

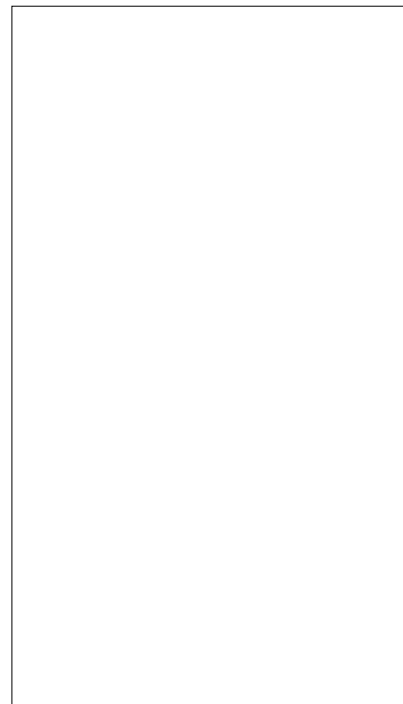


JCT616C 16A SCR

Rev.A.1.1

DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT616C of silicon controlled rectifiers 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. Package TO-220C is RoHS compliant.



MAIN FEATURES

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 ($T_j=25^\circ\text{C}$)	V_{DRM}	600	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	600	V
Average on-state current ($T_c=102^\circ\text{C}$)	$I_{T(AV)}$	10	A
RMS on-state current ($T_c=102^\circ\text{C}$)	$I_{T(RMS)}$	16	A
Non repetitive surge peak on-state current ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	150	A
Non repetitive surge peak on-state current ($t_p=8.3\text{ms}$, $T_j=25^\circ\text{C}$)		165	

I²t value for f7 (e f c 0.006 Tw 12 .2 re .149.5 ()86 (ue (0.00t2.104 0 Td ()T41.72 168.72 Tm8 3

Average gate power dissipation ($T_j=125^\circ\text{C}$)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	20	W
Peak pulse voltage ($T_j=25^\circ\text{C}$; non-repetitive, off-state; FIG.7)	V_{pp}	0.5	kV

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V } R_L=33$	-	-	15	mA
V_{GT}		-	-	1	V
V_{GD}	$V_D=V_{DRM} T_j=125^\circ\text{C} R_L=3.3\text{k}$	0.2	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	60	mA
I_H	$I_T=500\text{mA}$	-	-	50	mA
dV/dt	$V_D=400\text{V}$ Gate Open $T_j=125^\circ\text{C}$	1200	-	-	V/s
t_{on}	$I_G=20\text{mA } I_A=200\text{mA } I_R=20\text{mA}$ $T_j=25^\circ\text{C}$	-	4	-	s
t_{off}		-	60	-	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=32\text{A } t_p=380\text{ }\mu\text{s}$	$T_j=25^\circ\text{C}$	1.55	V
V_{TO}	Threshold voltage	$T_j=125^\circ\text{C}$	0.77	V
R_D	Dynamic resistance	$T_j=125^\circ\text{C}$	24	
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	A
I_{RRM}		$T_j=125^\circ\text{C}$	0.2	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	1.1	$^{\circ}\text{C/W}$
$R_{th(j-a)}$	junction to ambient (DC)	50	$^{\circ}\text{C/W}$

ORDERING INFORMATION

J	CT	6	16	C
JieJie Microelectronics Co., Ltd.	SCRs	6:V _{DRM} /V _{RRM} 600V	I _{T(RMS)} :16A	C:TO-220C

MARKING

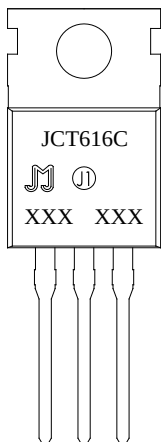
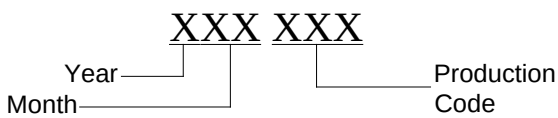
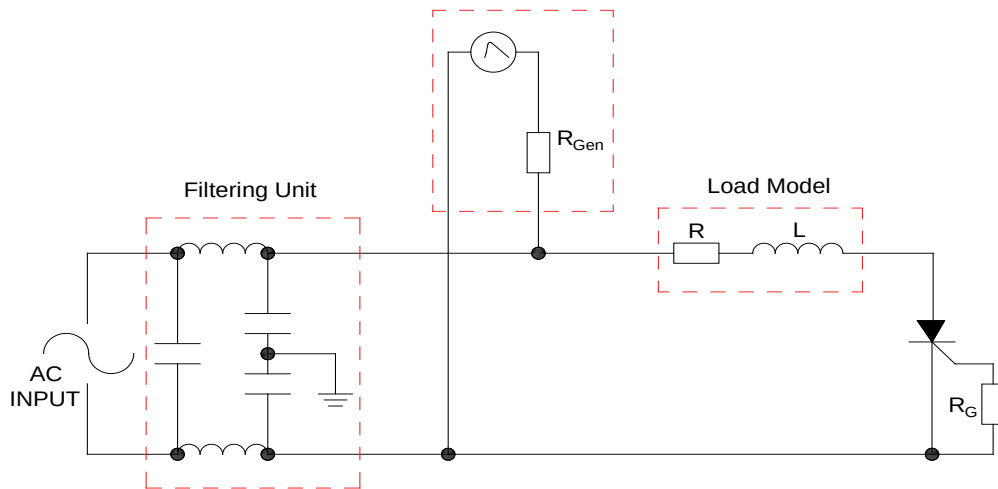
	
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FIG.1: Maximum power dissipation versus
RMS on-state current

FIG.2: RMS on-

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

IEC61000-4-5 Standards
Surge Generator

LEAD FORMING AND SOLDERING

Refer to the application note "Assembly Instructions for Thyristors in Through-hole Package" released by JieJie Microelectronics

JCT616C

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