



JST130 Series 0.8A TRIACs

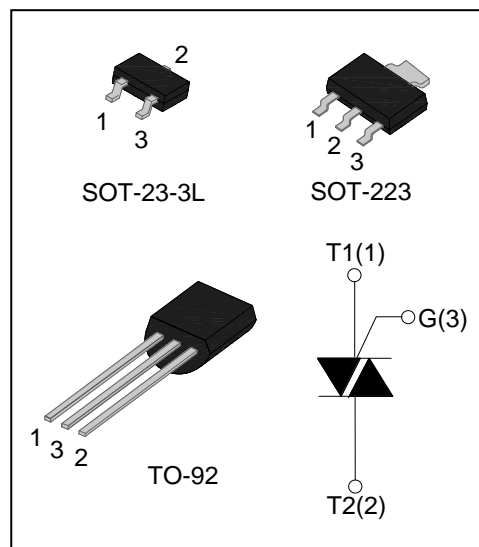
Rev.4.0

DESCRIPTION:

JST130 series triacs with low holding and latching current are especially recommended for use on middle and small resistance type power load.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	0.8	A
V_{TM}	1.5	V



ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T_{stg}	-40 - 150	°C
Operating junction temperature range		T_j	-40 - 125	°C
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)		V_{DRM}	600/700	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)		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	TO-92 ($T_C=50^\circ\text{C}$)	$I_{T(RMS)}$	0.8	A
	SOT-223 ($T_C=65^\circ\text{C}$)			
	SOT-23-3L ($T_C=60^\circ\text{C}$)			
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)		I_{TSM}	9	A
I^2t value for fusing ($t_p=10\text{ms}$)		I^2t	0.4	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	I - II - III	di/dt	50	A/ μs
	IV		10	
Peak gate current		I_{GM}	1	A
Average gate power dissipation		$P_{G(AV)}$	0.1	W

Peak gate power	P_{GM}	1	W
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ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

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

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=1.1\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=125^{\circ}\text{C}$	100	μA

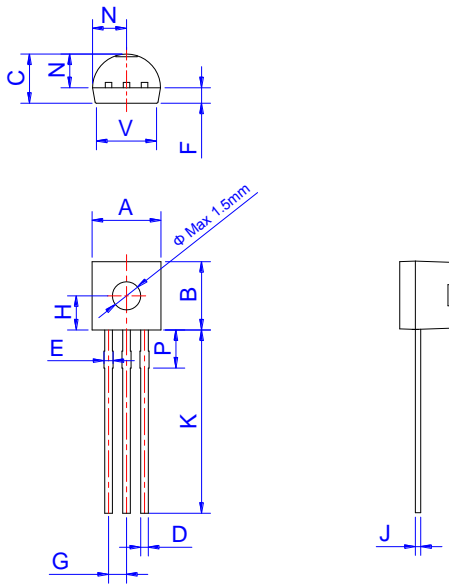
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-92	75	$^{\circ}\text{C/W}$
		SOT-223	45	
		SOT-23-3L	50	

ORDERING INFORMATION

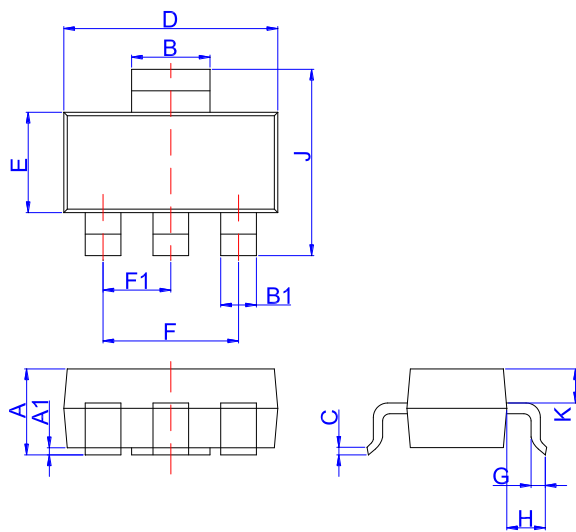
JieJie Microelectronics Co.,Ltd	J	ST	130	U	-600	D
	TRIACs		$I_T(RMS):0.8A$	L:SOT-23-3L U:TO-92 V:SOT-223		T:IGT1-4 \leq 5mA D:IGT1-3 \leq 5mA IGT4 \leq 10mA 600:V _{DRM} /V _{RRM} \geq 600V 800:V _{DRM} /V _{RRM} \geq 800V

PACKAGE MECHANICAL DATA



TO-92

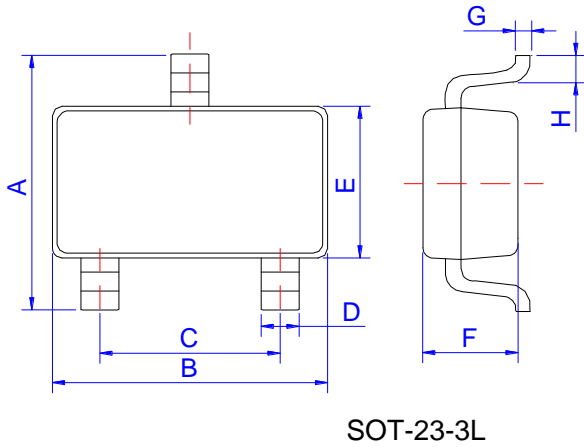
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.407		0.533	0.016		0.021
E	0.60		0.80	0.024		0.031
F	-	1.1	-	-	0.043	-
G	-	1.27	-	-	0.050	-
H	-	2.30	-	-	0.091	-
J	0.36		0.50	0.014		0.020
K	12.70		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

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

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.65		2.95	0.104		0.116
B		2.92			0.115	
C		1.90			0.075	
D	0.34		0.36	0.013		0.014
E		1.60			0.063	
F		1.17			0.046	
G		0.15			0.006	
H	0.25		0.55	0.010		0.022

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

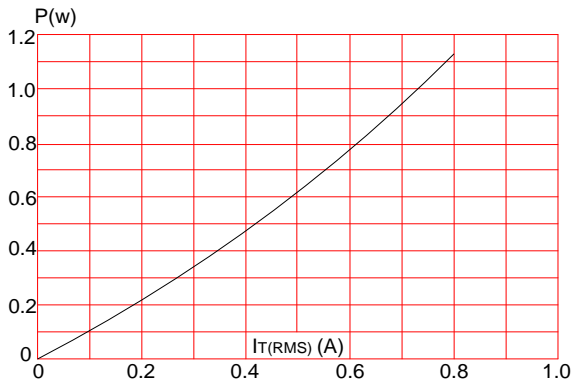


FIG.3: Surge peak on-state current versus number of cycles

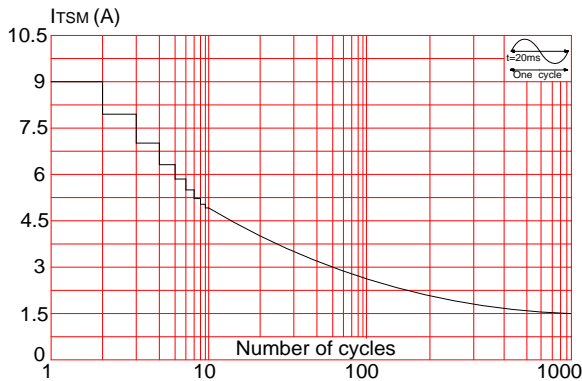


FIG.2: RMS on-state current versus case temperature

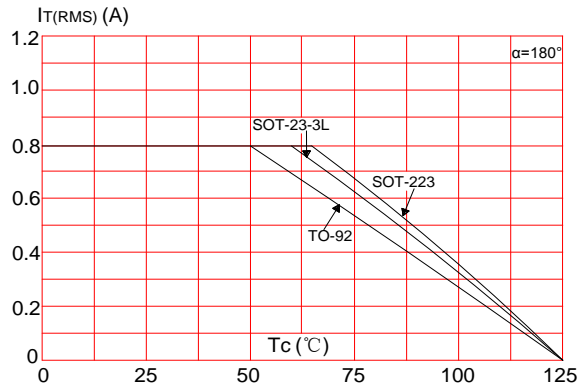


FIG.4: On-state characteristics (maximum values)

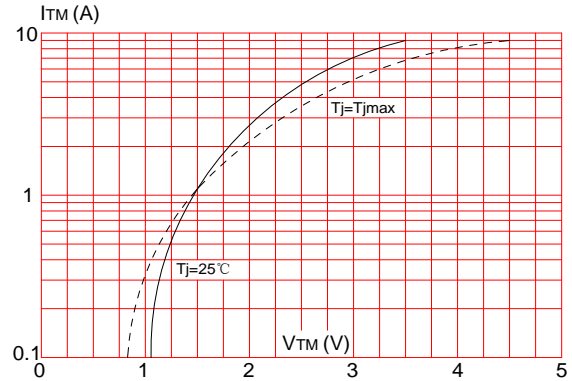


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$
 (I - II - III: $di/dt < 50\text{A}/\mu\text{s}$; IV: $di/dt < 10\text{A}/\mu\text{s}$)

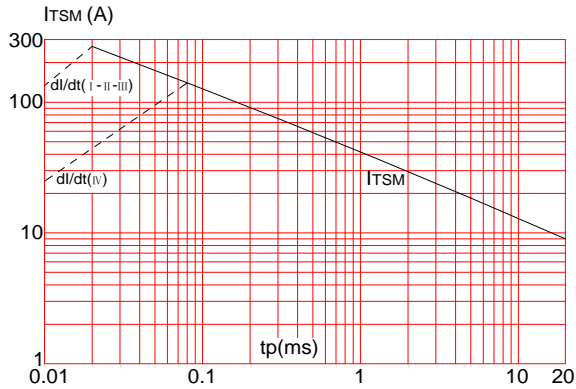
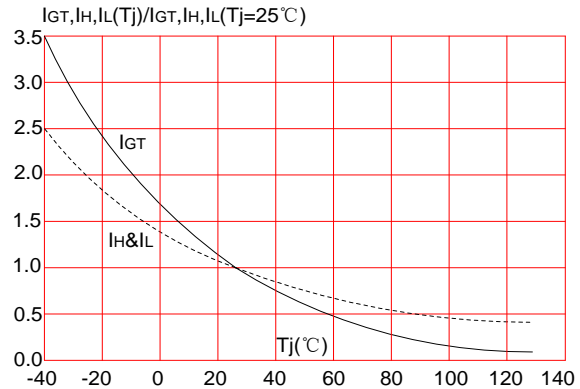


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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