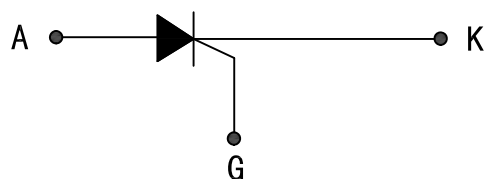
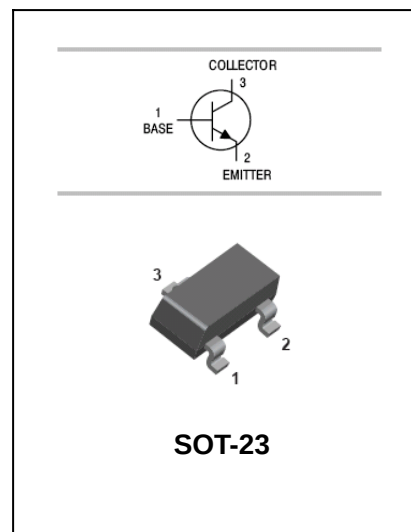


DESCRIPTION:

Highly sensitive triggering levels, the MCR16 Series SCRs is suitable for all applications, where the available gate current is limited, such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies...

MAIN FEATURES

Symbol	Value	Unit
$I_T(AV)$	0.8	A
V_{DRM}/V_{RRM}	400	V
I_{GT}	≤ 200	μA



ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T_{stg}	- 40 to +150	$^{\circ}C$
Operating junction temperature range		T_j	- 40 to +110	$^{\circ}C$
Repetitive Peak Off-state Voltage	$T_j=25^{\circ}C$	V_{DRM}	400	V
Repetitive Peak Reverse Voltage	$T_j=25^{\circ}C$	V_{RRM}	400	V
RMS on-state current (180° conduction angle)	$T_c=77^{\circ}C$	$I_T(RMS)$	0.8	A
Average on-state current (180° conduction angle)	$T_c=77^{\circ}C$	$I_T(AV)$	0.5	A
Non repetitive surge peak on-state current ($T_j=25^{\circ}C$)	$t_p=10ms$	I_{TSM}	9	A
	$t_p=8.3ms$		10	A
I^2t Value for fusing	$t_p=10ms$	I^2t	0.415	A^2s
Peak gate current	$t_p=20\mu s, T_j=110^{\circ}C$	I_{GM}	0.2	A
Average gate power dissipation	$T_j=110^{\circ}C$	$P_{G(AV)}$	0.1	W


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

Symbol	Test Condition		MCR16			Unit
			Min.	Typ.	Max.	
I_{GT}	$V_D=6V$ $R_L=100\Omega$		-	40	200	μA
V_{GT}			-	0.6	0.8	V
V_{GD}	$V_D=V_{DRM}$ $R_L=3.3K\Omega$ $R_{GK}=1K\Omega$ $T_j=110^{\circ}\text{C}$		0.2	-	-	V
I_L	$I_G=1mA$ $R_{GK}=1K\Omega$		-	-	6	mA
I_H	$I_T=50mA$ $R_{GK}=1K\Omega$		-	-	5	mA
V_{TM}	$I_T=1A$ $t_p=380\mu S$	$T_j=25\text{ }^{\circ}\text{C}$	-	1.3	1.7	V
dV/dt	$V_D=67\%V_{DRM}$ $R_{GK}=1K\Omega$	$T_j=110\text{ }^{\circ}\text{C}$	10	-	-	$V/\mu s$
I_{DRM}	$V_D=V_{DRM}$ $R_{GK}=1K\Omega$		$T_j=25\text{ }^{\circ}\text{C}$	-	-	5 μA
			$T_j=110\text{ }^{\circ}\text{C}$	-	-	0.1 mA
I_{RRM}	$V_R=V_{RRM}$ $R_{GK}=1K\Omega$		$T_j=25\text{ }^{\circ}\text{C}$	-	-	5 μA
			$T_j=110\text{ }^{\circ}\text{C}$	-	-	0.1 mA

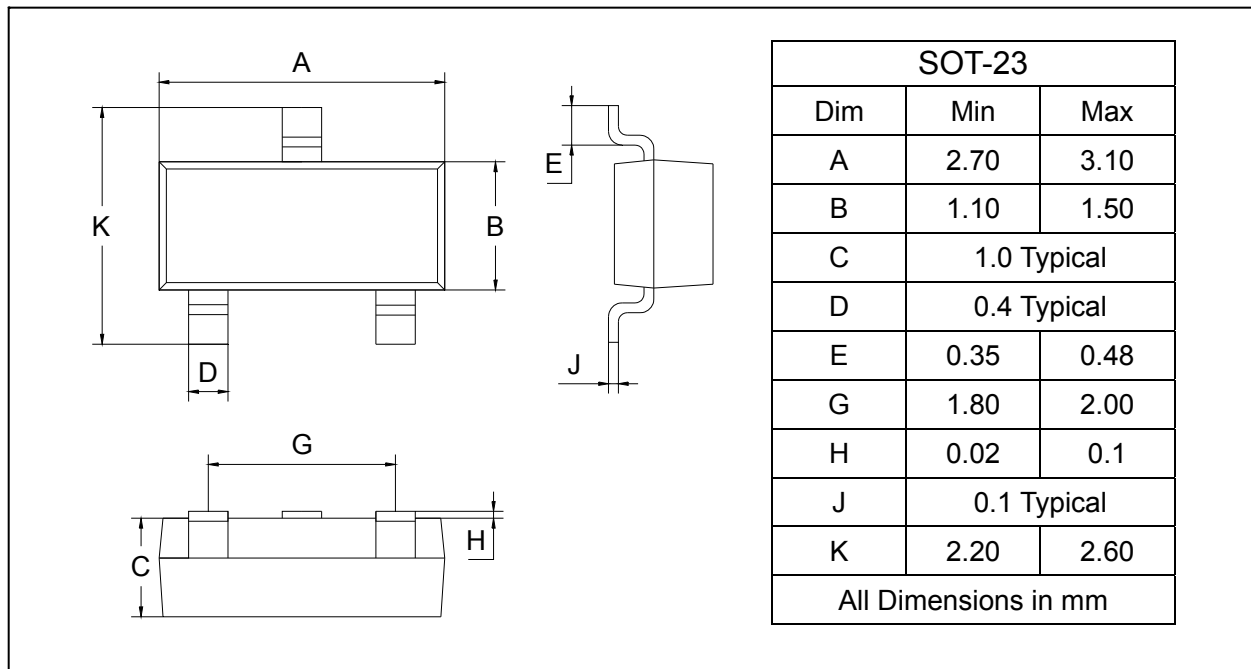
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th}(J-C)$	Junction to Case	SOT-23	75	$^{\circ}\text{C/W}$

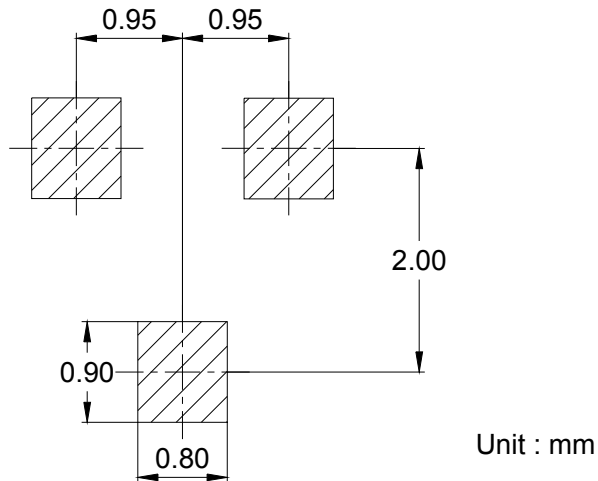
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
MCR16	SOT-23	3000/Tape&Reel



MCR16 Series SENSITIVE SCRs

FIG.1: Maximum power dissipation versus RMS on-state current(full cycle)

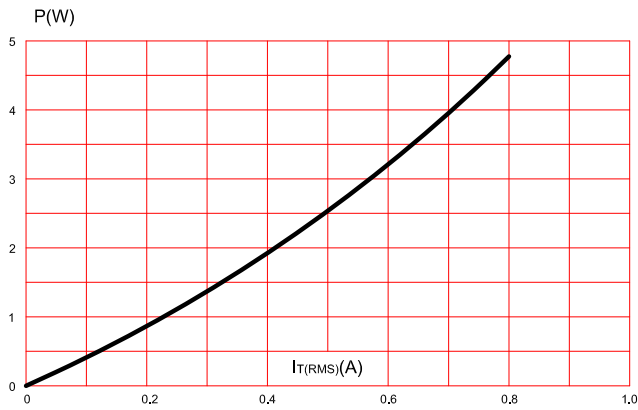


FIG.2: RMS on-state current versus case temperature(full cycle)

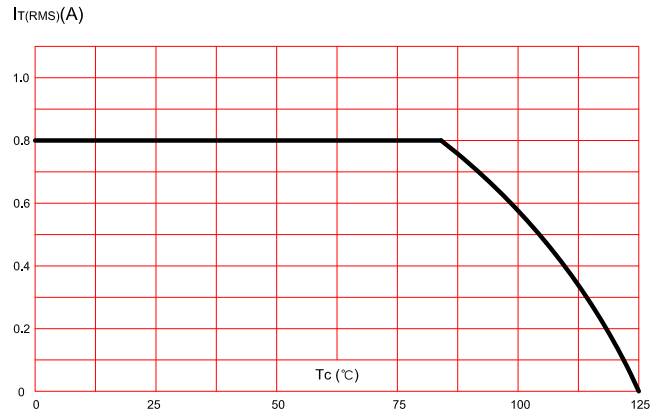


FIG.3: On-state characteristics (maximum values)

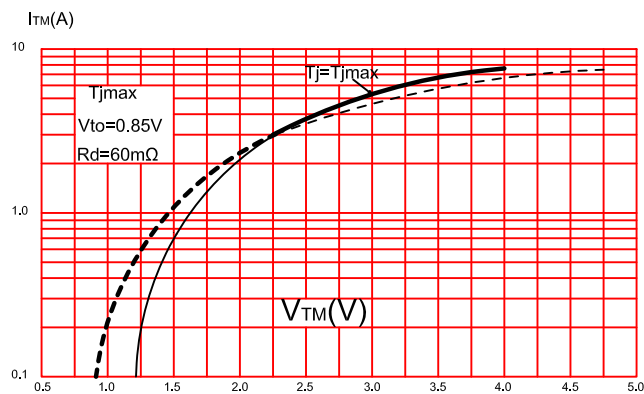


FIG.4: Surge peak on-state current versus number of cycles.

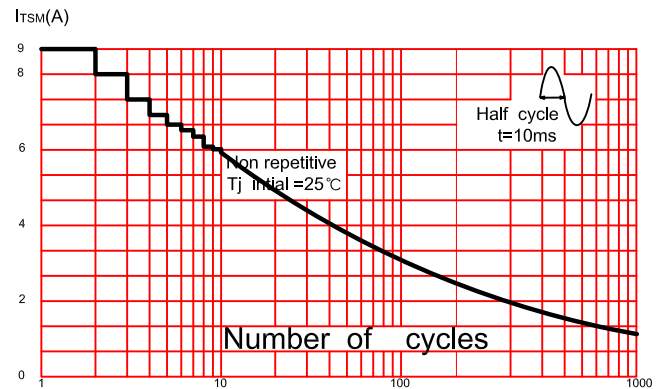


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$.

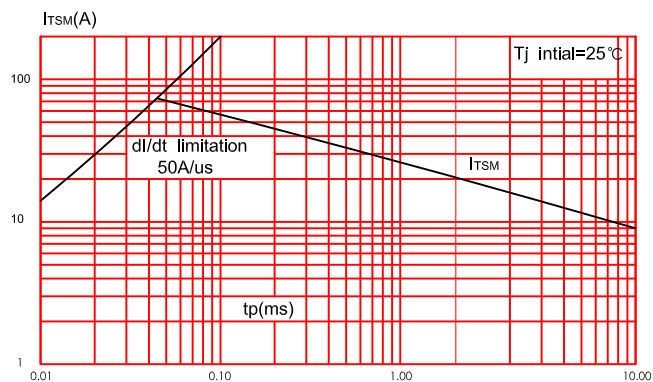


FIG.6: Relative variation of gate trigger current, holding current and latching current versus junction temperature(typical values).

