



With high ability to withstand the shock loading of large current, JCT1630C 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. Package TO-220C is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	30	A
V_{DRM}/V_{RRM}	1600	V
I_{GT}	40	mA

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}	1600	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	1600	V
Average on-state current ($T_c=86^\circ\text{C}$)	$I_{T(AV)}$	19	A
RMS on-state current ($T_c=86^\circ\text{C}$)	$I_{T(RMS)}$	30	A
Non repetitive surge peak on-state current ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	300	A
Non repetitive surge peak on-state current ($t_p=8.3\text{ms}$, $T_j=25^\circ\text{C}$)		320	
I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I^2t	450	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100\text{Hz}$, $T_j=125^\circ\text{C}$)	di/dt	200	$\text{A}/\mu\text{s}$
Peak gate current ($t_p=20\mu\text{s}$, $T_j=125^\circ\text{C}$)	I_{GM}	10	A



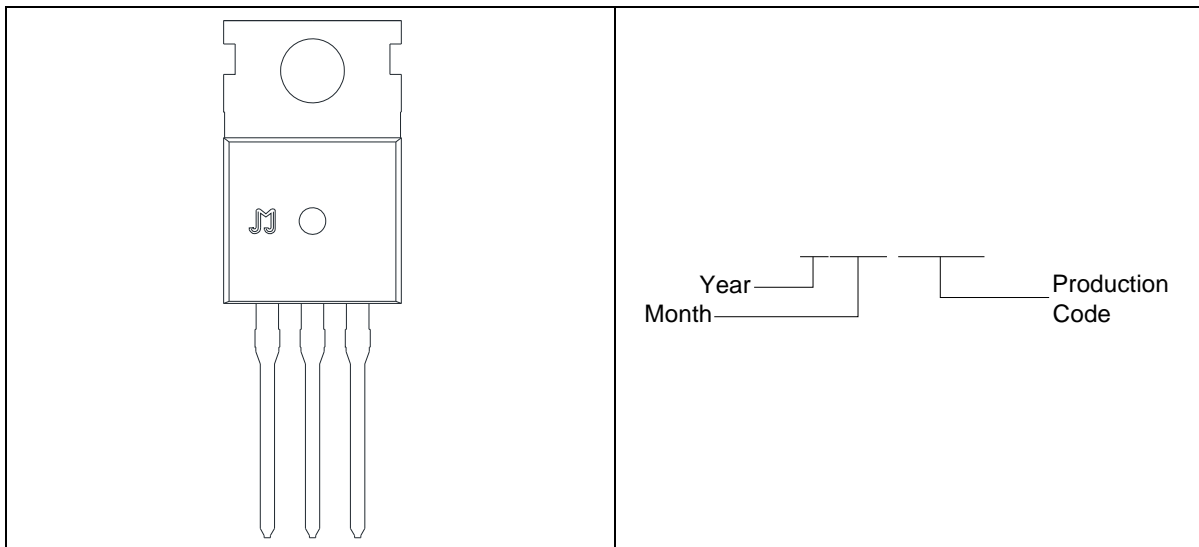
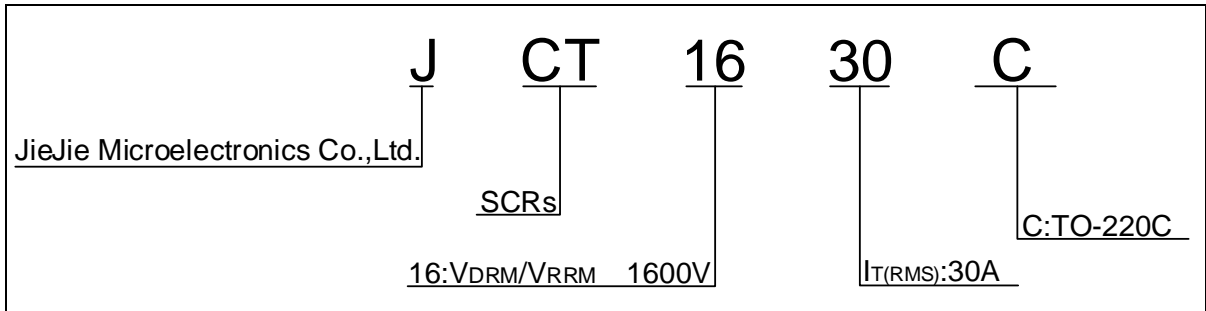
Average gate power dissipation ($T_j=125$)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	20	W
Peak pulse voltage ($T_j=25$; non-repetitive,off-state;FIG.7)	V_{pp}	1.2	kV

($T_j=25$ unless otherwise specified)

I_{GT}	$V_D=12V R_L=33$	-	-	40	mA
V_{GT}		-	-	1	V
V_{GD}	$V_D=V_{DRM} T_j=125 R_L=3.3K$	0.25	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	150	mA
I_H	$I_T=1A$	-	-	120	mA
dV/dt	$V_D=1070V$ Gate Open $T_j=125$	1500	-	-	V/ μs
t_{on}	$I_G=100mA I_A=1A I_R=100Ma$ $T_j=25$	-	5	-	μs
t_{off}		-	100	-	

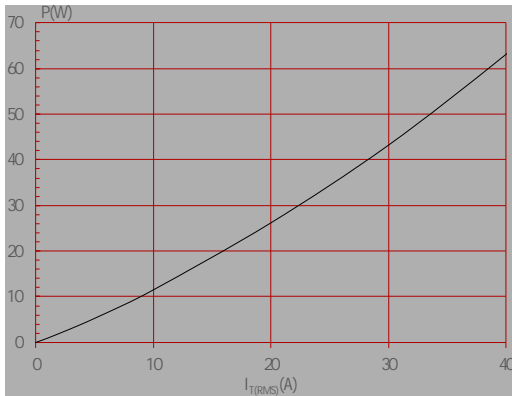
V_{TM}	$I_{TM}=60A t_p=380\mu s$	$T_j=25$	1.8	V
V_{TO}	Threshold voltage	$T_j=125$	0.71	V
R_D	Dynamic resistance	$T_j=125$	23	m
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	10	μA
I_{RRM}		$T_j=125$	5	mA

$R_{th(j-c)}$	junction to case (DC)	0.95	/W
$R_{th(j-a)}$	junction to ambient (DC)	48	/W

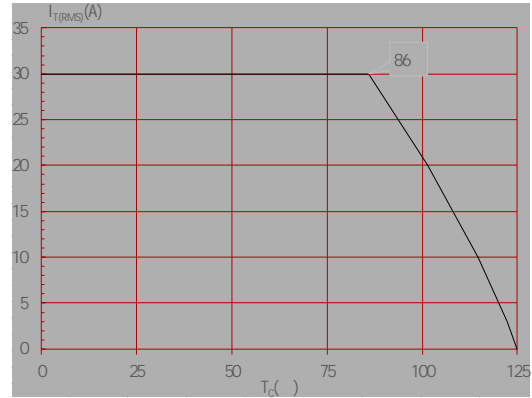




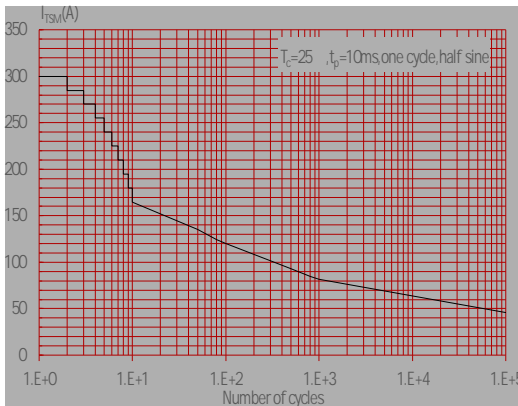
Maximum power dissipation versus RMS on-state current



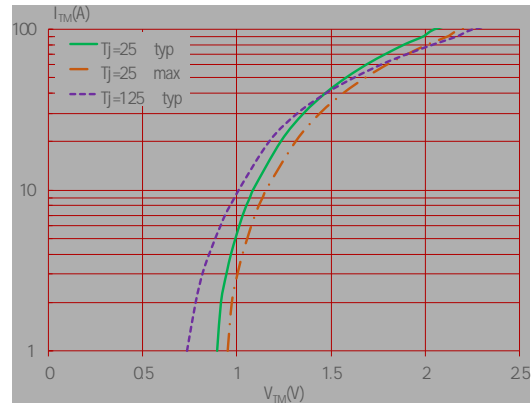
RMS on-state current versus case temperature



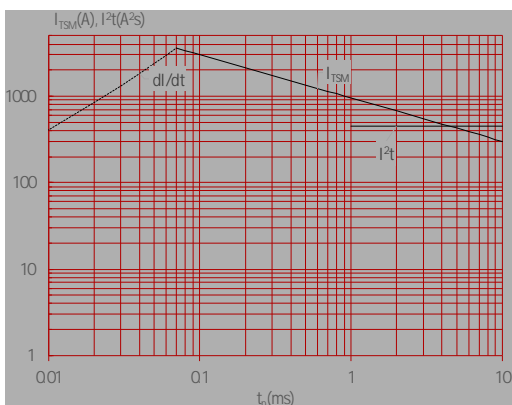
Surge peak on-state current versus number of cycles



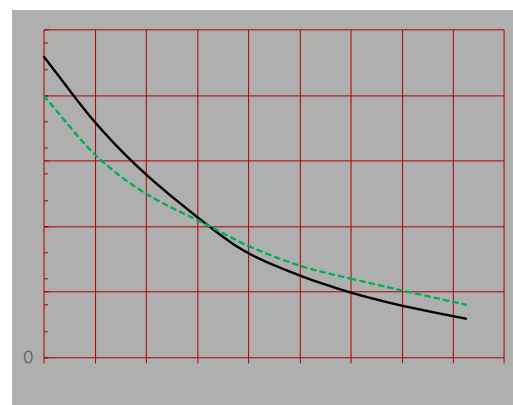
On-state characteristics



Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 200\text{A}/\mu\text{s}$)



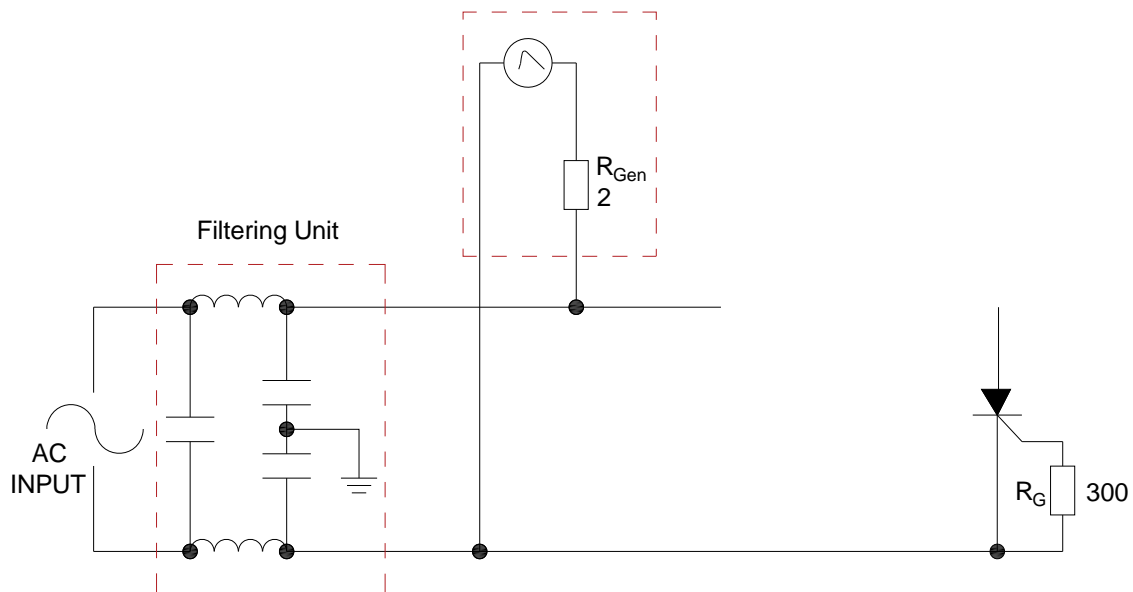
Relative variations of gate trigger current, holding current and latching current versus junction temperature





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

IEC61000-4-5 Standards
Surge Generator
1.2/50 μ S voltage surge
8/20 μ S current surge






Date	Revision	Changes
Apr5	5 en	.





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