



JHX015V SCRs

Rev.1

DESCRIPTION:

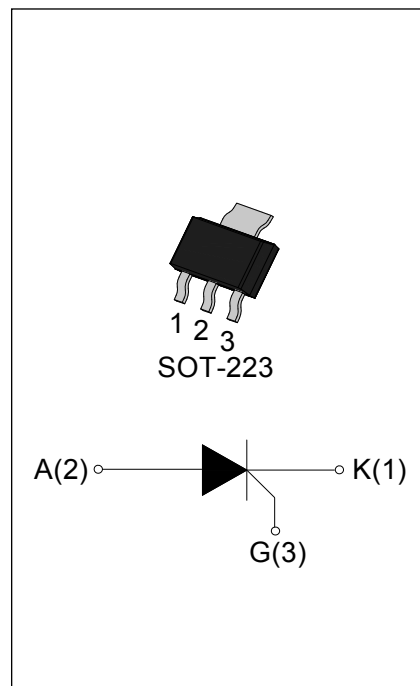
JHX015V with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interference.

They are especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc. Package SOT-223 is RoHS compliant.

(2011/65/EU)

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1.5	A
I_{GT}	≤ 3	mA
V_{DSM}/V_{RSM}	2200	V



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	$^{\circ}C$
Operating junction temperature range	T_j	-40-125	$^{\circ}C$
Repetitive peak off-state voltage	V_{DRM}	1600	V
Repetitive peak reverse voltage	V_{RRM}	1600	V
Non-repetitive peak off-state voltage	V_{DSM}	2200	V
Non-repetitive peak reverse voltage	V_{RSM}	2200	V
RMS on-state current	$I_{T(RMS)}$	1.5	A
SOT-223 ($T_C=75^{\circ}C$)			
Non repetitive surge peak on-state current (tp=10ms)	I_{TSM}	15	A
I^2t value for fusing (tp=10ms)	I^2t	1.12	A^2s
Critical rate of rise of on-state current	di/dt	50	$A/\mu s$
Peak gate current (tp=20 μs , $T_j=125^{\circ}C$)	I_{GM}	1	A
Peak gate power (tp=20 μs , $T_j=125^{\circ}C$)	P_{GM}	0.5	W

Average gate power dissipation($T_j=125^\circ\text{C}$)	$P_{G(AV)}$	0.1	W
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ELECTRICAL CHARACTERISTICS ($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12V R_L=33\Omega$	-	-	3	mA
V_{GT}		-	-	1.5	V
V_{GD}	$V_D=V_{DRM} T_j=125^\circ\text{C}$	0.2	-	-	V
I_L	$I_G=1.2 I_{GT}$	-	-	15	mA
I_H	$I_T=0.05A$	-	-	10	mA
dV/dt	$V_D=537V T_j=125^\circ\text{C} R_{GK}=1K\Omega$	500	-	-	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=4A t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.7	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	μA
I_{RRM}		$T_j=125^\circ\text{C}$	200	μA

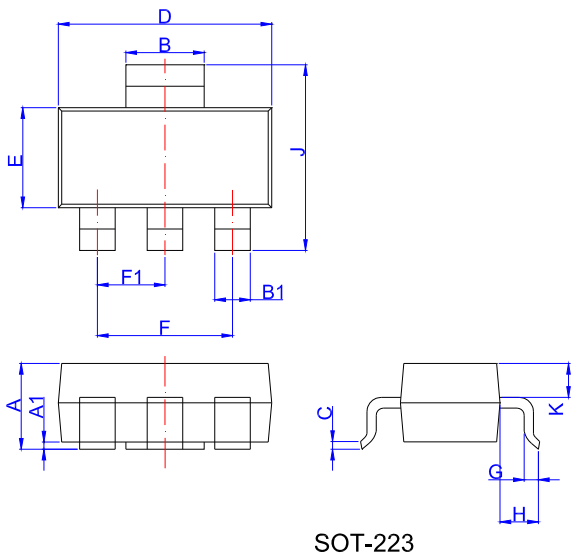
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case	SOT-223	45	$^\circ\text{C/W}$

ORDERING INFORMATION

<p>J H X 015 V</p> <p>JieJie Microelectronics Co.,Ltd</p> <p>High voltage</p>	<p>V</p> <p>$I_{T(RMS)}:1.5A$</p> <p>Small gate trigger SCRs</p>	<p>V</p> <p>V:SOT-223</p>
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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)

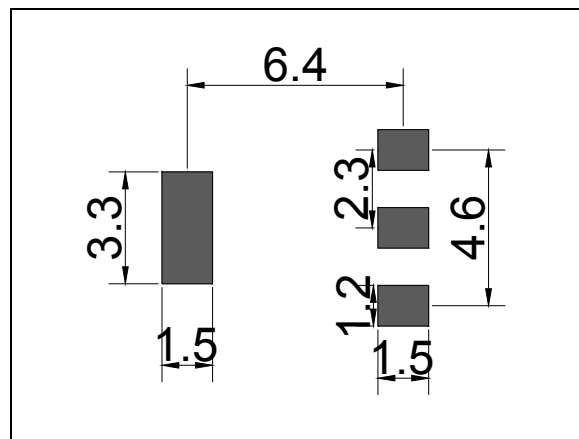


FIG.1: Maximum power dissipation versus RMS on-state current

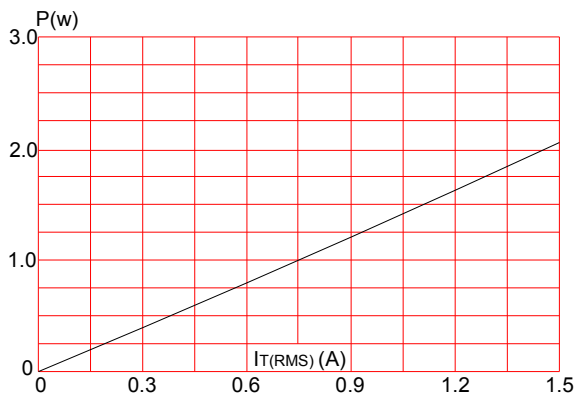


FIG.2: RMS on-state current versus case temperature

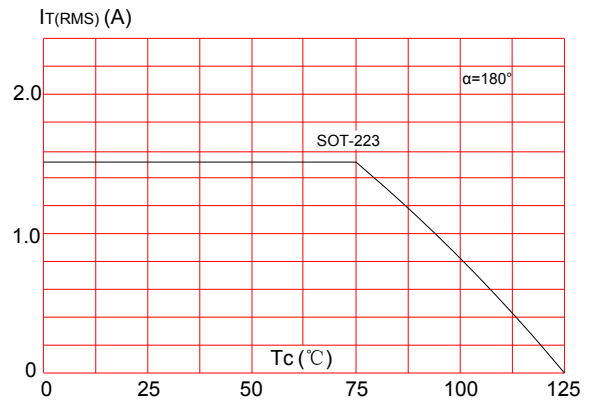


FIG.3: Surge peak on-state current versus number of cycles

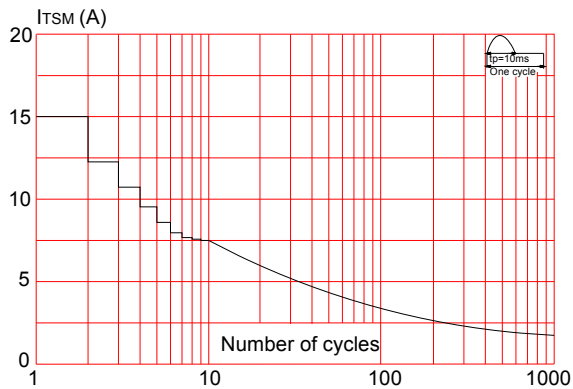


FIG.4: On-state characteristics (maximum values)

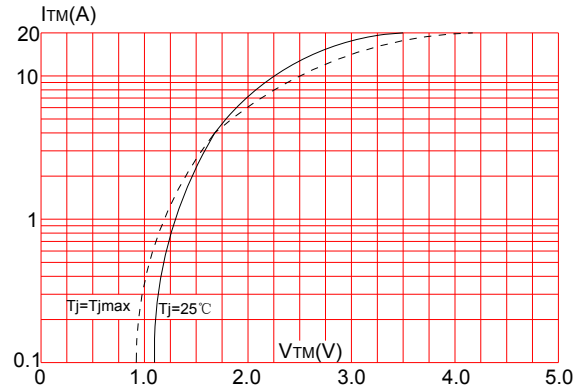


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t

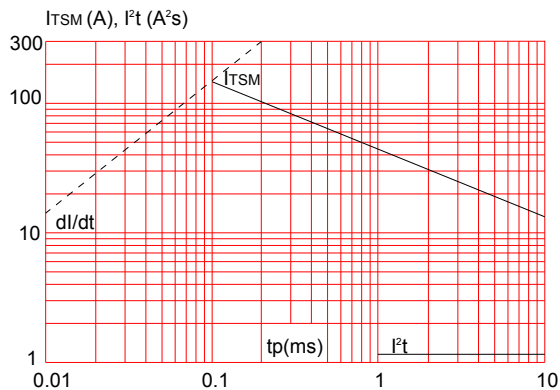
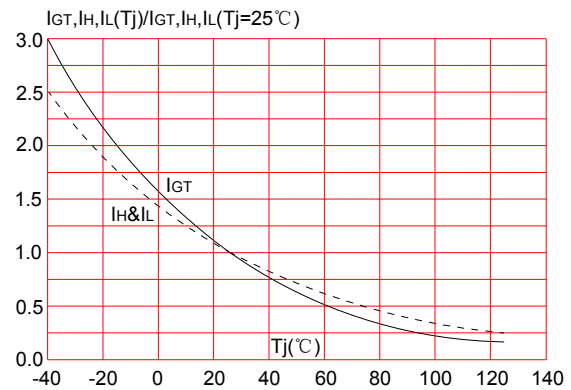



FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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