JCT16130IS 130A SCR

Rev.A.1.1

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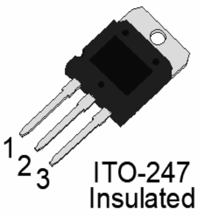
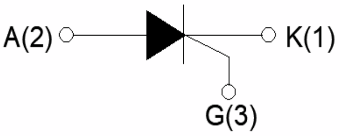
With high ability to withstand the shock loading of large current, JCT16130IS SCR provides high dV/dt rate with strong resistance to electromagnetic interference. It is especially recommended for use on solid state relay, UPS, SVC, power charger, T-tools etc. From all three terminals to external heatsink,JCT16130IS provides a rated insulation voltage of 2500 V_{RMS}, Package ITO-247 is RoHS compliant.





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Symbol	Value	Unit
$I_{T(RMS)}$	130	A
V_{DRM} /V_{RRM}	1600	V
I_{GT}	20-80	mA

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Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	Ņ
Operating junction temperature range	T_j	-40-125	Ņ
Repetitive peak off-state voltage (T_j = 25Ņ)	V_{DRM}	1600	V
Repetitive peak reverse voltage (T_j = 25Ņ)	V_{RRM}	1600	V
Average on-state current (T_C Ů 46 Ņ)	$I_{T(AV)}$	83	A
RMS on-state current (T_C Ů 46 Ņ)	$I_{T(RMS)}$	130	A
Non repetitive surge peak on-state current (t_p = 10ms , T_j = 25Ņ)	I_{TSM}	1500	A
Non repetitive surge peak on-state current (t_p = 8.3ms , T_j = 25Ņ)		1650	
I^2t value for fusing (t_p = 10ms , T_j = 25Ņ)	I^2t	11250	A^2s
Critical rate of rise of on-state current (I_G = 2¦ I_{GT} , f = 100Hz , T_j = 125Ņ)	dI/dt	250	A/εs

Peak gate current (t_p= 20 ε s , T_j= 125N)	I_{GM}	15	A
Average gate power dissipation (T_j=125N)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	25	W
Peak pulse voltage (T_j= 25N ; non-repetitive,off-state ; FIG.7)	V_{pp}	1.3	kV

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Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	V_D = 12V R_L = 33 q	20	-	80	mA
V_{GT}		-	-	1.3	V
V_{GD}	V_D = V_{DRM} T_j= 125N R_L = 3.3K q	0.25	-	-	V
I_L	I_G = 1.2I_{GT}	-	-	280	mA
I_H	I_T = 1A	-	-	250	mA
dV/dt	V_D = 1070V Gate Open T_j= 125N	2000	-	-	V/ ε s
t_{on}	I_G = 100mA I_A = 1A I_R = 100mA T_j= 25N	-	7	-	ε s
t_{off}		-	200	-	

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Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM} = 180A t_p= 380 ε s	T_j= 25N	1.6	V
V_{TO}	Threshold voltage	T_j=125N	0.86	V
R_D	Dynamic resistance	T_j= 125N	4.5	mq
I_{DRM}	V_D = V_{DRM} V_R = V_{RRM}	T_j= 25N	20	u

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	0.4	N/W
$R_{th(j-a)}$	junction to ambient (DC)	50	N/W

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JieJie Microelectronics Co.,Ltd.

SCRs

16:V_{DRM}/V_{RRM} ů 1600V

$I_{T(RMS)}$:130A

IS:ITO-247(Ins)

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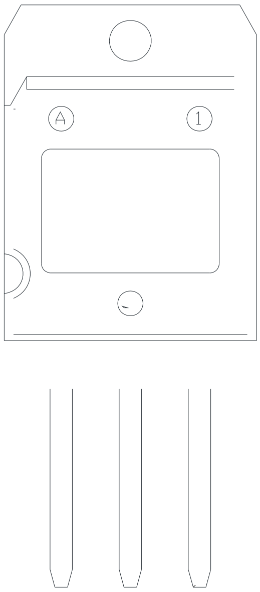


FIG.1 Maximum power dissipation versus RMS on-state current

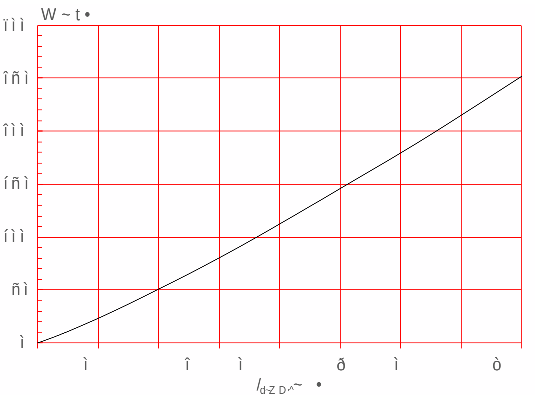


FIG.2: RMS on-state current versus case temperature

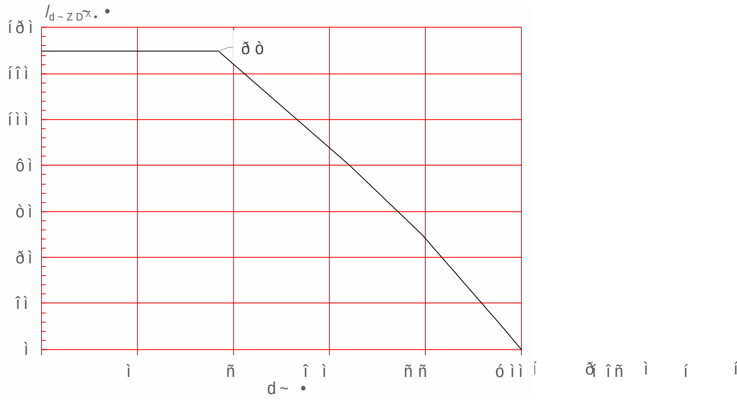


FIG.3: Surge peak on-state current versus number of cycles

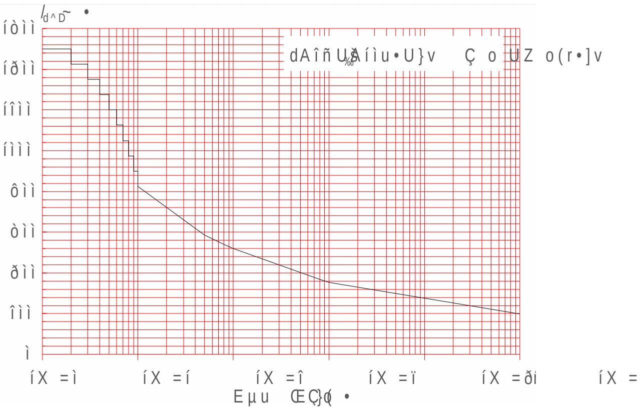


FIG.4: On-state characteristics

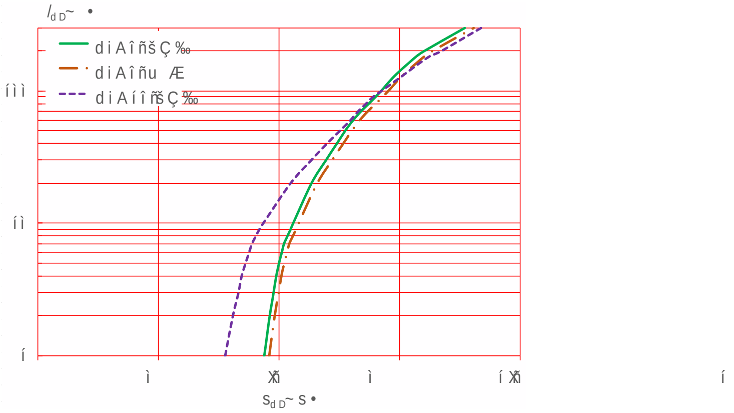


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of I^2t (dI/dt < 250A/ ε s)

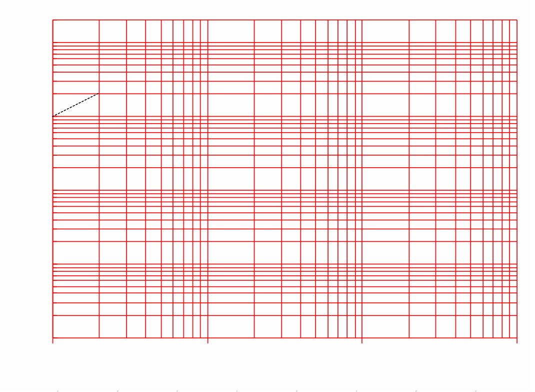
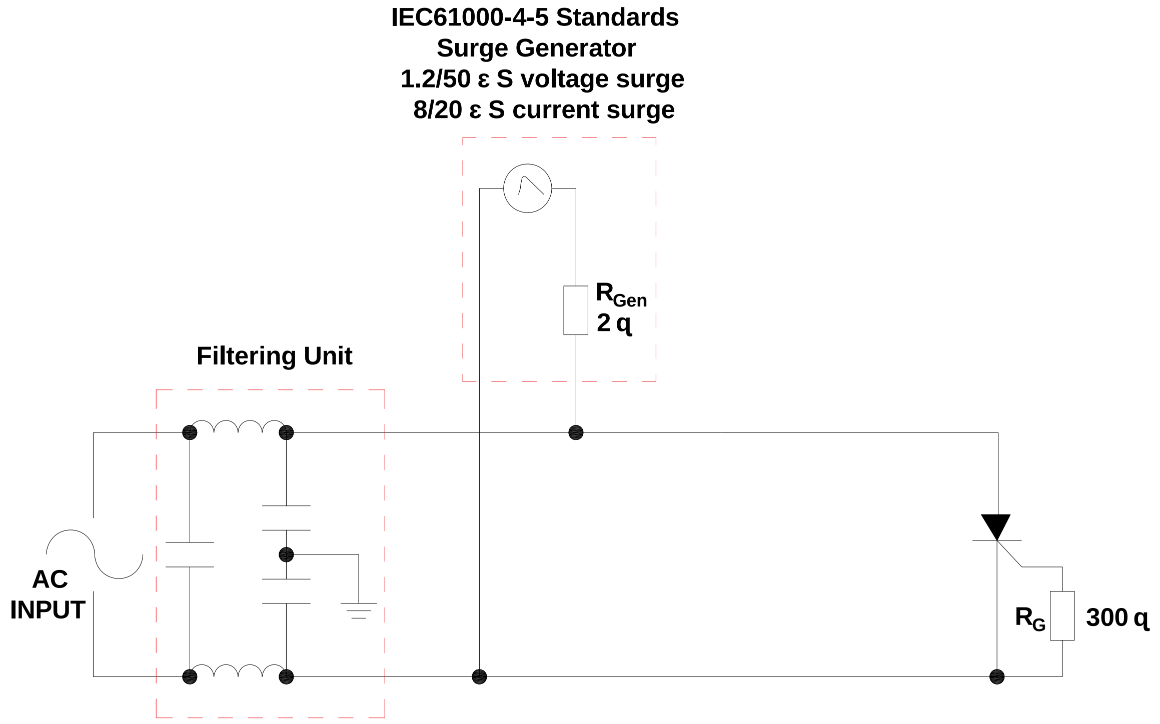


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.


IEC61000-4-5 Standards
Surge Generator
1.2/50 ε S voltage surge
8/20 ε S current surge
RGen
2 q
Filtering Unit
AC
INPUT
RG
300 q

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Refer to êInstructions for installation of plastic-sealed in-line power devicesÌ released by JieJie

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Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT16130IS	1600	20-80	ITO-247(Ins)	25	Tube

Document Revision History

Date	Revision	Changes
Apr.13, 2023	A.1.0	Last update
Feb.19, 2024	A.1.1	Renew $R_{th(j-c)}$&V_{TM}

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