



### DESCRIPTION:

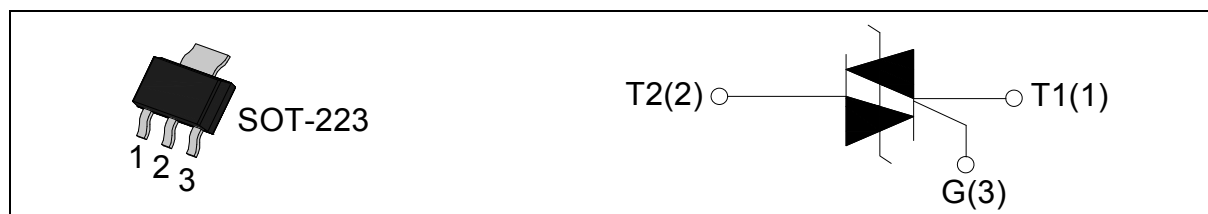
JST01 series provide high dv/dt rate with strong resistance to electromagnetic interface.

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.

Package SOT-223 is RoHS compliant. (2011/65/EU)

### 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	SOT-223 ( $T_C=80^{\circ}C$ ) $I_{T(RMS)}$	1	A
Non repetitive surge peak on-state current ( full cycle, F=50Hz)	$I_{TSM}$	15	A
$I^2t$ value for fusing ( $t_p=10ms$ )	$I^2t$	1.25	$A^2s$
Rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	$di/dt$	50	$A/\mu s$
Peak gate current	$I_{GM}$	1	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	200	V/ $\mu\text{s}$

**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=2\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	$\mu\text{A}$
$I_{RRM}$		$T_j=150^{\circ}\text{C}$	1	mA

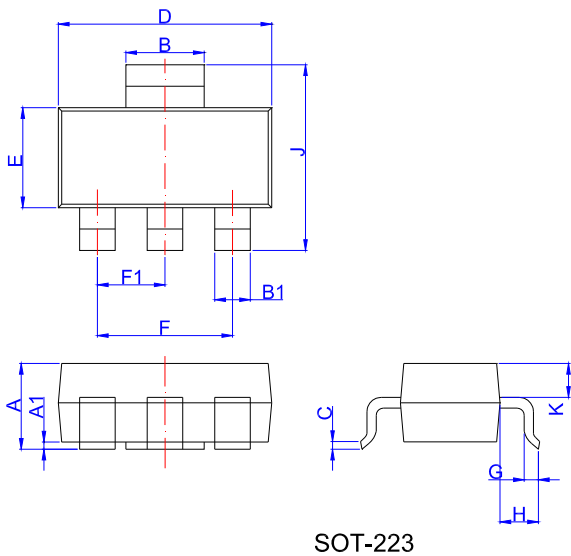
**THERMAL RESISTANCES**

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

**ORDERING INFORMATION**

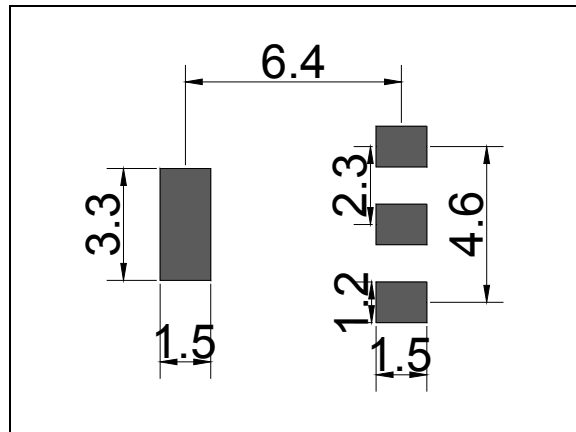
<p><b>J</b></p> <p>JieJie Microelectronics Co.,Ltd</p>	<p><b>ST</b></p> <p>Triacs</p>	<p><b>01</b></p> <p><math>I_{T(RMS)}:1\text{A}</math></p>	<p><b>V</b></p> <p>V: SOT-223</p>	<p><b>-800</b></p> <p>800:<math>V_{DRM} / V_{RRM} \geq 800\text{V}</math> 1000:<math>V_{DRM} / V_{RRM} \geq 1000\text{V}</math></p>	<p><b>SW</b></p> <p><math>I_{GT1-3} \leq 10\text{mA}</math></p>
--------------------------------------------------------	--------------------------------	-----------------------------------------------------------	-----------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------

**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

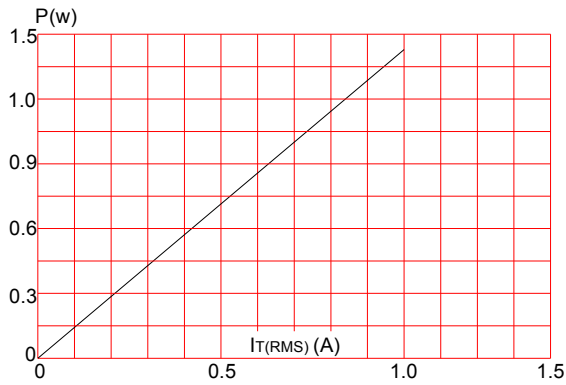
**FOOTPRINT-SOT-223 (dimensions in mm)**



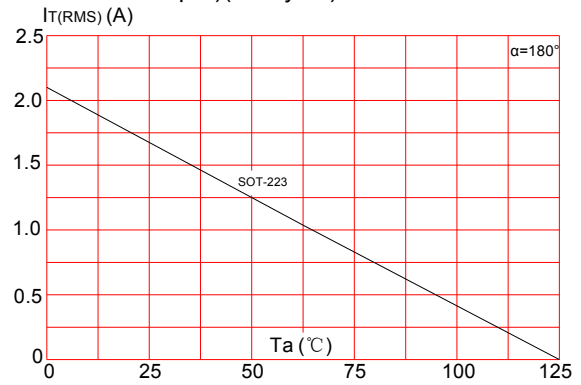
**PACKAGE INFORMATION**

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

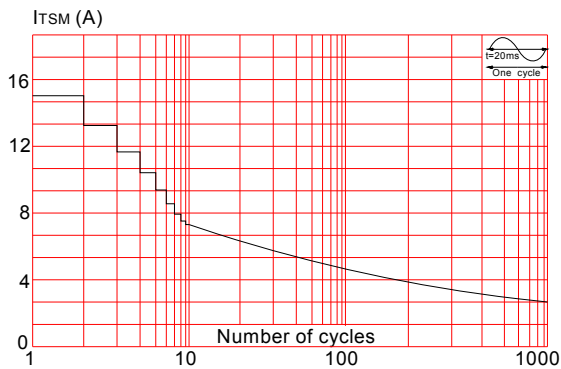
**FIG.1:** Maximum power dissipation versus RMS on-state current



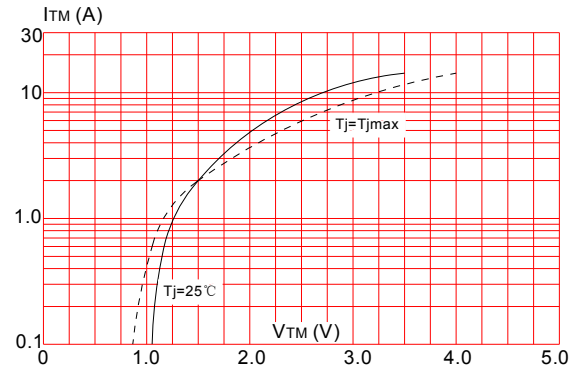
**FIG.2:** RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness:35μm)(full cycle)



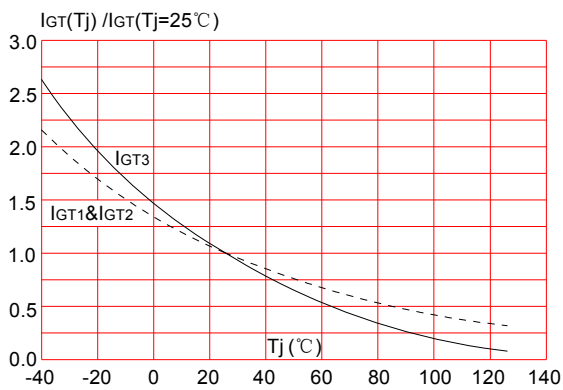
**FIG.3:** Surge peak on-state current versus number of cycles



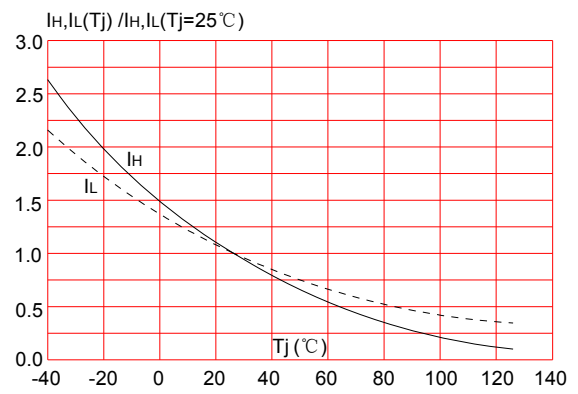
**FIG.4:** On-state characteristics (maximum values)



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

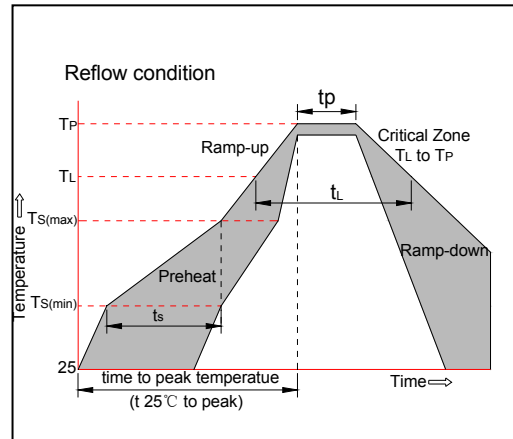


**FIG.6:** Relative variations of holding current, latching current versus junction temperature




**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



Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co.,Ltd assumes no responsibility for the consequences of use without consideration for such information nor use beyond it. Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement. Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information. This document is the second version which is made in 29-May-2019. This document supersedes and replaces all information previously supplied.

 is a registered trademark of Jiangsu JieJie Microelectronics Co.,Ltd.

Copyright©2019 Jiangsu JieJie Microelectronics Co.,Ltd. Printed All rights reserved.