



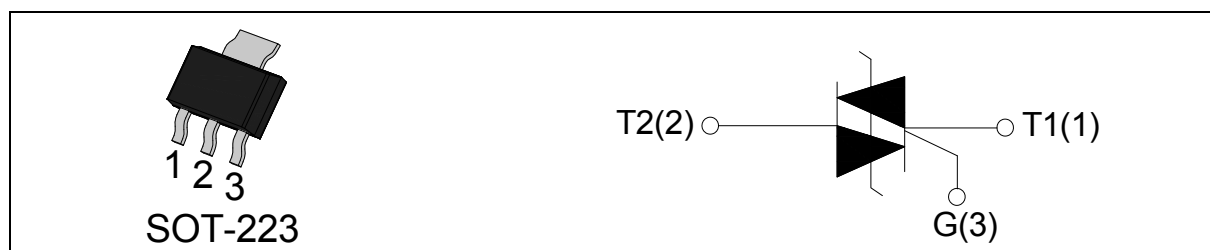
DESCRIPTION:

JST02 series provide high dv/dt rate with strong resistance to electromagnetic interface.

They are especially recommended for use on home appliances such as motor control of washing machine, and for use on industrial control systems like electromagnetic valves.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
I_{GT1-3}	10	mA
V_{DRM}/V_{RRM}	800/1000	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($T_j=25^{\circ}C$)	V_{DRM}	800/1000	V
Repetitive peak reverse voltage($T_j=25^{\circ}C$)	V_{RRM}	800/1000	V
RMS on-state current	$I_{T(RMS)}$	1	A
SOT-223 ($T_C=110^{\circ}C$)			
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	10	A
I^2t value for fusing ($t_p=10ms$)	I^2t	0.5	A^2s
Rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	di/dt	50	$A/\mu s$
Peak gate current	I_{GM}	0.5	A
Average gate power dissipation	$P_{G(AV)}$	0.1	W
Peak gate power	P_{GM}	0.5	W

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

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	I - II -III	MAX	10	mA
V_{GT}		I - II -III	MAX	1.3	V
V_{GD}	$V_D=V_{DRM} T_j=125^{\circ}\text{C}$ $R_L=3.3\text{K}\Omega$	I - II -III	MIN	0.2	V
I_L	$I_G=1.2I_{GT}$	I -III	MAX	20	mA
		II		40	
I_H	$I_T=100\text{mA}$		MAX	15	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	500	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=3.5\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=125^{\circ}\text{C}$	1	mA

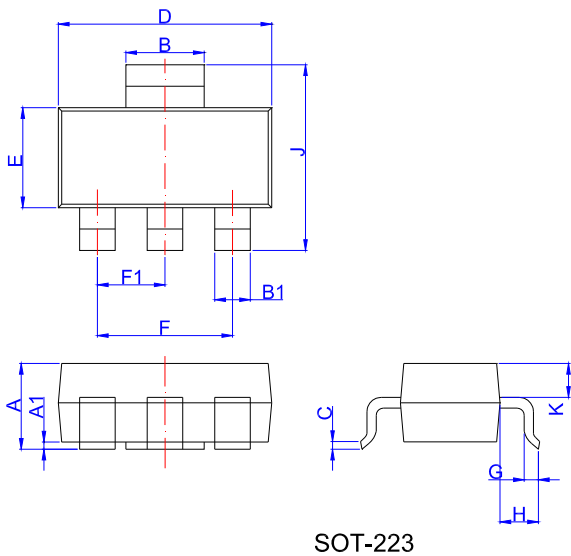
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	SOT-223	9.5	$^{\circ}\text{C/W}$
$R_{th(j-a)}$	junction to ambient		60	

ORDERING INFORMATION

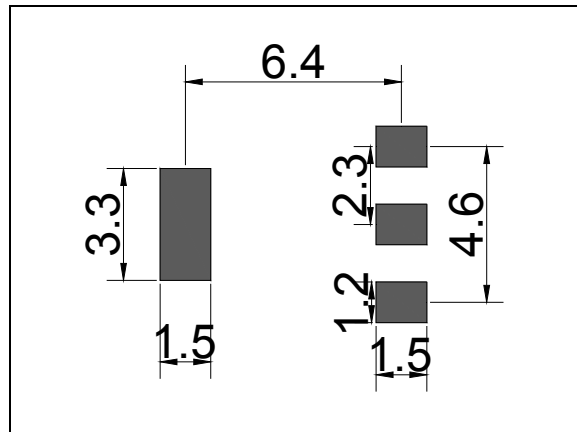
J	ST	02	V	-800	SW
JieJie Microelectronics Co.,Ltd					
Triacs $I_{T(RMS)}:1\text{A}$			$I_{GT1-3} \leq 10\text{mA}$ 800: $V_{DRM} / V_{RRM} \geq 800\text{V}$ 1000: $V_{DRM} / V_{RRM} \geq 1000\text{V}$		
V: SOT-223					

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	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

FOOTPRINT-SOT-223 (dimensions in mm)



PACKAGE INFORMATION

PACKAGE	WEIGHT (PER PCS)	OUTLINE	REEL (PCS)	PER CARTON (PCS)	TAPE & REEL
SOT-223	121mg	TAPING	4,000	40,000	13 inch

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

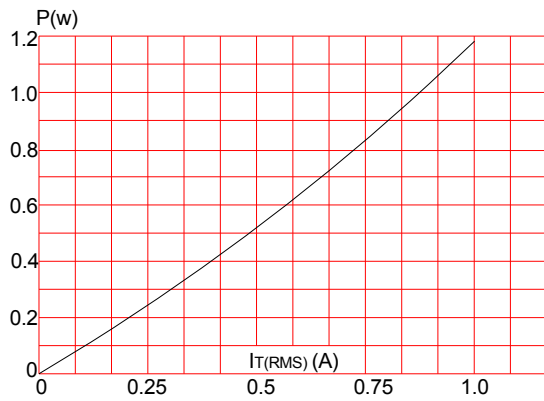


FIG.3: Surge peak on-state current versus number of cycles

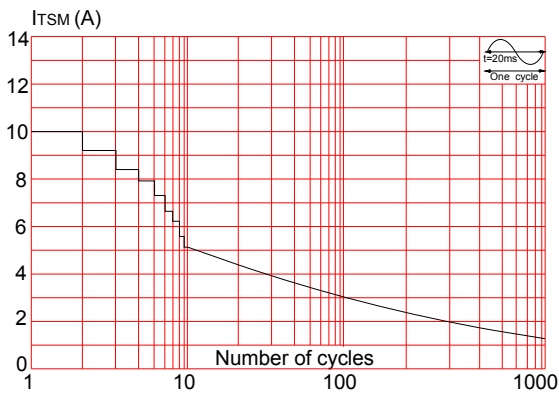


FIG.5: Relative variations of gate trigger current versus junction temperature

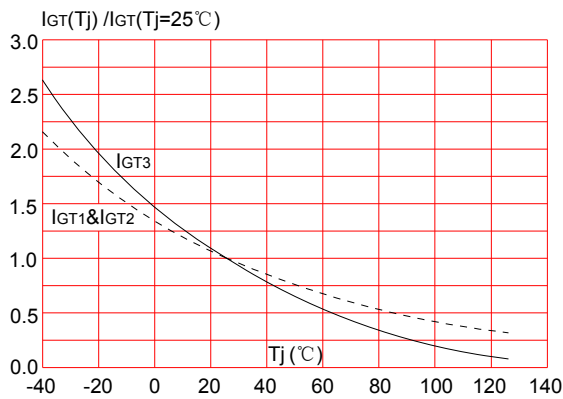


FIG.2: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness:35μm)(full cycle)

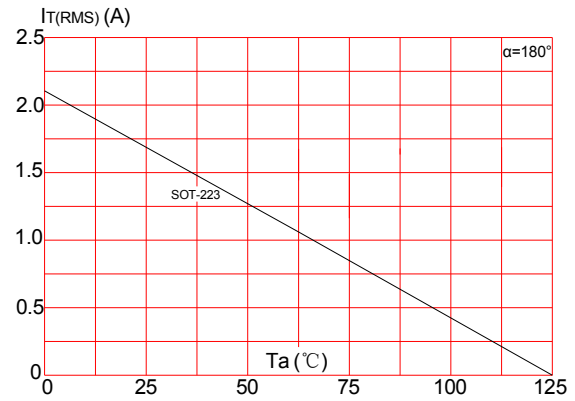


FIG.4: On-state characteristics (maximum values)

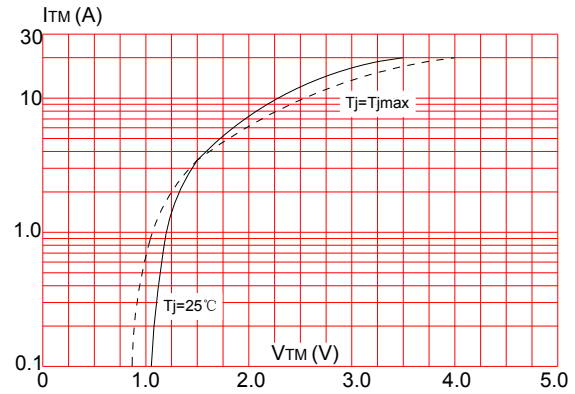
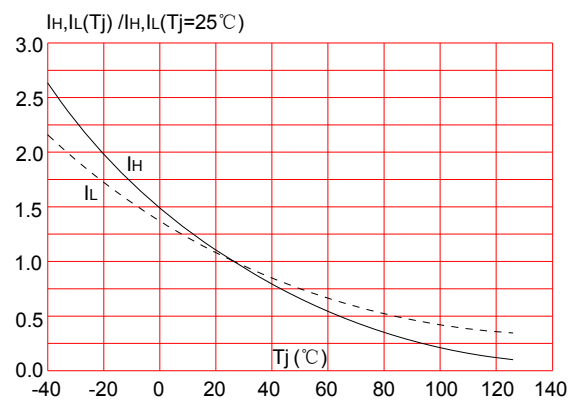
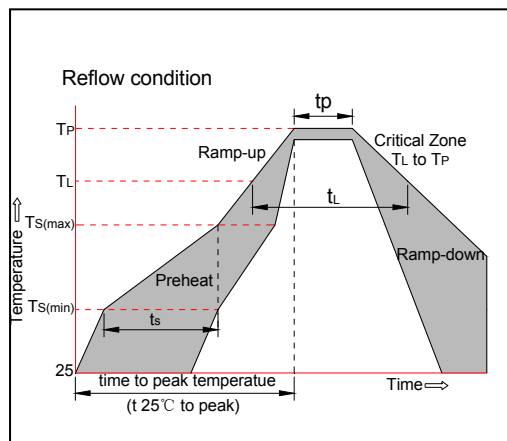


FIG.6: Relative variations of holding current, latching current versus junction temperature




SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max ($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquidus)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C



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