



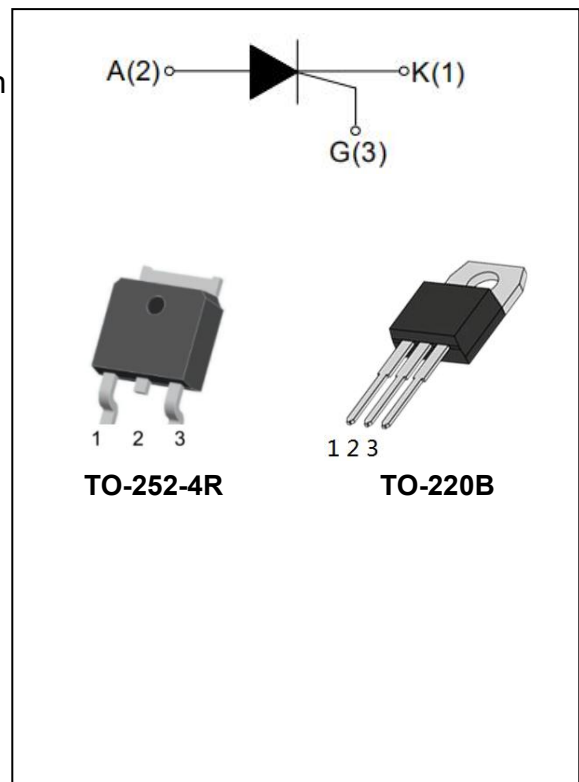
WR0805 8A Sensitive SCRs

DESCRIPTION:

The WR0805 SCR series provide high dv/dt rate with strong resistance to electromagnetic interference. They are especially recommended for use on straight hair, igniter etc.

MAIN FEATURES:

symbol	value	unit
$I_{T(RMS)}$	8	A
I_{GT}	≤ 200	μA
V_{DRM}/V_{RRM}	600/800	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 ($T_j=25^{\circ}C$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	800	V
RMS on-state current	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, $F=50Hz$)	I_{TSM}	80	A
I^2t value for fusing ($t_p=10ms$)	I^2t	32	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	50	$A/\mu s$
Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	2	W



WR0805 8A Sensitive SCRs

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

Symbol	Test Condition	Value			Unit
		MIN	TYPE	MAX	
I_{GT}	$V_D=12\text{V}, R_L=33\Omega$	-	50	200	μA
V_{GT}		-	0.6	0.8	V
V_{GD}	$V_D=V_{DRM}, T_j=110^\circ\text{C}$ $R_L=3.3\text{k}\Omega$	0.2	-	-	V
I_H	$I_T=50\text{mA}$	-	-	5	mA
I_L	$I_G=1.2I_{GT}$	-	-	6	mA
dV/dt	$V_D=0.66 \times V_{DRM}, T_j=110^\circ\text{C}$ Gate open $R_{GK}=1\text{k}\Omega$	10	-	-	V/ μs

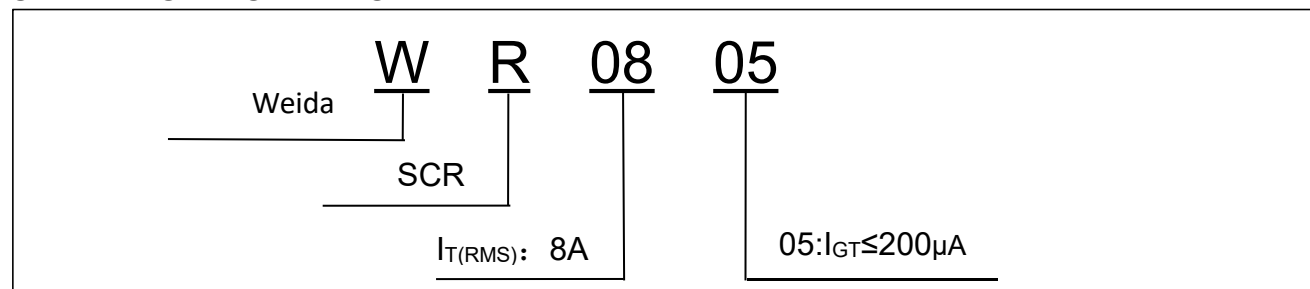
STATIC CHARACTERISTICS

Symbol	Test Condition		Value	Unit
V_{TM}	$I_{TM}=16\text{A}, t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	MAX	1.55 V
I_{DRM} I_{RRM}	$V_{DRM}=V_{RRM}$ $R_{GK}=1\text{k}\Omega$	$T_j=25^\circ\text{C}$	MAX	5 μA
		$T_j=110^\circ\text{C}$		0.5 mA

THERMAL RESISTANCES

Symbol	Test Condition		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-252-4R	2.3	$^\circ\text{C/W}$
		TO-220B	2.1	

ORDERING INFORMATION

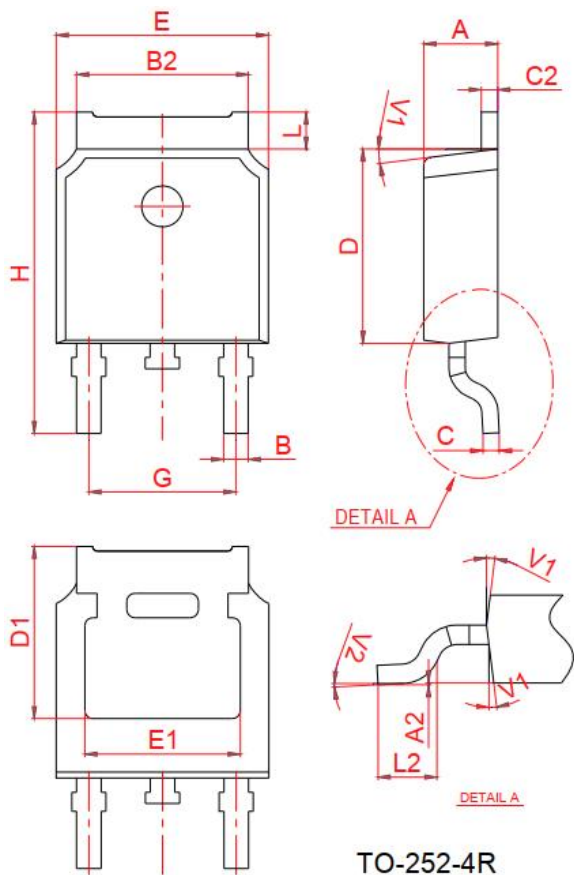




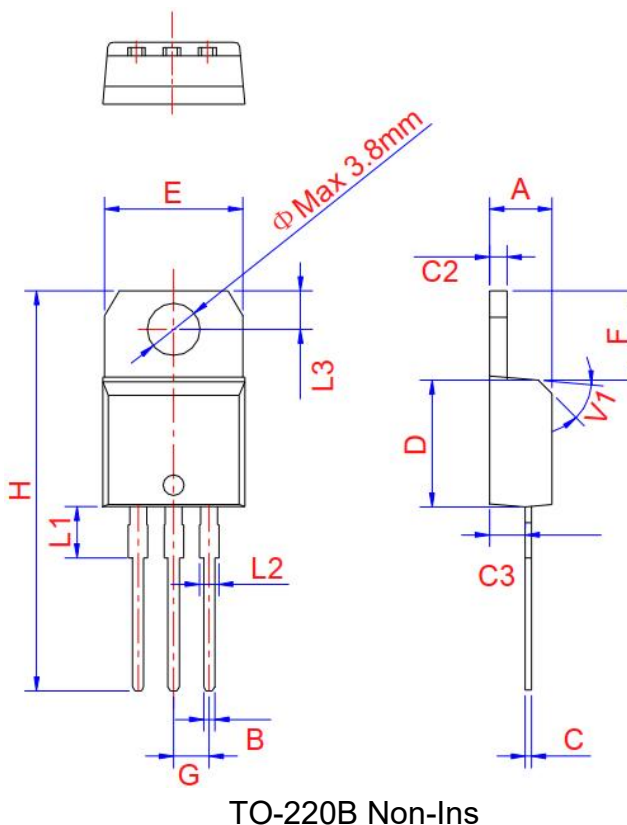
Jiangsu Weida Semiconductor Co., Ltd.

WR0805 8A Sensitive SCRs

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.2		2.4	0.087		0.094
A2	0		0.1	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.1		5.46	0.201		0.215
C	0.46		0.58	0.018		0.023
C2	0.44		0.58	0.017		0.023
D	5.9		6.3	0.232		0.248
D1	5.30REF			0.211REF		
E	6.4		6.8	0.252		0.268
E1	4.63			0.182		
G	4.372		4.772	0.172		0.188
H	9.8		10.4	0.386		0.409
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.4	4.47	4.6	0.173	0.176	0.181
B	0.61		0.88	0.024		0.035
C	0.46	0.50	0.7	0.018	0.02	0.028
C2	1.21	1.27	1.32	0.048	0.050	0.052
C3	2.4		2.72	0.094		0.107
D	8.6		9.7	0.339		0.382
E	9.8		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.7	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	



Jiangsu Weida Semiconductor Co., Ltd.

WR0805 8A Sensitive SCRs

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

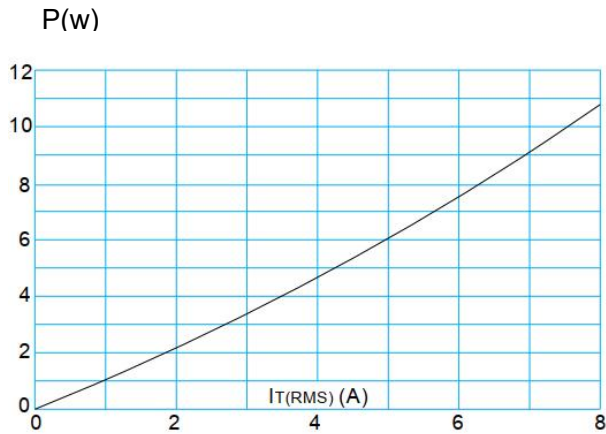


FIG.3: Surge peak on-state current versus number of cycles

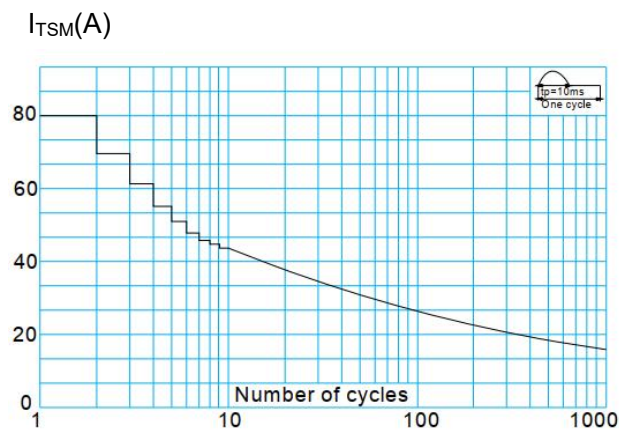


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($dI/dt < 50\text{A}/\mu\text{s}$)

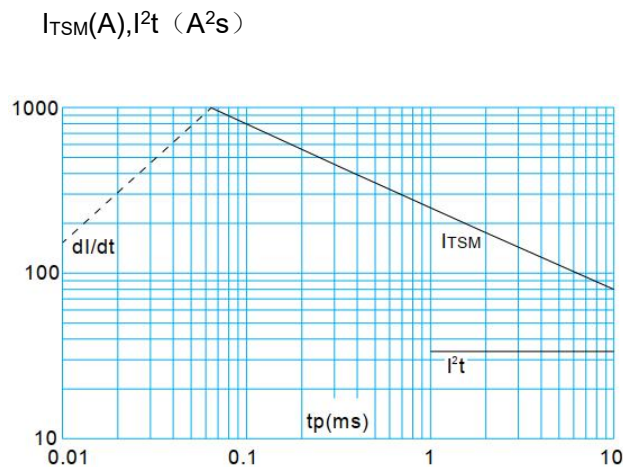


FIG.2: RMS on-state current versus case temperature

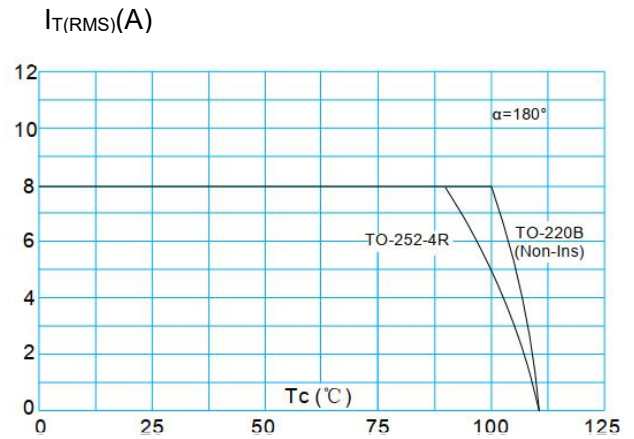


FIG.4: On-state characteristics (maximum values)

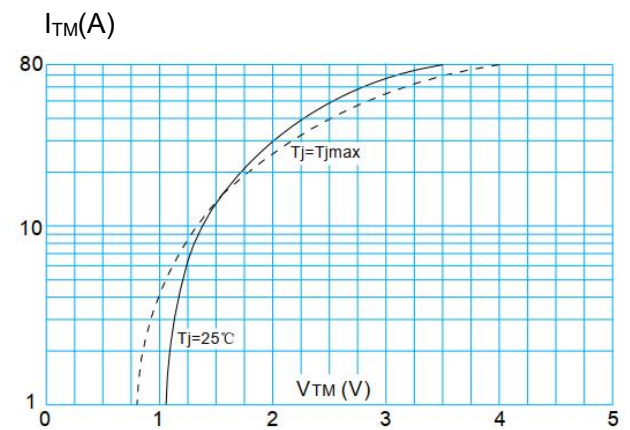
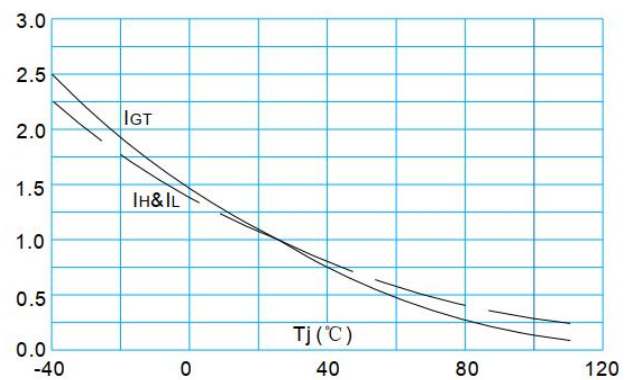


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

$$I_{GT, I_H, I_L}(T_j) / I_{GT, I_H, I_L}(T_j = 25^\circ\text{C})$$





Jiangsu Weida Semiconductor Co., Ltd.

WR0805 8A Sensitive SCRs

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu Weida Semiconductor Co., Ltd assumes no responsibility for the consequences of use without consideration for such information nor use beyond it.

Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu Weida Semiconductor Co., Ltd complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu Weida Semiconductor Co., Ltd assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.