



JR0405S3 Sensitive gate SCRs

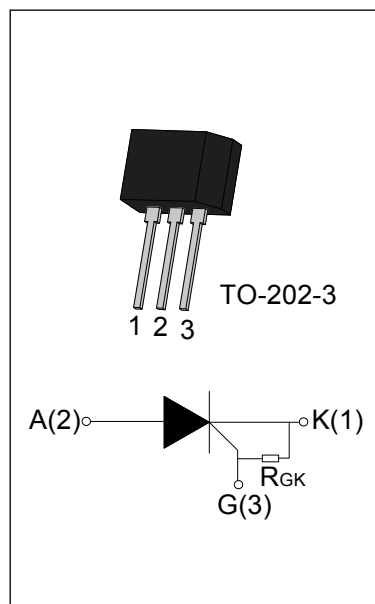
Rev.9.0

DESCRIPTION:

The JR0405S3 SCR with the parallel resistor between Gate and Cathode are especially recommended for use on straight hair, igniter, anion generator, etc. Package TO-202-3 is RoHS compliant.(2011/65/EU)

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
I_{GT}	≤ 200	μA
V_{TM}	≤ 1.5	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 ^①	$^{\circ}C$
Repetitive peak off-state voltage		V_{DRM}	600	V
Repetitive peak reverse voltage		V_{RRM}	600	V
RMS on-state current	TO-202-3 ($T_C=85^{\circ}C$)	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (tp=10ms)		I_{TSM}	30	A
I^2t value for fusing (tp=10ms)		I^2t	4.5	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}	1.2	A
Peak gate power (tp=20 μs , $T_j=125^{\circ}C$)		P_{GM}	2	W
Average gate power dissipation($T_j=125^{\circ}C$)		$P_{G(AV)}$	0.2	W

NOTE 1: When we parallel connect a $\leq 1K\Omega$ resistor between Gate and Cathode, the T_j can reach $125^{\circ}C$; if without this resistor, the T_j only can reach $110^{\circ}C$.

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	-	50	200	μA
V_{GT}		-	0.6	0.8	V
V_{GD}	$V_D=V_{DRM} T_j=125^{\circ}\text{C}$	0.2	-	-	V
I_L	$I_G=1.2 I_{GT}$	-	-	6	mA
I_H	$I_T=0.05\text{A}$	-	-	5	mA
dV/dt	$V_D=2/3V_{DRM} T_j=125^{\circ}\text{C} R_{GK}=1\text{K}\Omega$	10	-	-	V/ μs

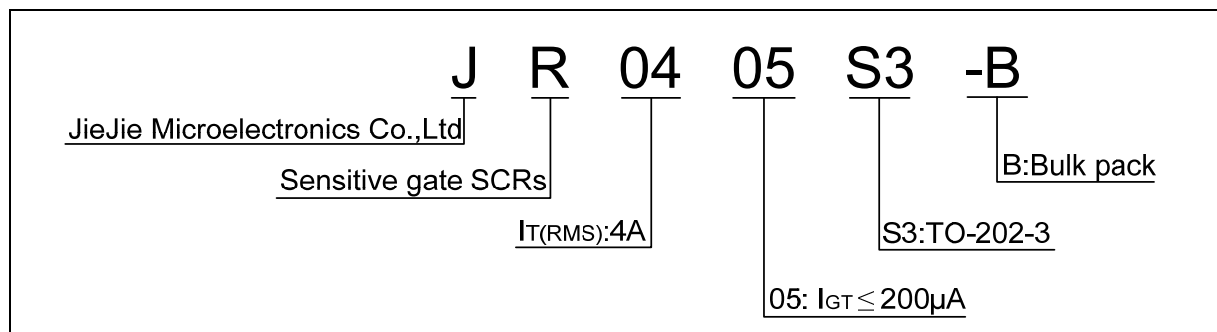
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=8\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=125^{\circ}\text{C}$	200	μA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case	TO-202-3	7.2	$^{\circ}\text{C/W}$

ORDERING INFORMATION



MARKING

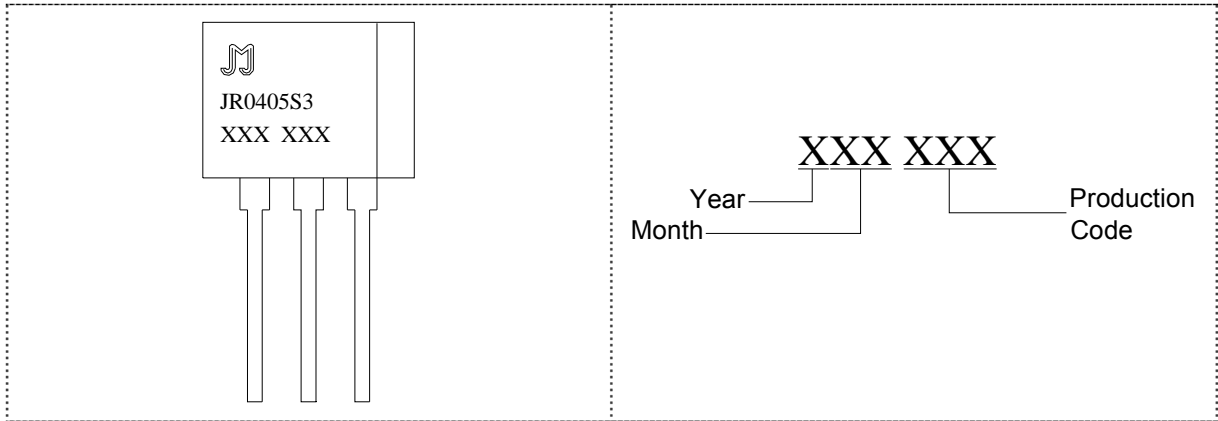


FIG.1: Maximum power dissipation versus RMS on-state current

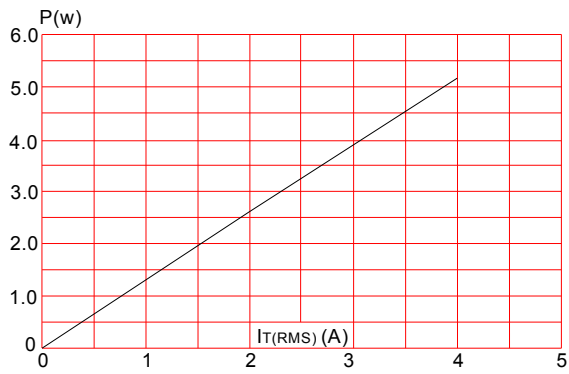


FIG.2: RMS on-state current versus case temperature

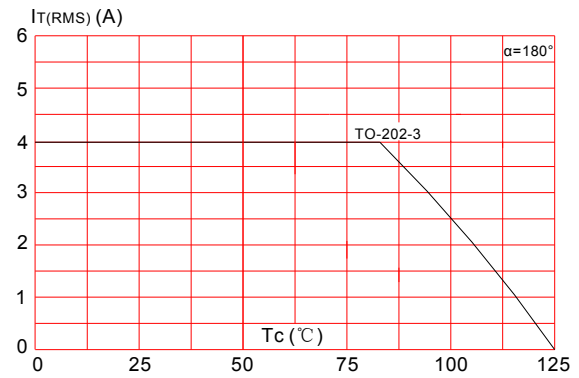


FIG.3: Surge peak on-state current versus number of cycles

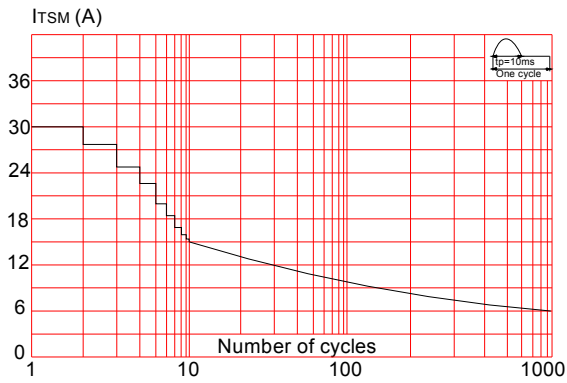


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($dI/dt < 50\text{A}/\mu\text{s}$)

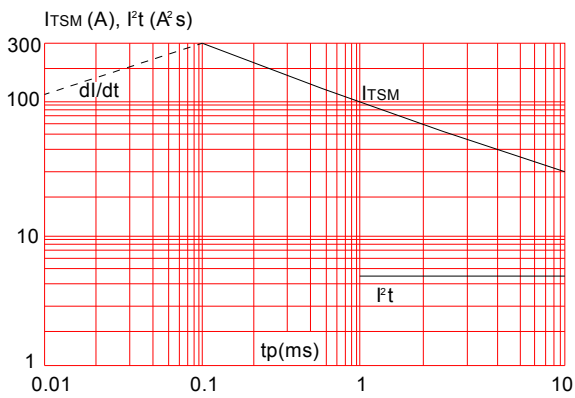


FIG.4: On-state characteristics (maximum values)

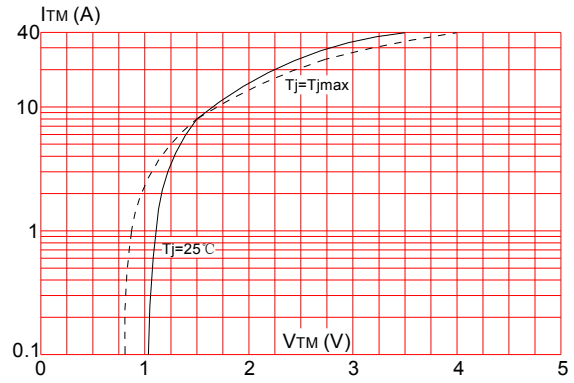
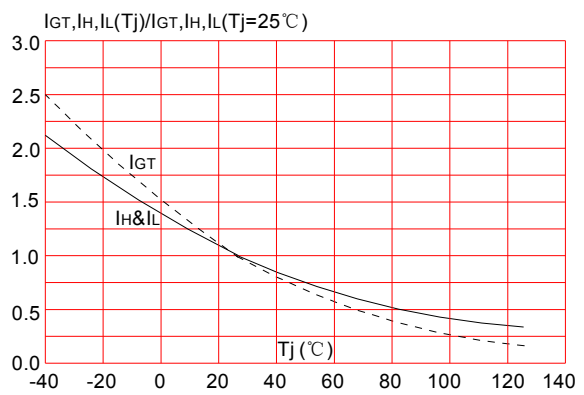


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



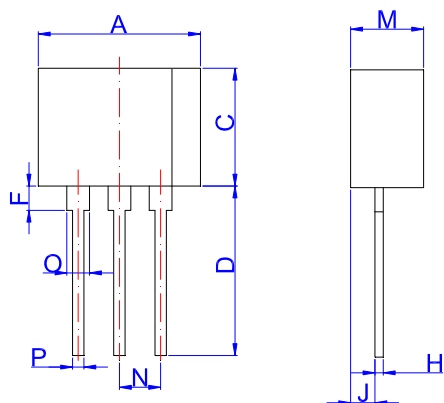
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(μA)	Package	Base qty. (pcs)	Delivery mode
JR0405S3	600	200	TO-202-3	250	Bulk Pack

Document Revision History

Date	Revision	Changes
Jan 11, 2019	9	Last update

PACKAGE MECHANICAL DATA



TO-202-3

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.30		9.90	0.366		0.390
C	7.0		7.6	0.276		0.299
D	10.5		11.5	0.413		0.453
F	1.50		2.50	0.059		0.098
H	0.45		0.55	0.018		0.022
J	1.50		1.90	0.059		0.075
M	4.40		4.70	0.173		0.185
N		2.54			0.100	
O	1.20		1.50	0.047		0.059
P	0.60		0.80	0.024		0.031

DELIVERY MODE

PACKAGE	OUTLINE	BAG (PCS)	INNER BOX (PCS)	PER CARTON
TO-202-3	Bulk Pack	250	4,000	20,000



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 supersedes and replaces all information previously supplied.



is a registered trademark of Jiangsu JieJie Microelectronics Co.,Ltd.
Copyright ©2021 Jiangsu JieJie Microelectronics Co.,Ltd. Printed All rights reserved.