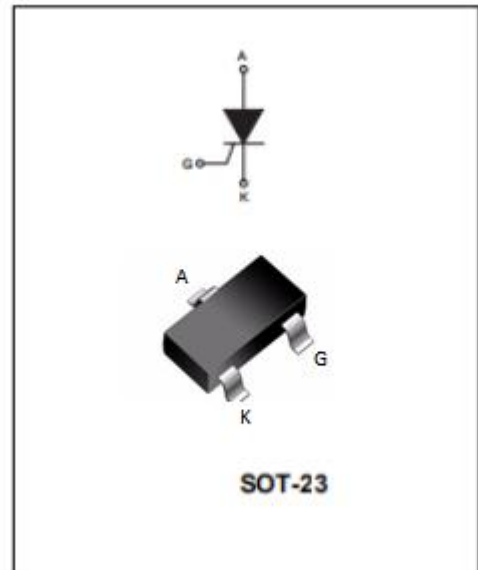


K08 Series 1A SCRs

DESCRIPTION:

Thanks to highly sensitive triggering levels, the K08 SCR series is suitable for all applications where the available gate current is limited, such as ground fault circuit interruptors, overvoltage crowbar protection in low power supplies, capacitive ignition circuits, ...



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1.0	A
$V_{DRM} V_{RRM}$	600	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	-40~125	$^{\circ}C$
Repetitive peak off-state voltage ($T = 25^{\circ}C$)	V_{DRM}	600	V
Repetitive peak reverse voltage ($T = 25^{\circ}C$)	V_{RRM}	600	V
RMS on-state current	$I_{T(RMS)}$	1.0	A
Non repetitive surge peak on-state current (180° conduction angle, $F=50Hz$)	I_{TSM}	12	A
Average on-state current (180° conduction angle)	$I_{T(AV)}$	0.6	A
I^2t value for fusing ($t_p=10ms$)	I^2t	0.72	A^2S
Critical rate of rise of on-state current ($I = 2 \times I_{GT}$, $t_r \leq 100 ns$)	dI/dt	50	$A/\mu S$
Peak gate current	I_{GM}	1.0	A
Average gate power dissipation	$P_{G(AV)}$	0.1	W

ELECTRICAL CHARACTERISTICS (T=25°C unless oth

Symbol	Test Condition		Value	Unit
I_{GT}	$V = 12V R = 140\Omega$	MAX.	200	μA
V_{GT}		MAX.	1.0	V
V_{GD}	$V_D = V_{DRM} T_j = 125^\circ C R_{GK} = 1K\Omega$	MIN.	0.2	V
I_L	$I_G = 1.2I_{GT}$	MAX.	6	mA
I_H	$I_T = 50mA$	MAX.	5	mA
dV/dt	$V_D = 2/3 V_{DRM}$ Gate Open $R_{GK} = 1K\Omega$ $T_j = 110^\circ C$	MIN.	200	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM} = 2.0A t_p = 380\mu s$	$T_j = 25^\circ C$	1.75	V
I_{DRM}	$V_D = V_{DRM} V_R = V_{RRM}$	$T_j = 25^\circ C$	5	μA
I_{RRM}		$T_j = 125^\circ C$	0.5	mA

Thermal Resistances

Symbol	Parameter	Value(MAX.)	Unit
$R_{th(j-a)}$	junction to ambient	150	$^\circ C/W$
$R_{th(j-t)}$	Junction to tab (DC)	40	

SOT-23-3L Package Mechanical Data

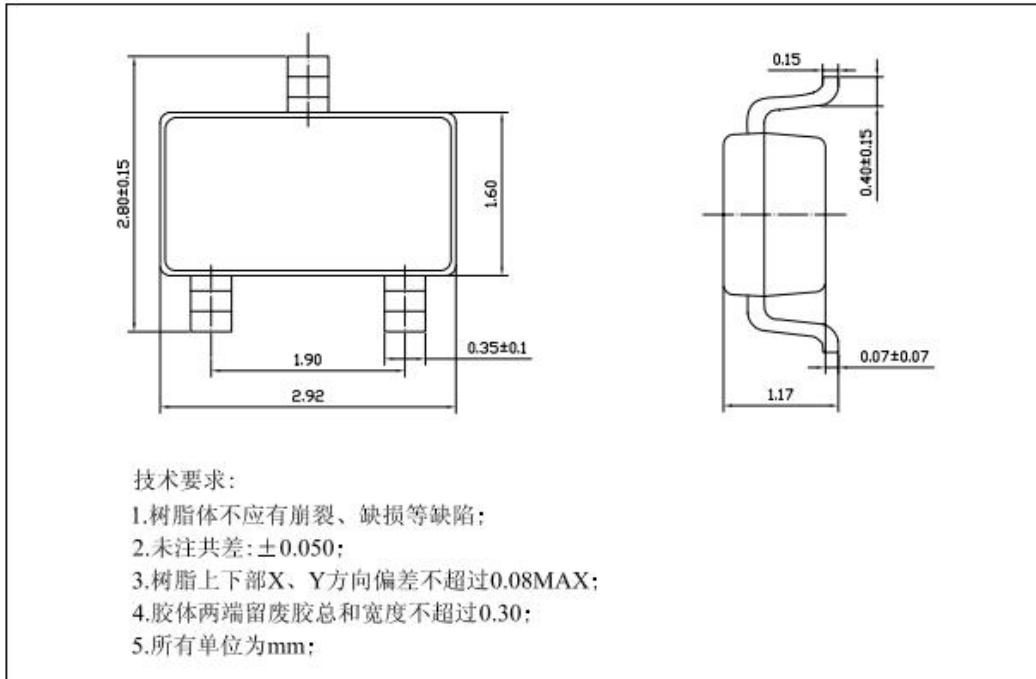


FIG.1 Maximum power dissipation versus Average on-state current

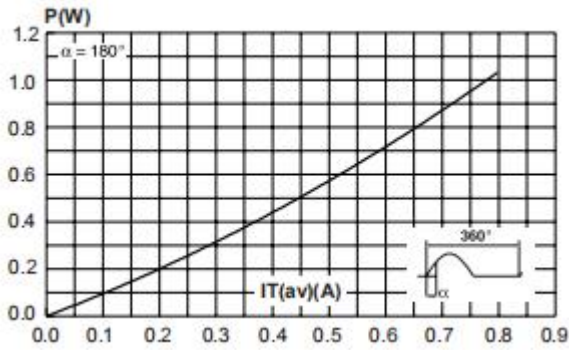


FIG.2: Average on-state current versus case temperature

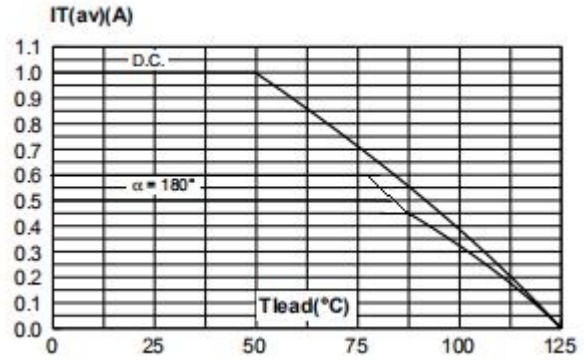


FIG.3: Surge peak on-state current versus number of cycles

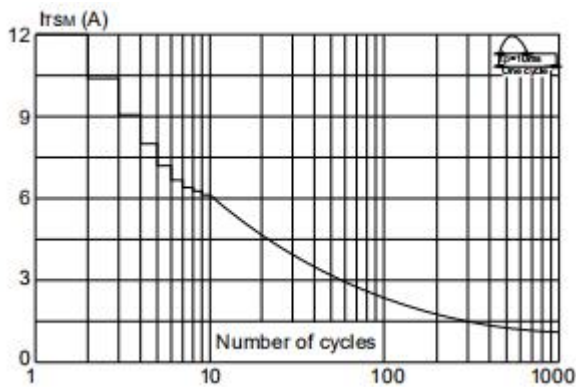


FIG.4: On-state characteristics (maximum values)

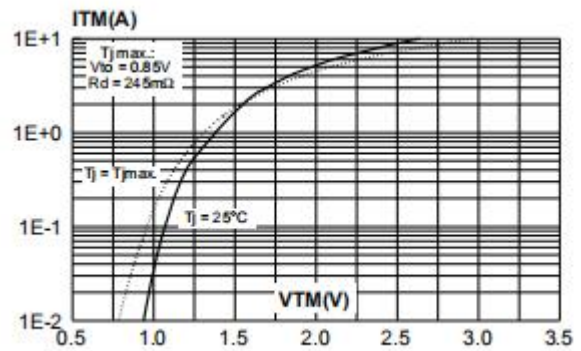


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I^2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

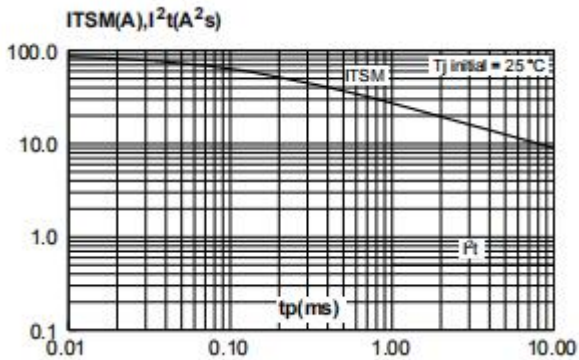
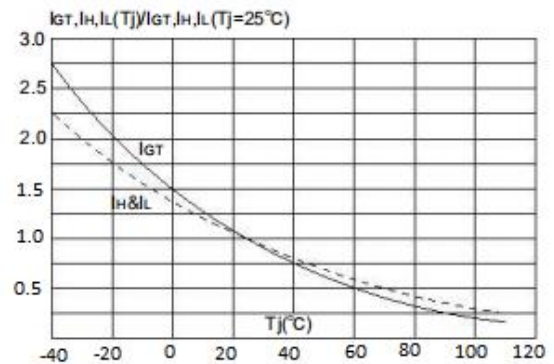


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature



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