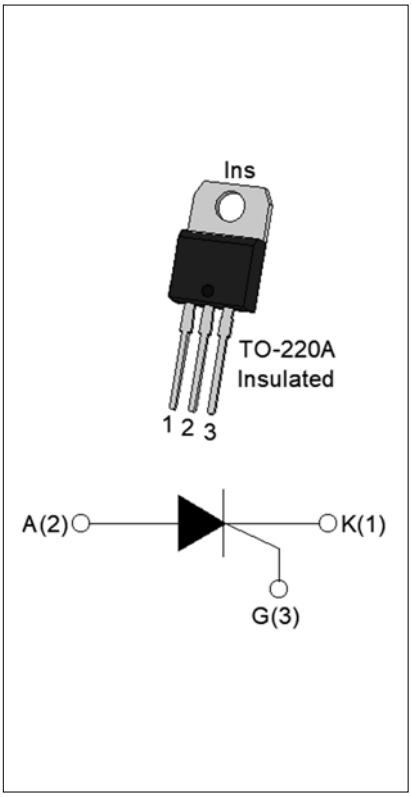
JCT1640A 40A SCR

Rev.A.1.0

DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT1640A SCR provides high dV/dt rate with strong resistance to electromagnetic interference.It is especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc. From all three terminals to external heatsink,JCT1640A provides a rated insulation voltage of 2500 $V_{RMS,}$ complying with UL standards (File ref: E252906). Package TO-220A is RoHS compliant.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	40	A
V_{DRM}/V_{RRM}	1600	V
I_{GT}	≤45	mA

ABSOLUTE MAXIMUM RATINGS

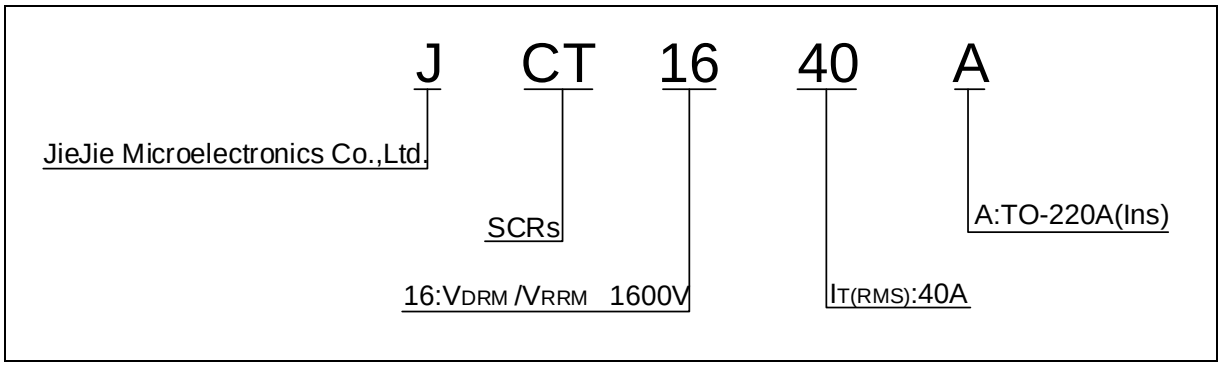
Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-125	
Repetitive peak off-state voltage (T_j=25)	V_{DRM}	1600	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	1600	V
Average on-state current (T_C ≤ 54)	$I_{T(AV)}$	25	A
RMS on-state current (T_C ≤ 54)	$I_{T(RMS)}$	40	A
Non repetitive surge peak on-state current (t_p=10ms, T_j=25)	I_{TSM}	400	A
Non repetitive surge peak on-state current (t_p=8.3ms, T_j=25)		430	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	800	A^2s
Critical rate of rise of on-state current (I_G=2 × I_{GT}, f=100Hz , T_j=125)	dI/dt	200	A/μs

Peak gate current (t_p=20μs , T_j=125)	I_{GM}	10	A
Average gate power dissipation (T_j=125)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	20	W
Peak pulse voltage (T_j=25 ; non-repetitive,off-state;FIG.7)	V_{pp}	1.2	kV

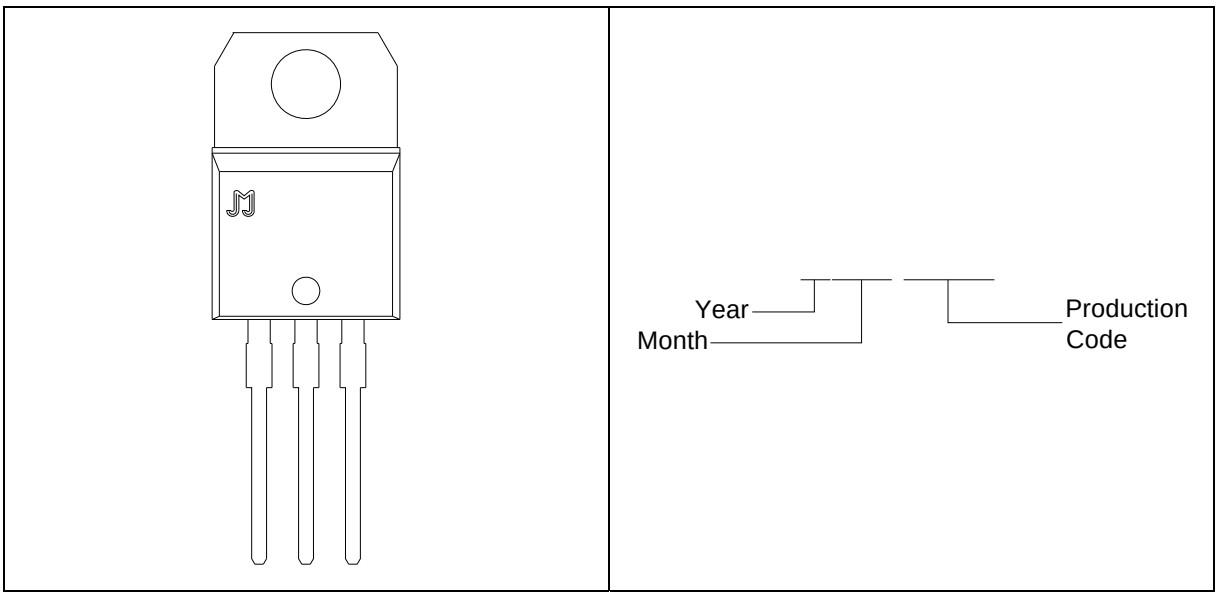
ELECTRICAL CHARACTERISTICS (T_j=25 unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	V_D=12V R_L=33Ω	-	-	45	mA
V_{GT}		-	-	1	V
V_{GD}	V_D=V_{DRM} T_j=125 R_L=3.3KΩ	0.2	-	-	V
I_L	I_G=1.2I_{GT}	-	-	150	mA
I_H	I_T=500mA	-	-	130	mA
dV/dt	V_D=1070V Gate Open T_j=125	1500	-	-	V/μs
t_{on}	I_G=100mA I_A=1A I_R=100mA T_j=25	-	7	-	μs
t_{off}		-	120	-	

ORDERING INFORMATION



MARKING



Maximum power dissipation versus on-state current

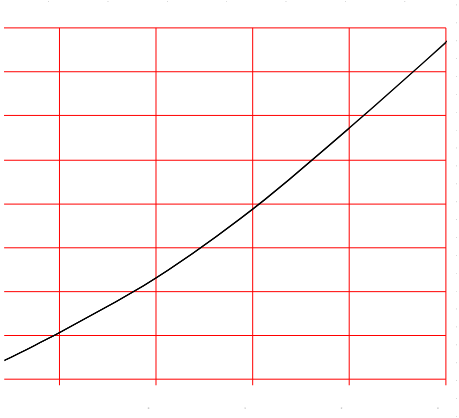
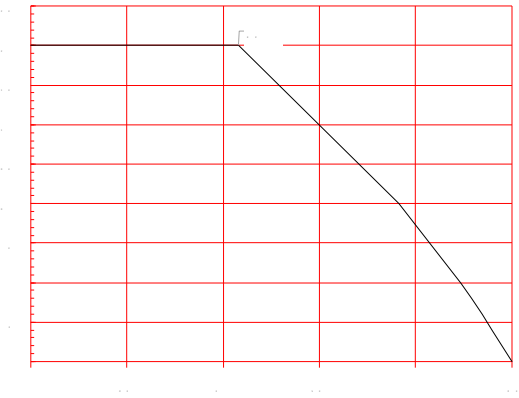


FIG.2: RMS on-state current versus case temperature



: Surge peak on-state current versus er of cycles

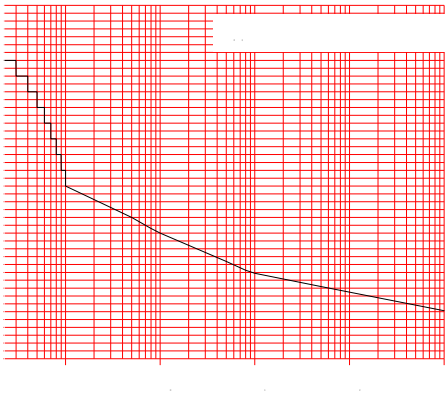
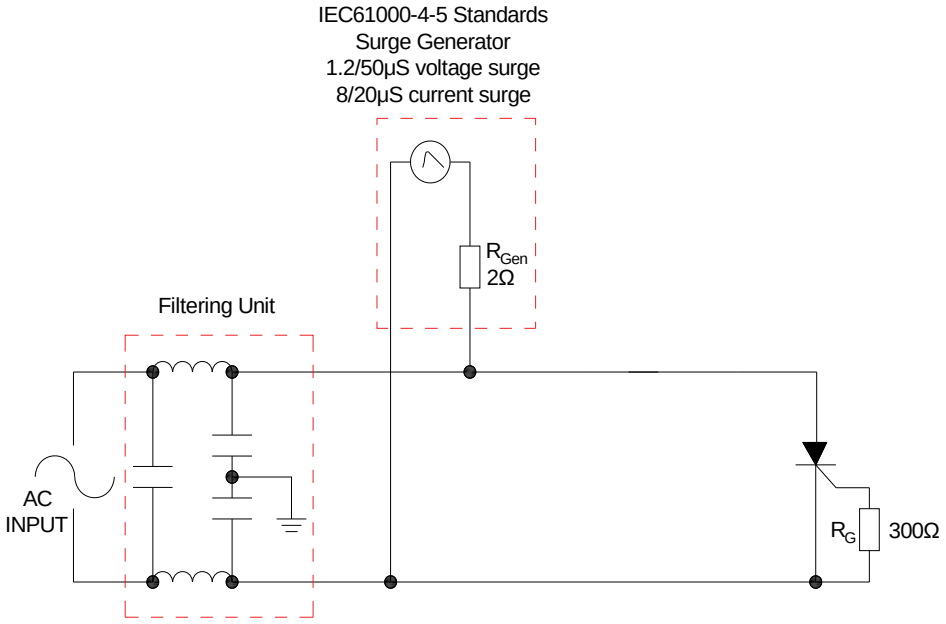


FIG.4: On-state characteristics

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



SHAPING AND SOLDERING PARAMETERS

Refer to Instructions for installation of plastic-sealed in-line power devices released by JieJie

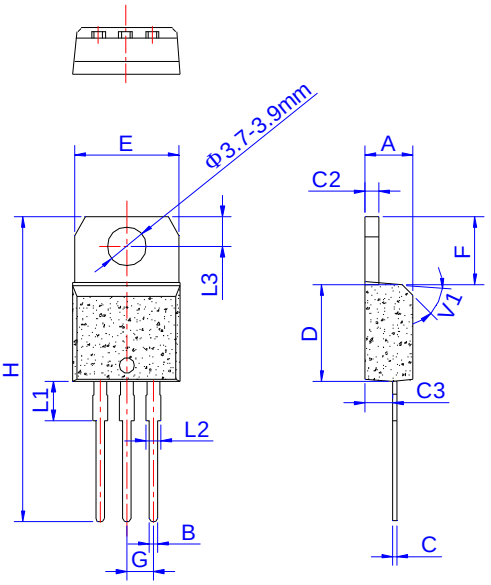
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT1640A	1600	45	TO-220A(Ins)	50	Tube

Document Revision History

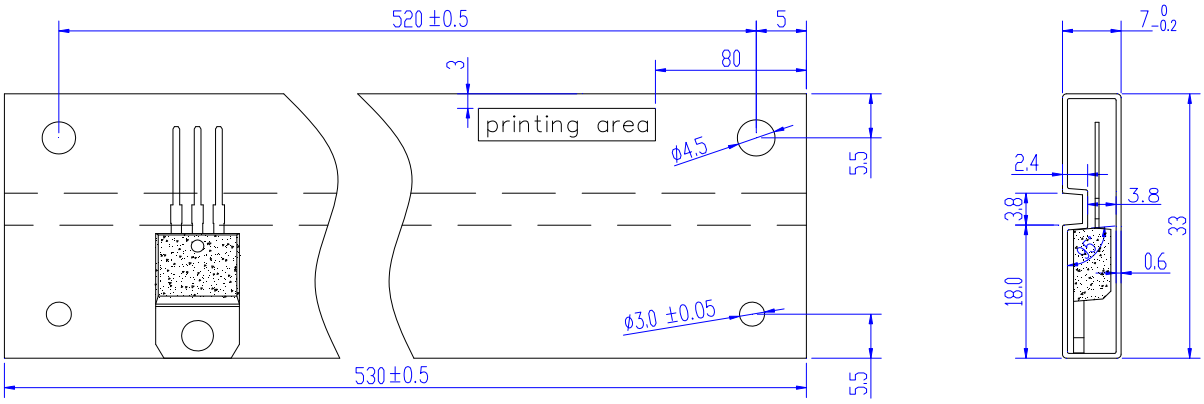
Date	Revision	Changes
Apr.13, 2023	A.1.0	Last update

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.25		6.85	0.246		0.270
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	3.45		4.05	0.136		0.159
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220A	TUBE	50	1,000	5,000

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