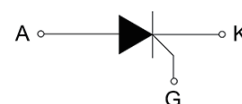


DESCRIPTION:

The chip SCR provides high dV/dt rate with strong resistance to electromagnetic interface. It is especially recommended for use on residual current circuit breaker, straight hair, igniter etc.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	12	A
V_{DRM} / V_{RRM}	800	V
I_{GT}	≤ 200	μA

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	$^{\circ}C$
Operating junction temperature range	T_j	-40-110	$^{\circ}C$
Repetitive peak off-state voltage ($T_j=25^{\circ}C$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	800	V
Average on-state current ($T_c \leq 89^{\circ}C$)	$I_{T(AV)}$	7.5	A
RMS on-state current ($T_c \leq 89^{\circ}C$)	$I_{T(RMS)}$	12	A
Non repetitive surge peak on-state current ($t_p=10ms$, $T_j=25^{\circ}C$)	I_{TSM}	120	A
Non repetitive surge peak on-state current ($t_p=8.3ms$, $T_j=25^{\circ}C$)		130	
I^2t value for fusing ($t_p=10ms$, $T_j=25^{\circ}C$)	I^2t	72	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100Hz$, $T_j=110^{\circ}C$)	dI/dt	100	$A/\mu s$
Peak gate current ($t_p=20\mu s$, $T_j=110^{\circ}C$)	I_{GM}	4	A
Average gate power dissipation ($T_j=110^{\circ}C$)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	10	W

Peak pulse voltage ($T_j=25^{\circ}\text{C}$; non-repetitive, off-state; FIG)	V_{pp}	0.5	kV
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ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	-	60	200	μA
V_{GT}		-	-	0.8	V
V_{GD}	$V_D=V_{DRM}$ $T_j=110^{\circ}\text{C}$	0.2	-	-	V
I_L	$I_G=1.2 I_{GT}$	-	-	6	mA
I_H	$I_T=0.05\text{A}$	-	-	5	mA
dV/dt	$V_D=540\text{V}$ $T_j=25^{\circ}\text{C}$ $R_{GK}=1\text{k}\Omega$	50	-	-	$\text{V}/\mu\text{s}$
	$V_D=540\text{V}$ $T_j=25^{\circ}\text{C}$ $R_{GK}=220\Omega$	200	-	-	
t_{on}	$I_G=10\text{mA}$ $I_A=20\text{mA}$ $I_R=2\text{mA}$	-	2	-	μs
t_{off}	$T_j=25^{\circ}\text{C}$	-	70	-	μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_T=24\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.6	V
V_{TO}	Threshold voltage	$T_j=110^{\circ}\text{C}$	0.9	V
R_D	Dynamic Resistance	$T_j=110^{\circ}\text{C}$	0.02	Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=110^{\circ}\text{C}$	0.5	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	1.3	$^{\circ}\text{C}/\text{W}$
$R_{th(j-a)}$	junction to ambient (DC)	40	$^{\circ}\text{C}/\text{W}$

FIG : Maximum power dissipation versus RMS on-state current

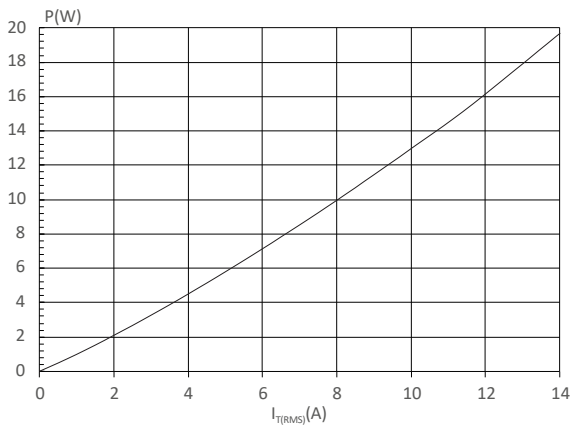


FIG : RMS on-state current versus case temperature

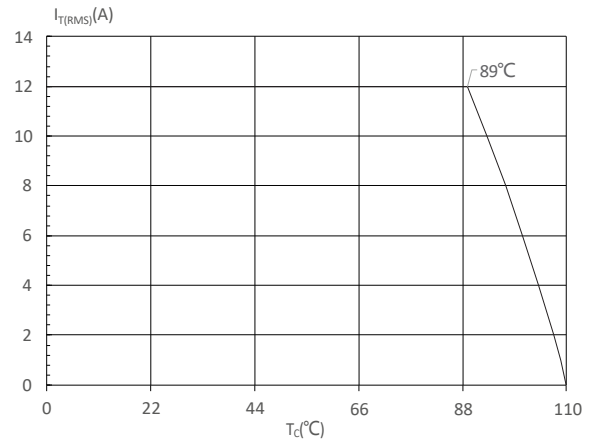


FIG : Surge peak on-state current versus number of cycles

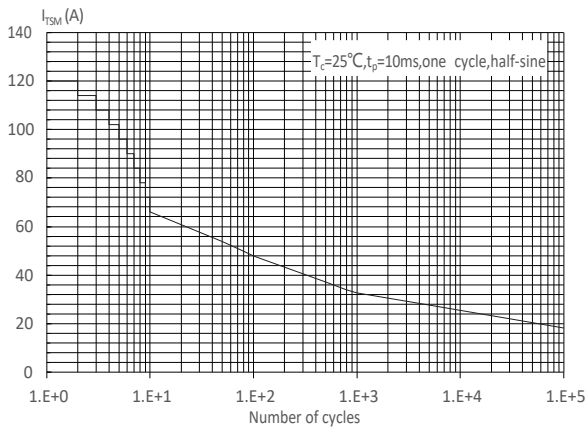


FIG : On-state characteristics

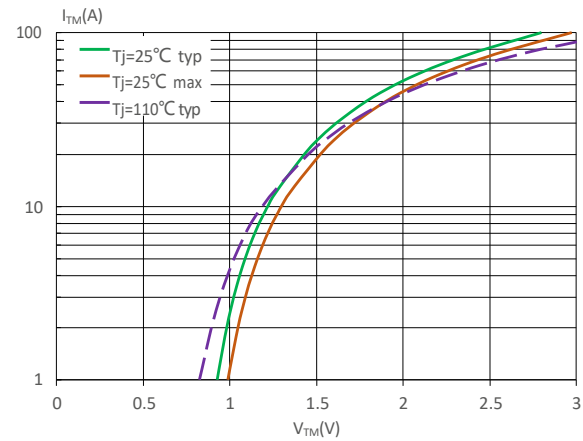


FIG : Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

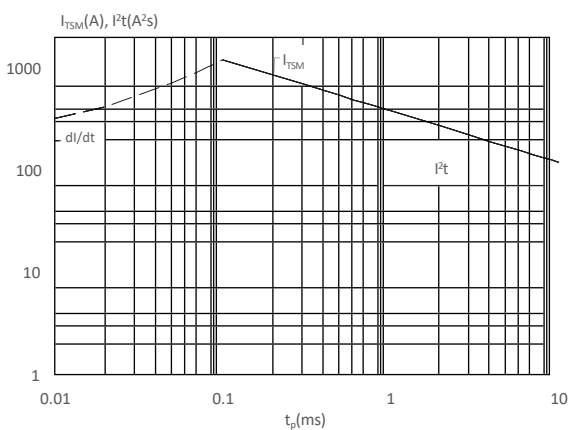


FIG : Relative variations of gate trigger current, holding current and latching current versus junction temperature

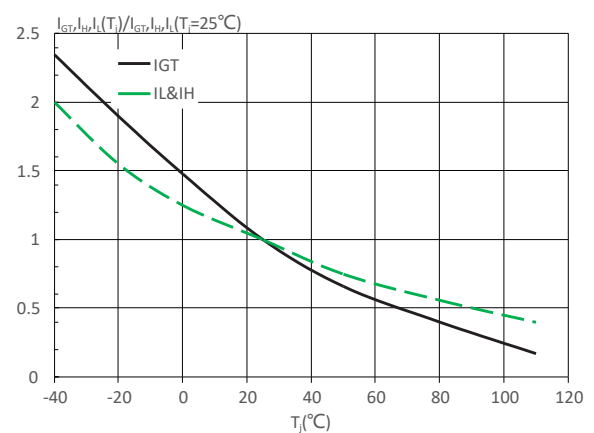
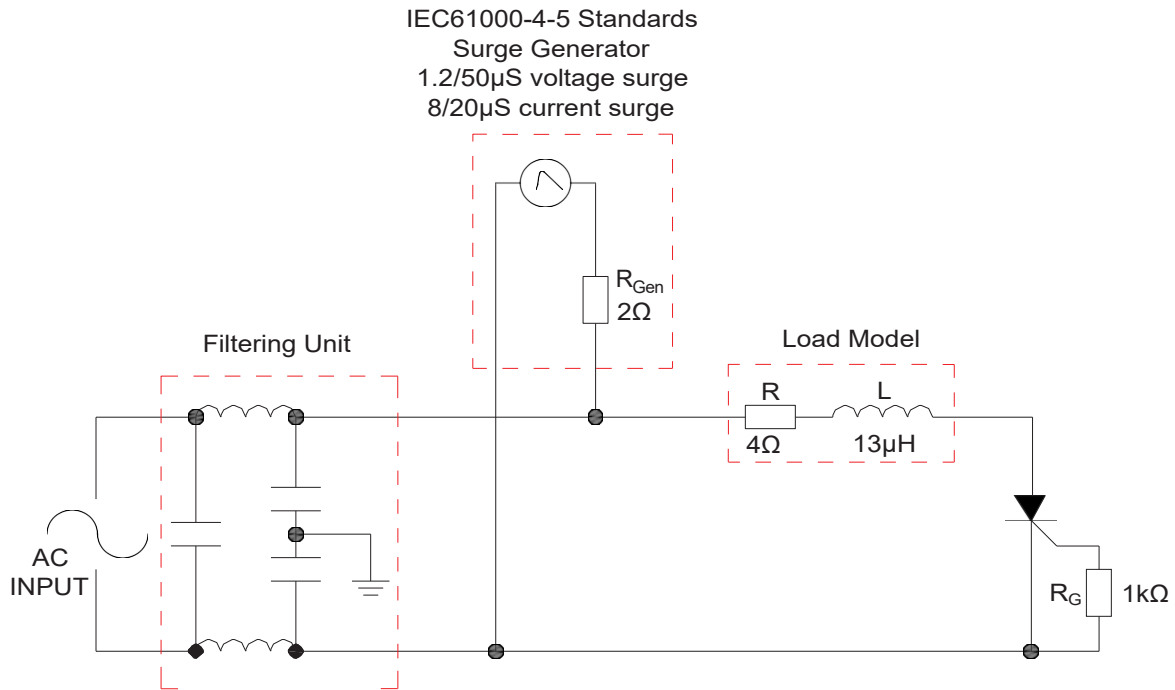


FIG : Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



LEAD FORMING AND SOLDERING

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