

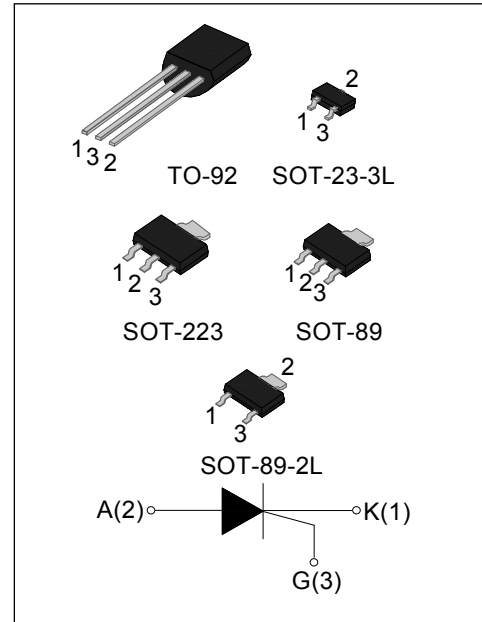
## 100-8 Series 0.8A Sensitive SCRs

### DESCRIPTION:

The 100-8 SCR series provide high  $dv/dt$  rate with strong resistance to electromagnetic interface. They are especially recommended for use on residual current circuit breaker, straight hair, igniter etc.

### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	0.8	A
$I_{GT}$	$\leq 200$	$\mu A$
$V_{DRM}/V_{RRM}$	600	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	TO-92/ SOT-23-3L ( $T_C=65^{\circ}C$ )	$I_{T(RMS)}$	0.8	A
	SOT-89-2L/ SOT-89 ( $T_C=70^{\circ}C$ )			
	SOT-223 ( $T_C=75^{\circ}C$ )			
Non repetitive surge peak on-state current ( $t_p=10ms$ )		$I_{TSM}$	8	A
$I^2t$ value for fusing ( $t_p=10ms$ )		$I^2t$	0.32	$A^2s$
Critical rate of rise of on-state current		$di/dt$	50	$A/\mu s$
Peak gate current ( $t_p=20\mu s$ , $T_j=110^{\circ}C$ )		$I_{GM}$	0.2	A
Peak gate power ( $t_p=20\mu s$ , $T_j=110^{\circ}C$ )		$P_{GM}$	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.	
$I_{GT}$	$V_D=12\text{V } R_L=33\Omega$	20	50	200	$\mu\text{A}$
$V_{GT}$		-	0.6	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
$dV/dt$	$V_D=2/3V_{DRM} \ T_j=110^{\circ}\text{C} \ R_{GK}=1\text{K}\Omega$	100	-	-	$\text{V}/\mu\text{s}$

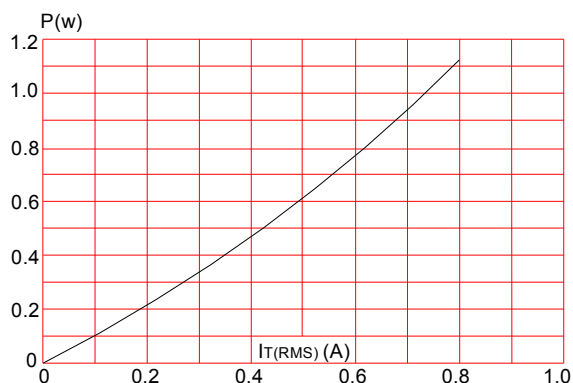
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_T=1.1\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
$I_{DRM}$	$V_D=V_{DRM} \ V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	$\mu\text{A}$
$I_{RRM}$		$T_j=110^{\circ}\text{C}$	100	$\mu\text{A}$

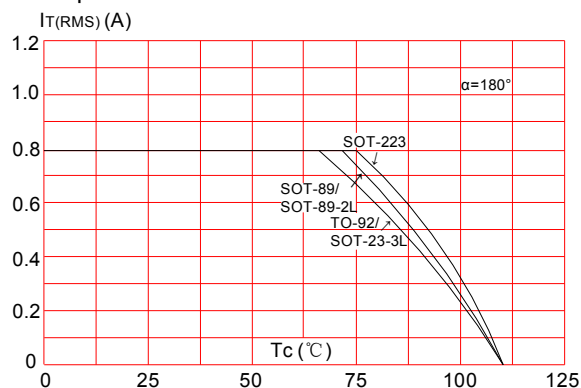
**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case	TO-92/ SOT-23-3L	75	$^{\circ}\text{C}/\text{W}$
		SOT-89	45	
		SOT-223	31	
		SOT-89-2L	38	

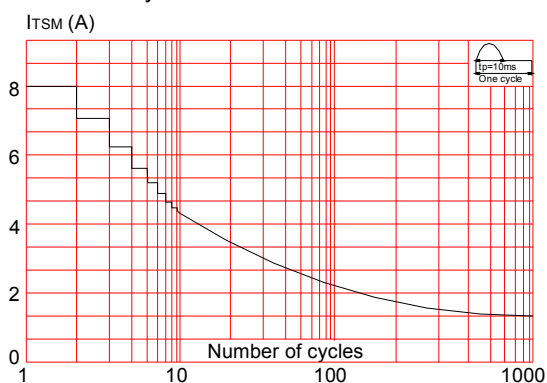
**FIG.1** Maximum power dissipation versus RMS on-state current



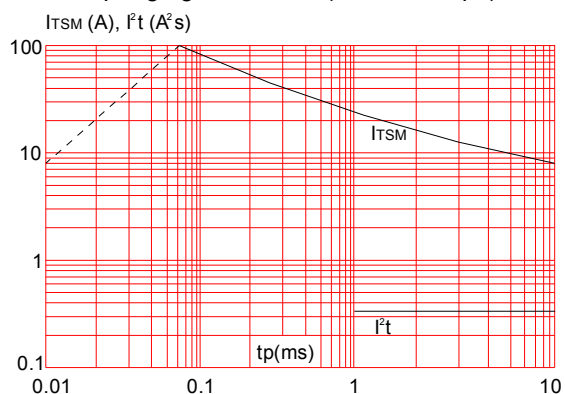
**FIG.2:** RMS on-state current versus case temperature



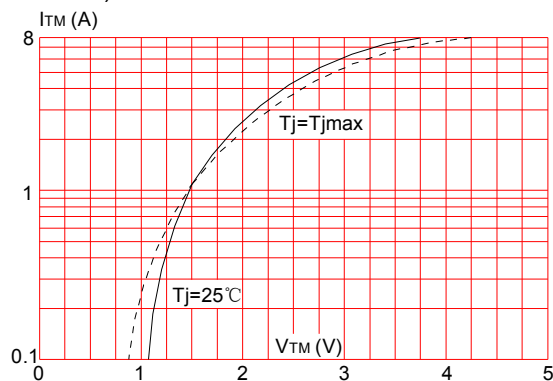
**FIG.3:** Surge peak on-state current versus number of cycles



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



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

