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۰۲۱۶۶۷۰۳۶۵۲



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Pb Free Plating Product

2P4M



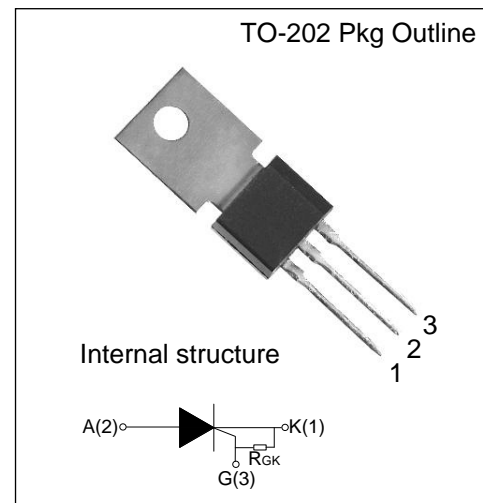
2.0 Ampere Passivated Process Thyristor---Sensitive Gate SCR

DESCRIPTION:

ThinkiSemi 2P4M SCR with the parallel resistor between Gate and Cathode are especially recommended for use on straight hair, igniter, anion generator etc..

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	2	A
I_{GT}	≤ 200	μA
V_{TM}	≤ 1.5	V

**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	V_{DRM}	600	V
Repetitive peak reverse voltage	V_{RRM}	600	V
RMS on-state current	$I_{T(RMS)}$	2	A
@ ($T_C=72^{\circ}C$)			
Non repetitive surge peak on-state current (tp=10ms)	I_{TSM}	20	A
I^2t value for fusing (tp=10ms)	I^2t	2	A^2s
Critical rate of rise of on-state current	di/dt	50	$A/\mu s$
Peak gate current (tp=20 μs , $T_j=110^{\circ}C$)	I_{GM}	0.2	A
Peak gate power (tp=20 μs , $T_j=110^{\circ}C$)	P_{GM}	0.5	W
Average gate power dissipation($T_j=110^{\circ}C$)	$P_{G(AV)}$	0.1	W

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	-	40	200	μA
V_{GT}		-	0.5	0.8	V
V_{GD}	$V_D=V_{DRM} T_j=110^\circ\text{C}$	0.2	-	-	V
I_L	$I_G=1.2 I_{GT}$	-	-	3	mA
I_H	$I_T=0.05\text{A}$	-	-	2	mA
dV/dt	$V_D=60\%V_{DRM} T_j=110^\circ\text{C} R_{GK}=1\text{K}\Omega$	10	-	-	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=4\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.5	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	μA
I_{RRM}		$T_j=110^\circ\text{C}$	100	μA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case	TO-202 Heat sink	10	$^\circ\text{C/W}$

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

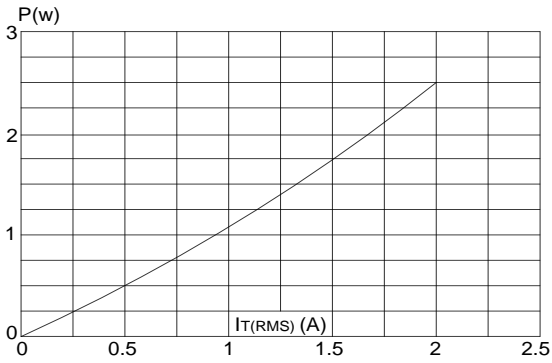


FIG.2 RMS on-state current versus case temperature

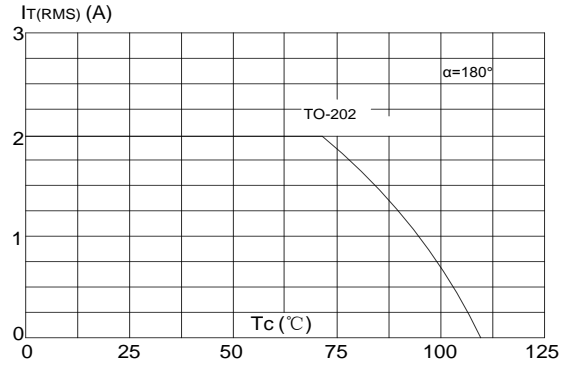


FIG.3 Surge peak on-state current versus number of cycles

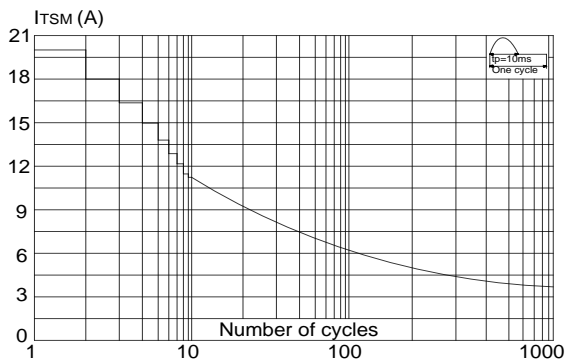


FIG.4 On-state characteristics (maximum values)

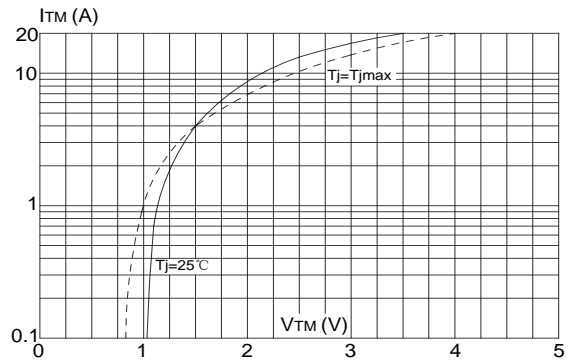


FIG.5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

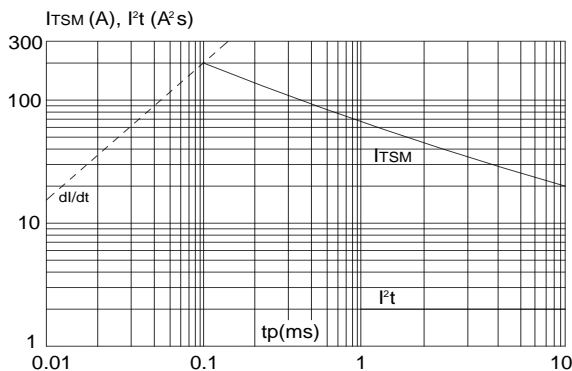


FIG.6 Relative variations of gate trigger current, holding current and latching current versus junction temperature

