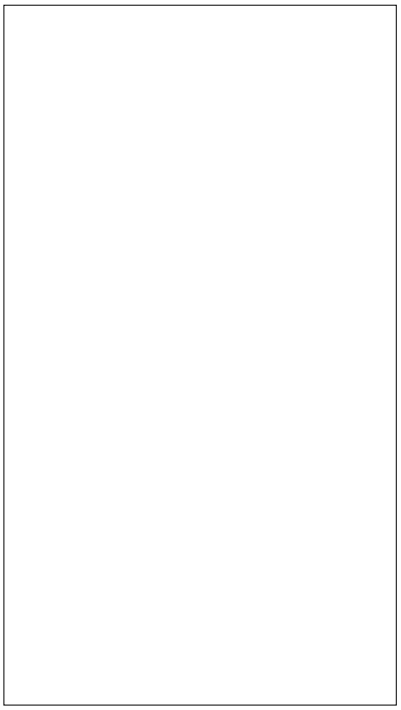
JCT616C 16A SCR

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

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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}	0.5	kV

ELECTRICAL CHARACTERISTICS (T_j=25 unless otherwise specified)

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

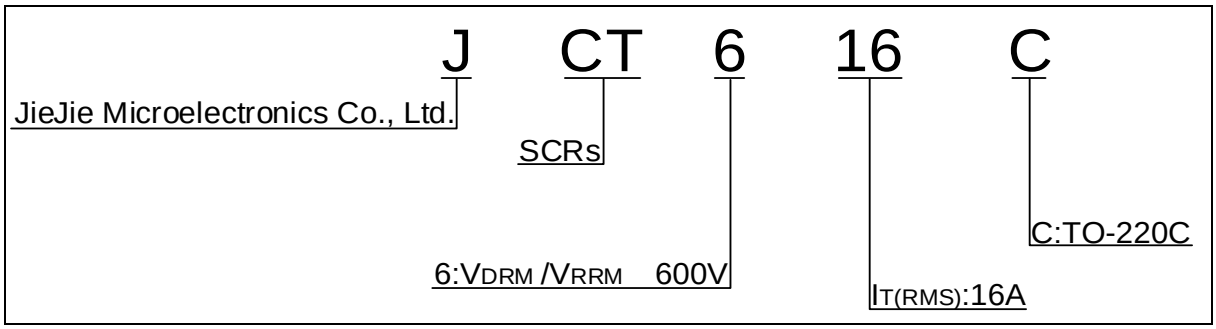
STATIC CHARACTERISTICS

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

THERMAL RESISTANCES

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

ORDERING INFORMATION



MARKING

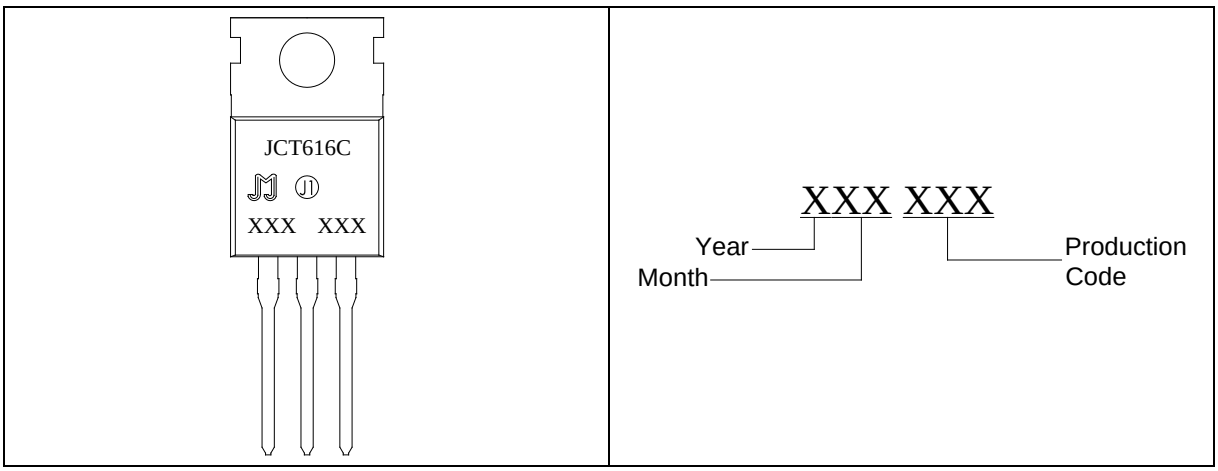
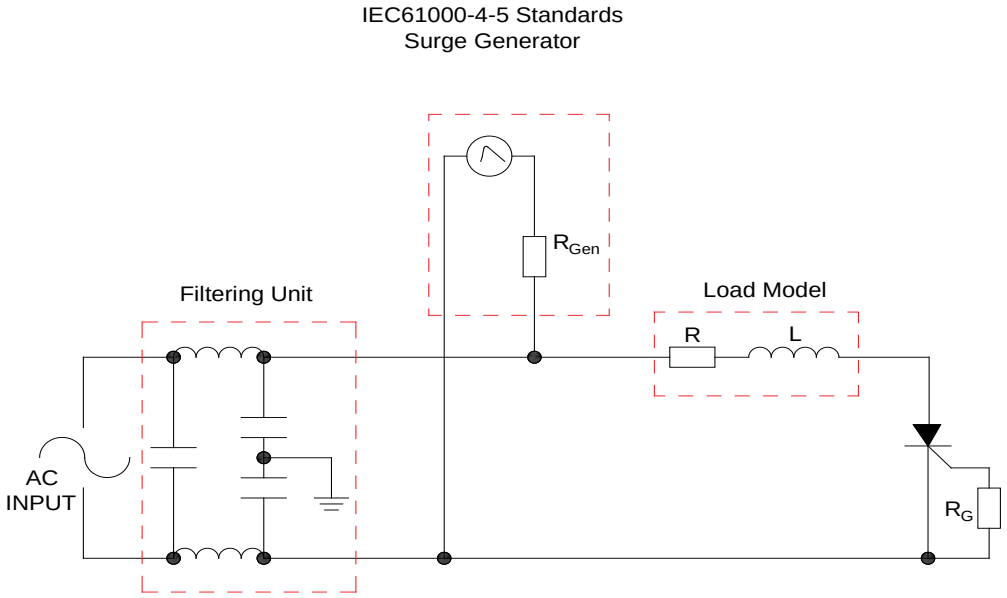


FIG.1: Maximum power dissipation versus RMS on-state current

FIG.2: RMS on-

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



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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