

**0.8A Sensitive Gate SCRs**

**Product Summary**

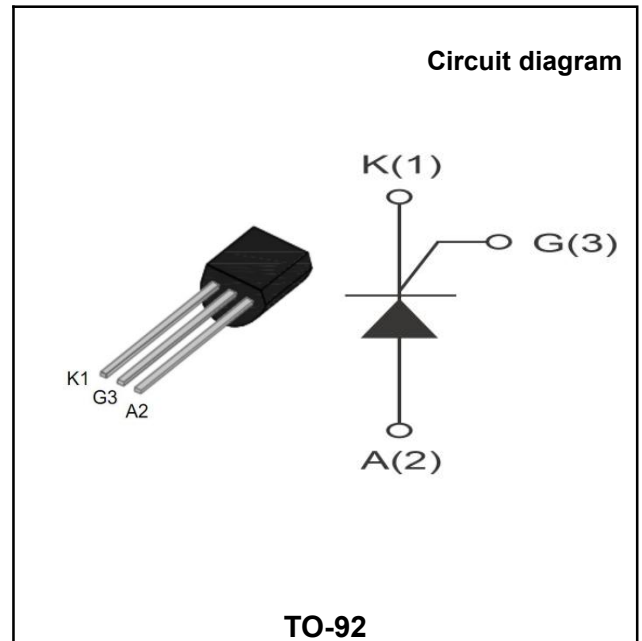
Symbol	Value	Unit
$I_{T(AV)}$	0.8	A
$V_{DRM} V_{RRM}$	600/800	V
$I_{GT}$	10~200	$\mu A$

**Features**

With high ability to withstand the shock loading of large current, Provide high dv/dt rate with strong resistance to electromagnetic interference.

**Application**

Power charger, T-tools, massager, solid state relay, AC Motor speed regulation and so on.



**Order Information**

Part Number	Package	Marking	Packing	Packing Quantity
MCR100-8G	TO-92	MCR100-8 XXXX	Box	1000 PCS/Box

**Absolute maximum ratings (Ta=25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage	$V_{DRM}$	600/800	V
Repetitive peak reverse voltage	$V_{RRM}$	600/800	V
RMS on-state current	$I_T(RMS)$	0.8	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	8	A
$I^2t$ value for fusing (tp=10ms)	$I^2t$	0.32	A <sup>2</sup> s
Critical rate of rise of on-state current ( $I_G = 2 \times I_{GT}$ )	$di_T/dt$	50	A/ $\mu s$
Peak gate current	$I_{GM}$	0.2	A
Average gate power dissipation	$P_G (AV)$	0.1	W
Junction Temperature	$T_J$	-40~+110	°C
Storage Temperature	$T_{STG}$	-40 ~+150	°C

**Electrical characteristics (TA=25°C, unless otherwise noted)**

Parameter	Symbol	Test Condition	Value		Unit
			Min	Max	
Gate trigger current	$I_{GT}$	$V_D=12V$ $I_T=10mA$ $T_j=25^\circ C$	10	200	$\mu A$
Gate trigger voltage	$V_{GT}$		-	0.8	V
Gate non-trigger voltage	$V_{GD}$	$V_D = 1/2V_{DRM}$ $T_j = 110^\circ C$	0.2	-	V
latching current	$I_L$	$V_D = 12V$ $I_G=0.5mA$ $R_{GK}=1k\Omega$ $T_j=25^\circ C$	-	3	mA
Holding current	$I_H$		-	4	mA
Critical-rate of rise of commutation voltage	$dV_D/dt$	$V_D=2/3V_{DRM}$ Gate Open $T_j=110^\circ C$	10	-	V/us

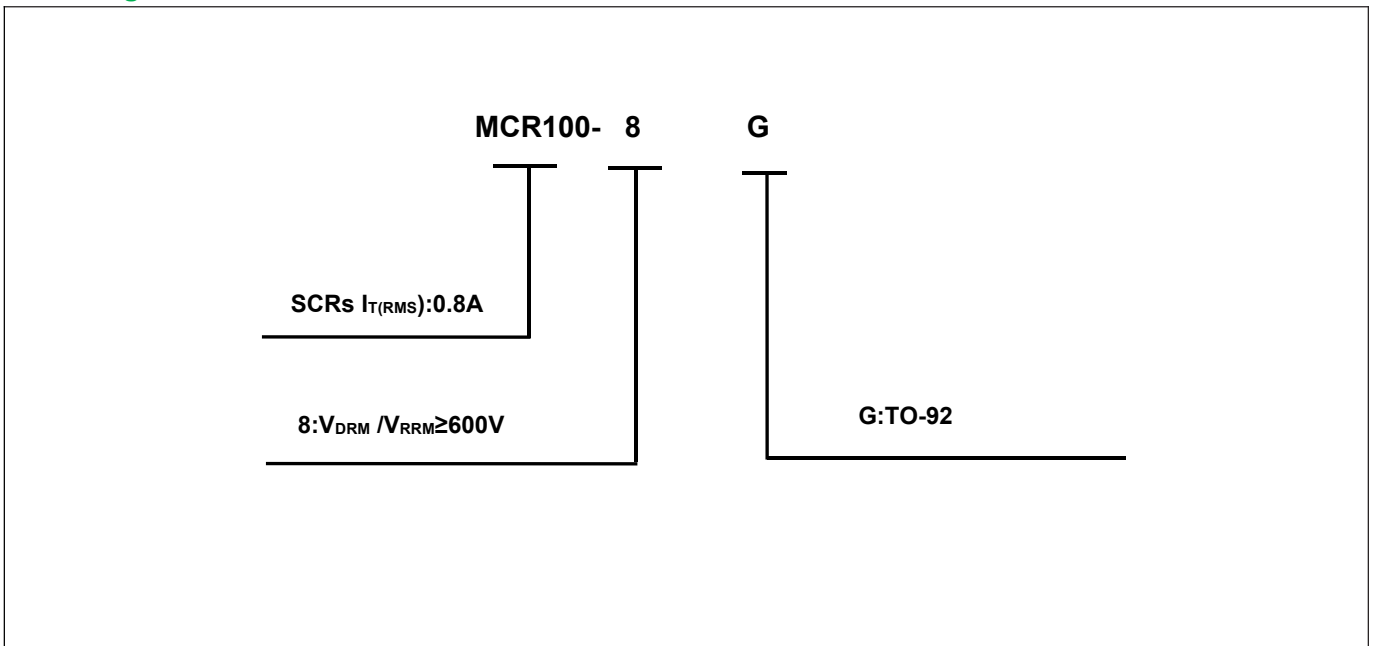
**STATIC CHARACTERISTICS**

Forward "on" voltage	$V_{TM}$	$I_{TM} = 1.2A$ $t_p=380\mu s$	-	1.55	V	
Repetitive Peak Off-State Current	$I_{DRM}$	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ C$	-	5	$\mu A$
Repetitive Peak Reverse Current	$I_{RRM}$		$T_j=110^\circ C$	-	0.1	mA

**THERMAL RESISTANCES**

Thermal resistance	$R_{th(j-c)}$	Junction to case(AC)	TYP.	60	$^\circ C/W$
	$R_{th(j-a)}$	Junction to ambient	TYP.	150	$^\circ C/W$

**Ordering Information**



Typical Characteristics

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

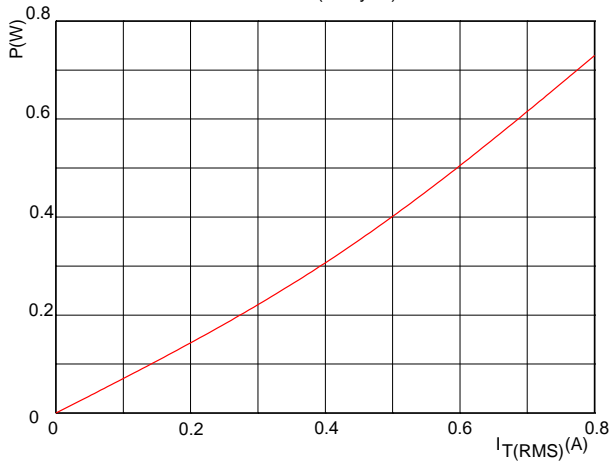


FIG.2: RMS on-state current versus case temperature (full cycle)

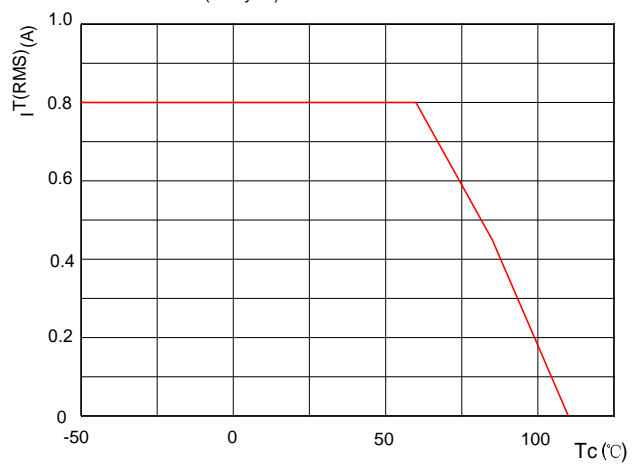


FIG.3: Surge peak on-state current versus number of cycles

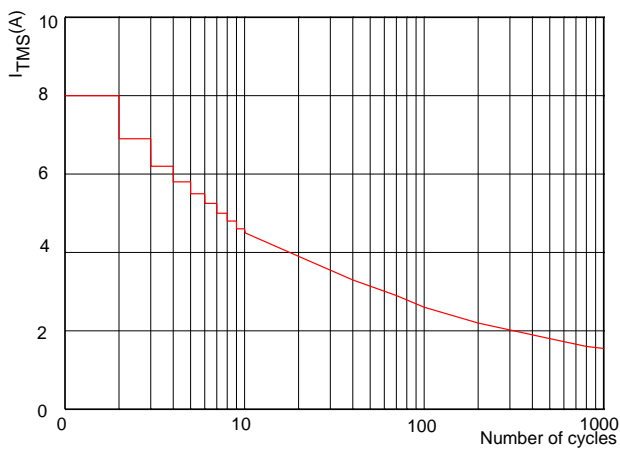


FIG.4: On-state characteristics (maximum values)

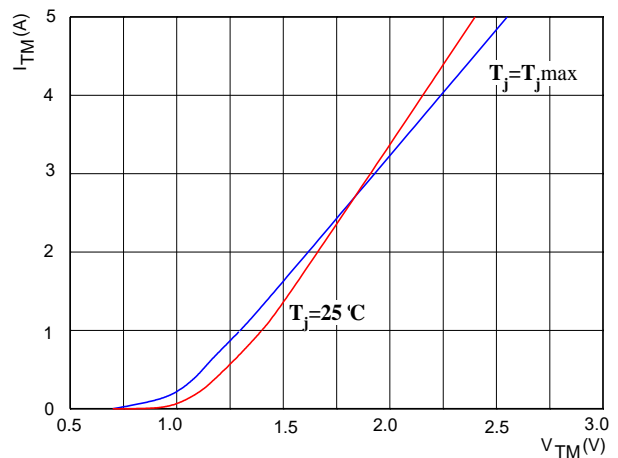


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$

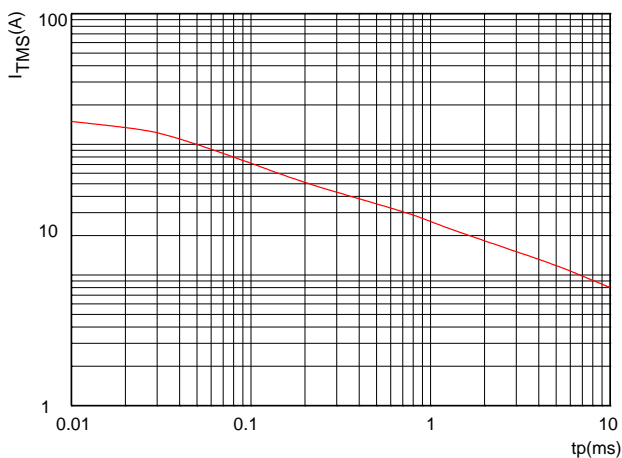
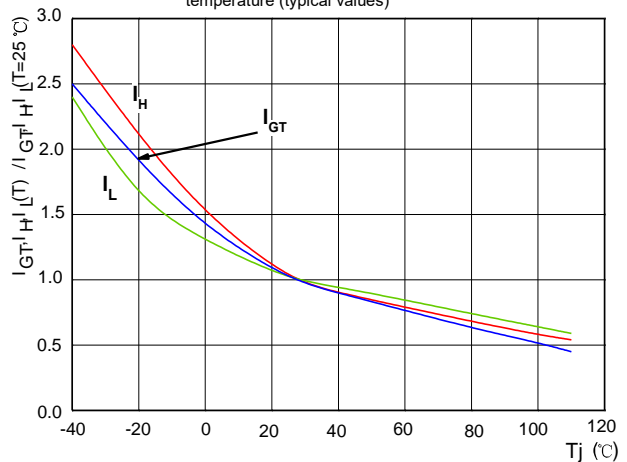
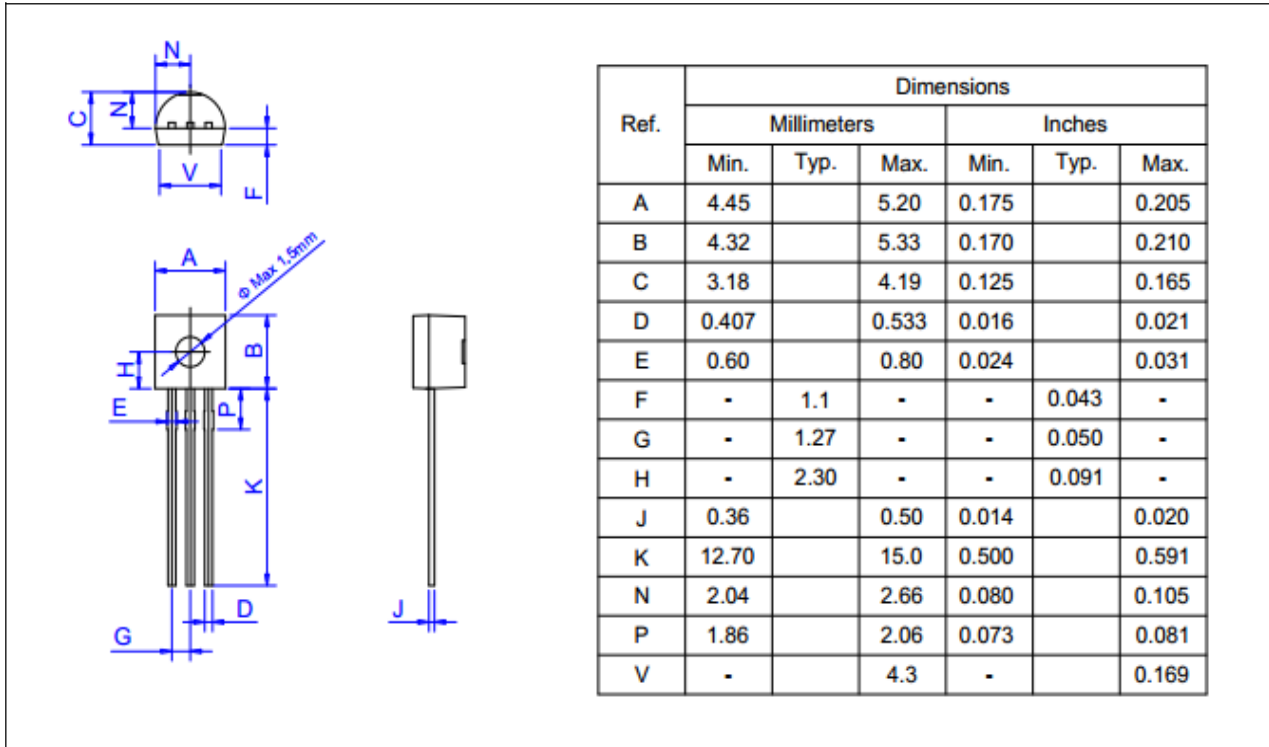


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Package Information

TO-92



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