

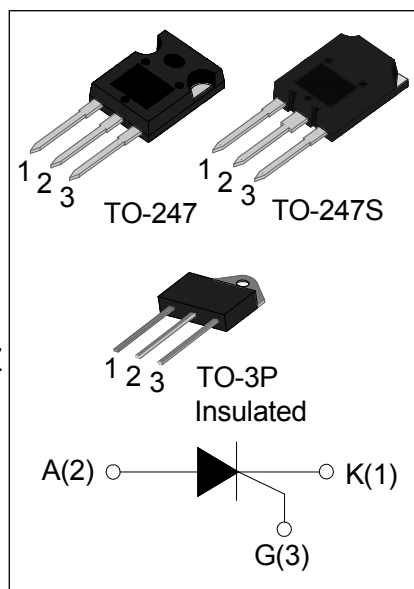


JCT6055/8055 Series 55A SCRs

Rev.3.0

DESCRIPTION:

with high ability to withstand the shock loading of large current, JCT6055/8055 SCRs 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. From all three terminals to external heatsink, JCTxx55Z provides a rated insulation voltage of 2500 V_{RMS}, complying with UL standards (File ref: E252906).



MAIN FEATURES

Symbol	JCT6055	JCT8055
V_{DRM}/V_{RRM}	600V	800V
$I_{T(RMS)}$	55A	
I_{GT}	10 - 50 mA	

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		V_{DRM}	600/800	V
Repetitive peak reverse voltage		V_{RRM}	600/800	V
RMS on-state current	TO-3P Ins ($T_C=80^{\circ}C$)	$I_{T(RMS)}$	55	A
	TO-247/ TO-247S ($T_C=83^{\circ}C$)			
Non repetitive surge peak on-state current (tp=10ms)		I_{TSM}	520	A
I^2t value for fusing (tp=10ms)		I^2t	1350	A ² s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)		di/dt	150	A/μs
Peak gate current		I_{GM}	5	A

Peak gate power	P_{GM}	10	W
Average gate power dissipation ($T_j=125^{\circ}\text{C}$)	$P_{G(AV)}$	1	W

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	10	15	50	mA
V_{GT}		-	-	1.5	V
V_{GD}	$V_D=V_{DRM} T_j=125^{\circ}\text{C } R_L=3.3\text{K}\Omega$	0.2	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	100	mA
I_H	$I_T=500\text{mA}$	-	-	80	mA
dV/dt	$V_D=2/3V_{DRM} T_j=125^{\circ}\text{C}$ Gate Open	700	-	-	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=80\text{A } t_p=380\mu\text{s}$	$T_C=25^{\circ}\text{C}$	1.6	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_C=25^{\circ}\text{C}$	10	μA
I_{RRM}		$T_C=125^{\circ}\text{C}$	6	mA

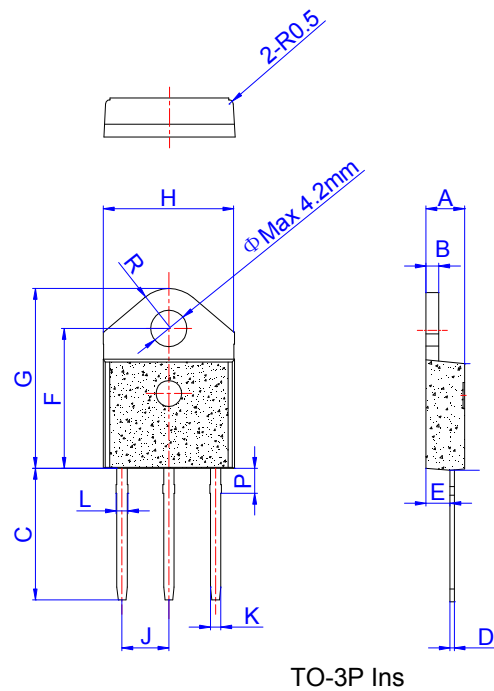
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-3P Ins	0.65	$^{\circ}\text{C/W}$
		TO-247/ TO-247S	0.60	

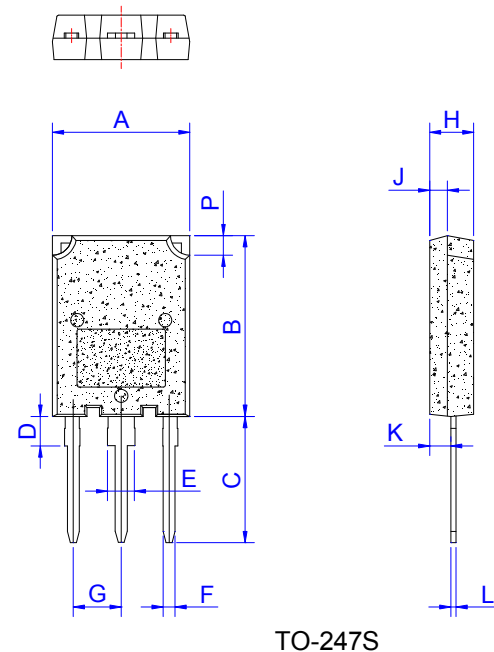
ORDERING INFORMATION

JieJie Microelectronics Co.,Ltd	J	CT	60	55	Z
	SCRs				S:TO-247 Z:TO-3P Ins CS:TO-247S
		60: $V_{DRM}/V_{RRM} \geq 600V$ 80: $V_{DRM}/V_{RRM} \geq 800V$		$I_{T(RMS)}: 55A$	

PACKAGE MECHANICAL DATA

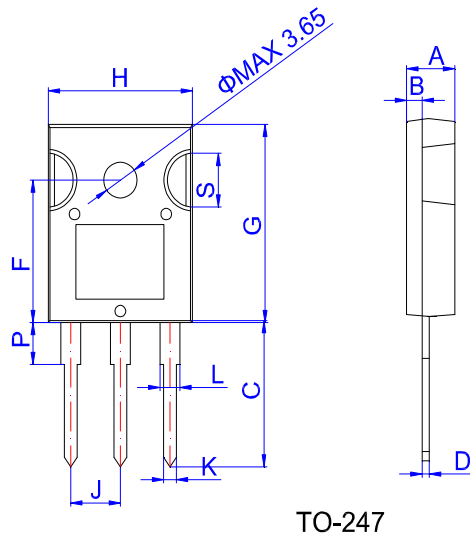


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.60	0.565		0.614
D	0.50		0.70	0.020		0.028
E	2.70		2.90	0.106		0.114
F	15.80		16.50	0.622		0.650
G	20.40		21.10	0.803		0.831
H	15.10		15.50	0.594		0.610
J	5.40		5.65	0.213		0.222
K	1.10		1.40	0.043		0.055
L	1.35		1.50	0.053		0.059
P	2.80		3.00	0.110		0.118
R		4.35			0.171	



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.1		16.1	0.594		0.634
B	19.8		20.8	0.78		0.819
C	13.8		14.8	0.543		0.583
D	3.00		4.00	0.118		0.157
E	2.75		3.35	0.108		0.132
F	1.30		1.50	0.051		0.059
G	5.10		5.80	0.201		0.228
H	4.50		5.50	0.177		0.217
J	1.45		2.15	0.057		0.085
K	1.90		2.80	0.075		0.110
L	0.55		0.80	0.022		0.031
P	2.00		2.40	0.079		0.094

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.9		5.4	0.193		0.213
B	1.6		2.0	0.063		0.079
C	14.35		15.4	0.565		0.606
D	0.5		0.8	0.020		0.031
F	14.4		15.1	0.567		0.594
G	19.7		20.6	0.775		0.811
H	15.4		16.2	0.606		0.638
J	5.3		5.6	0.209		0.220
K	1.3		1.5	0.051		0.059
L	2.8		3.3	0.110		0.130
P	3.7		4.2	0.146		0.165
S	5.35		5.65	0.211		0.222

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

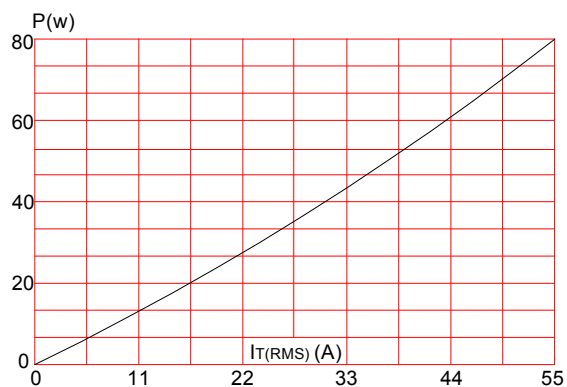


FIG.2: RMS on-state current versus case temperature

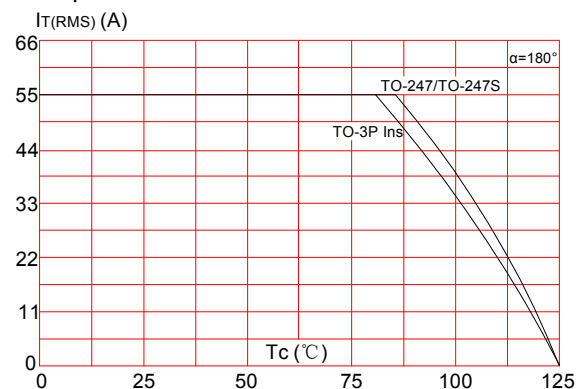


FIG.3: Surge peak on-state current versus number of cycles

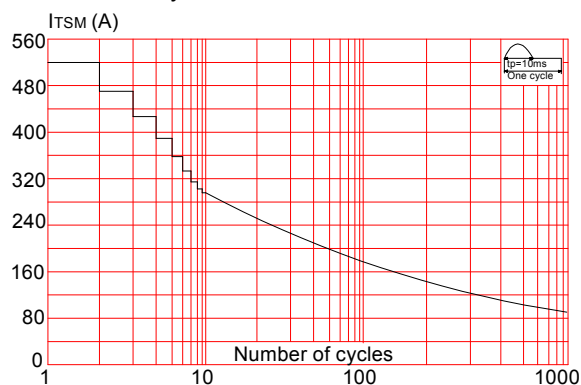


FIG.4: On-state characteristics (maximum values)

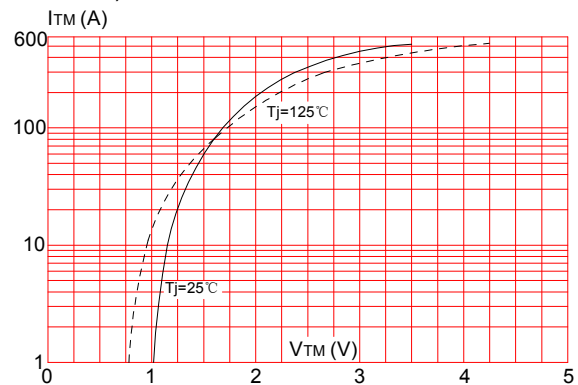


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 150\text{A}/\mu\text{s}$)

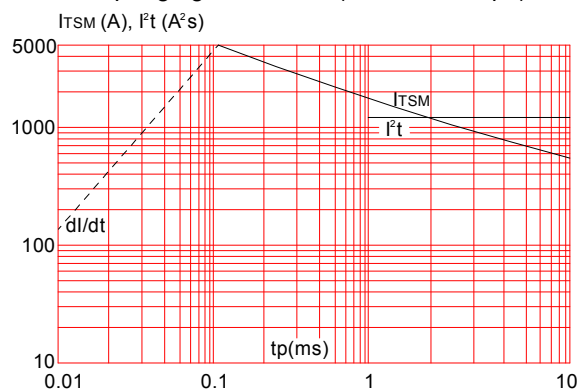
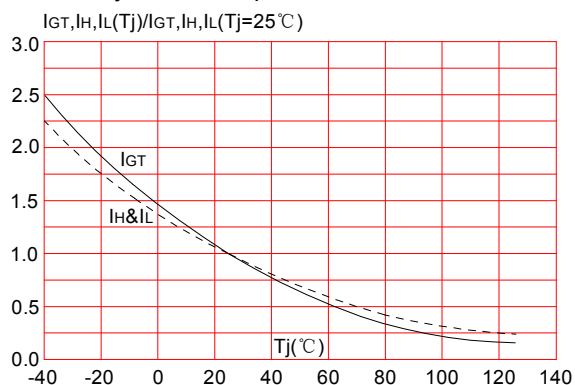


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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 third version which is made in 6-June-2015. This document supersedes and replaces all information previously supplied.



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

Copyright ©2015 Jiangsu JieJie Microelectronics Co.,Ltd. Printed All rights reserved.