



## JX040H 4A Sensitive SCR

Rev.A.1.1

### DESCRIPTION:

The JX040H SCR provides high  $dV/dt$  rate with strong resistance to electromagnetic interface. It is especially recommended for use on residual current circuit breaker, straight hair, igniter etc. Package TO-251 is RoHS compliant.

### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
$V_{DRM} / V_{RRM}$	600	V
$I_{GT}$	200	A

### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	$T_{stg}$	-40-150	
Operating junction temperature range	$T_j$	-40-125	
Repetitive peak off-state voltage ( $T_j=25^\circ C$ )	$V_{DRM}$	600	V
Repetitive peak reverse voltage ( $T_j=25^\circ C$ )	$V_{RRM}$	600	V
Average on-state current ( $T_C = 93^\circ C$ )	$I_{T(AV)}$	2.5	A
RMS on-state current ( $T_C = 93^\circ C$ )	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current ( $t_p=10ms, T_j=25^\circ C$ )	$I_{TSM}$	40	A
Non repetitive surge peak on-state current ( $t_p=8.3ms, T_j=25^\circ C$ )		44	
$I^2t$ value for fusing ( $t_p=10ms, T_j=25^\circ C$ )	$I^2t$	8	$A^2s$

Critical rate of rise of on-2

Peak gate power	$P_{GM}$	5	W
Peak pulse voltage ( $T_j=25$ ; non-repetitive,off-state;FIG.7)	$V_{pp}$	0.5	kV

**NOTE 1:** Operating junction temperature  $T_j$  is up to 125 when a resistor 1k is connected between Gate and Cathode. Without this resistor, the  $T_j$  is up to 110 only.

**ELECTRICAL CHARACTERISTICS** ( $T_j=25$  unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
$I_{GT}$	$V_D=12V R_L=33$	-	50	200	A
$V_{GT}$		-	0.6	0.8	V
$V_{GD}$	$V_D=V_{DRM} T_j=125$	0.2	-	-	V
$I_L$	$I_G=1.2 I_{GT}$	-	-	6	mA
$I_H$	$I_T=0.05A$	-	-	5	mA
dV/dt	$V_D=400V T_j=125 R_{GK}=1k$	50	-	-	V s
	$V_D=400V T_j=125 R_{GK}=\text{=}$	200	-	-	
$t_{on}$	$I_G=10mA I_A=20mA I_R=2mA$	-	2	-	s
$t_{off}$	$T_j=25$	-	50	-	s

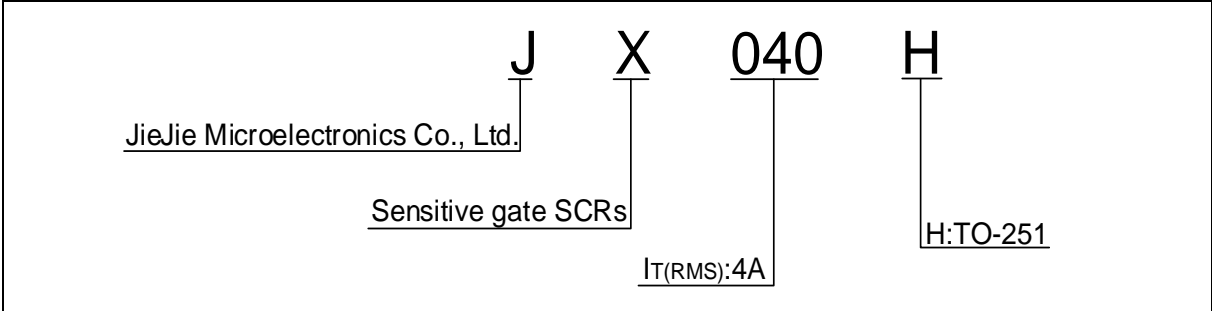
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX.)	Unit
$V_{TM}$	$I_T=8A t_p=380 s$	$T_j=25$	1.6	V
$V_{TO}$	Threshold voltage	$T_j=125$	0.8	V
$R_D$	Dynamic Resistance	$T_j=125$	0.1	
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	5	A
$I_{RRM}$		$T_j=125$	0.5	mA

**THERMAL RESISTANCES**

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	6	/W
$R_{th(j-a)}$	junction to ambient (DC)	120	/W

ORDERING INFORMATION



MARKING

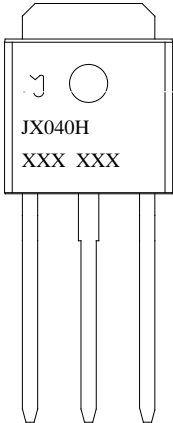
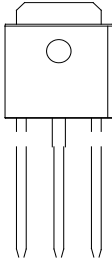





FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



**PACKAGE MECHANICAL DATA**



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