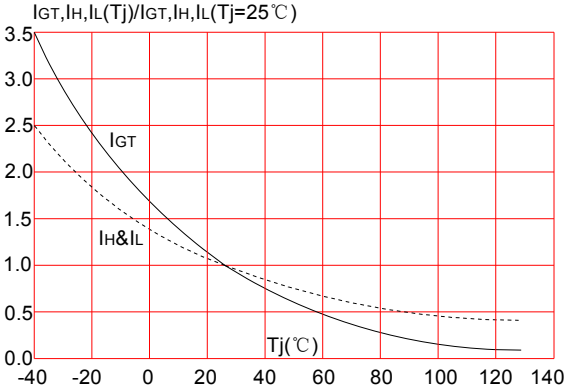


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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