



JR0805 Series Sensitive gate SCRs

Rev.3.0

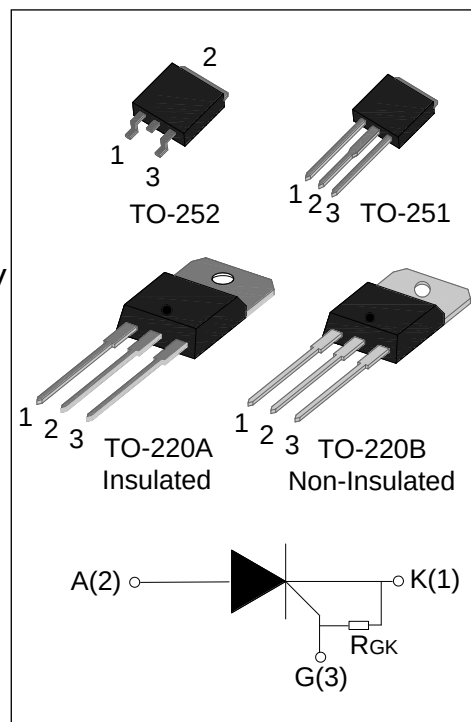
DESCRIPTION:

Because of highly sensitive triggering levels, the JR0805 SCR series are suitable for all applications where the available gate current is limited, such as hair straighteners and flame igniters.

JR0805A provides insulation voltage rated at 2500V RMS from all three terminals to external heatsink.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	8	A
I_{GT}	≤ 200	μA
V_{TM}	≤ 1.55	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-220A(Ins) ($T_C=95^{\circ}C$)	$I_{T(RMS)}$	8	A
	TO-220B(Non-Ins) ($T_C=100^{\circ}C$)			
	TO-251/ TO-252 ($T_C=90^{\circ}C$)			
Non repetitive surge peak on-state current ($t_p=10ms$)		I_{TSM}	70	A
I^2t value for fusing ($t_p=10ms$)		I^2t	24.5	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}	4	A
Peak gate power ($t_p=20\mu s$, $T_j=110^{\circ}C$)		P_{GM}	2	W

Average gate power dissipation($T_j=110^{\circ}\text{C}$)	$P_{G(AV)}$	1	W
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ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V}$ $R_L=140\Omega$	-	-	200	μA
V_{GT}		-	-	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	$V_D=2/3V_{DRM}$ $T_j=110^{\circ}\text{C}$ $R_{GK}=1\text{K}\Omega$	10	-	-	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=16\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.55	V
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=110^{\circ}\text{C}$	500	μA

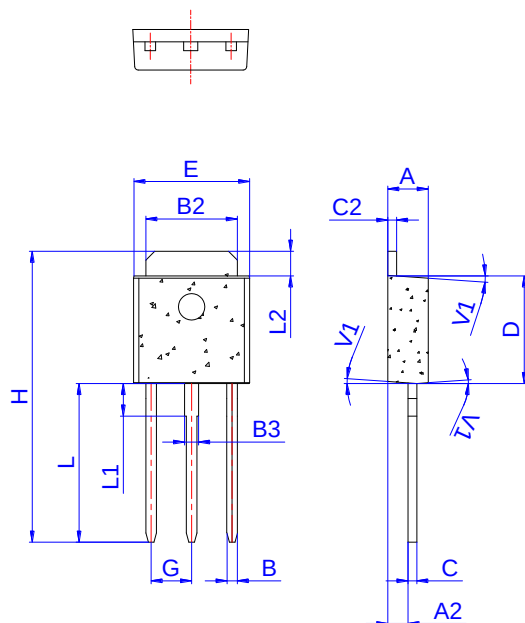
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case	TO-220A(Ins)	17	$^{\circ}\text{C/W}$
		TO-220B(Non-Ins)	15	
		TO-251/ TO-252	20	

ORDERING INFORMATION

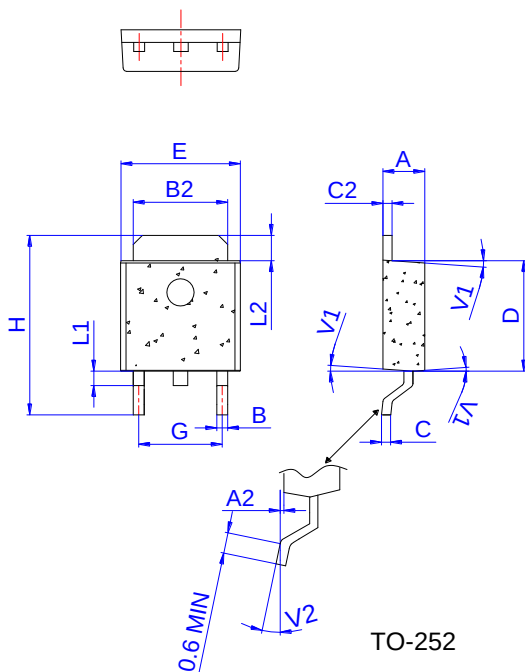
J <u>JieJie Microelectronics Co.,Ltd</u> <u>Sensitive gate SCRs</u> R <u>$I_{T(RMS)}:8\text{A}$</u> 08 05 <u>05: $I_{GT} \leq 200\mu\text{A}$</u> H <u>A:TO-220A(Ins)</u> <u>B:TO-220B(Non-Ins)</u> <u>H:TO-251 K:TO-252</u>				
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PACKAGE MECHANICAL DATA



TO-251

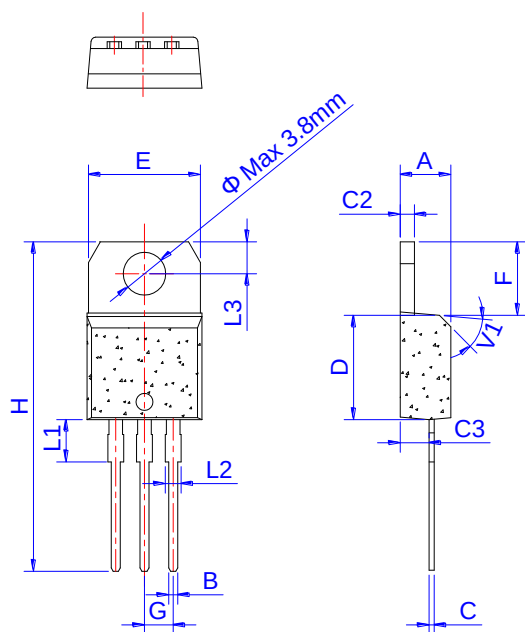
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.90		1.20	0.035		0.047
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
B3	0.76		0.85	0.030		0.033
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G		2.30			0.091	
H	16.0		17.0	0.630		0.669
L	8.90		9.40	0.350		0.370
L1	1.80		1.90	0.071		0.075
L2	1.37		1.50	0.054		0.059
V1		4°			4°	



TO-252

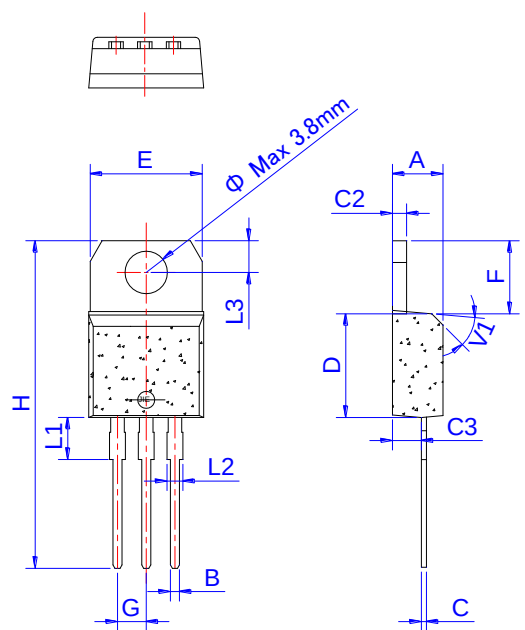
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G	4.40		4.70	0.173		0.185
H	9.35		10.6	0.368		0.417
L1	1.30		1.70	0.051		0.067
L2	1.37		1.50	0.054		0.059
V1		4°			4°	
V2	0°		8°	0°		8°

PACKAGE MECHANICAL DATA



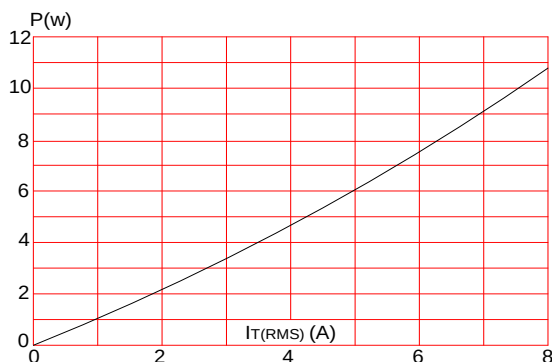
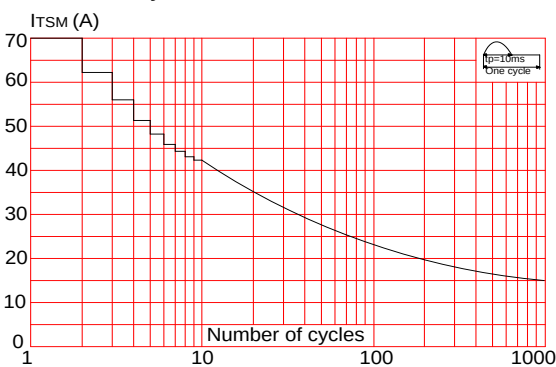
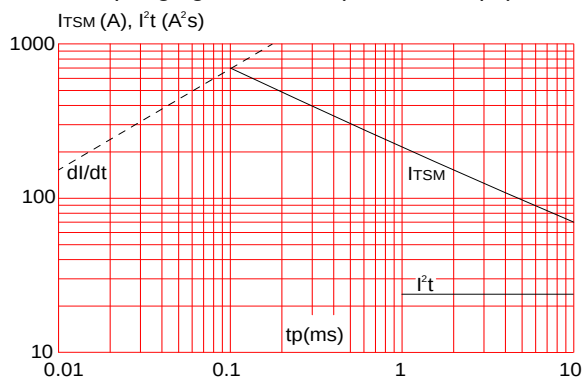
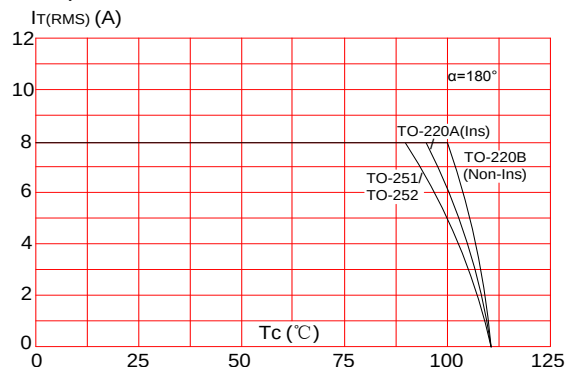
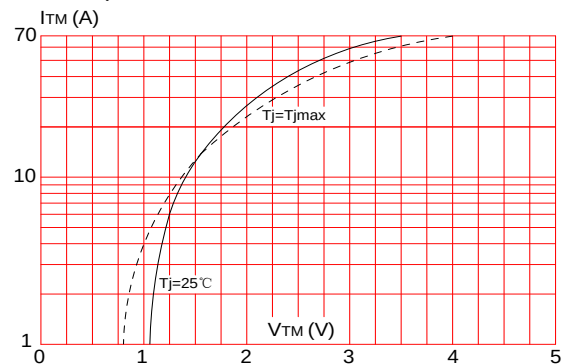
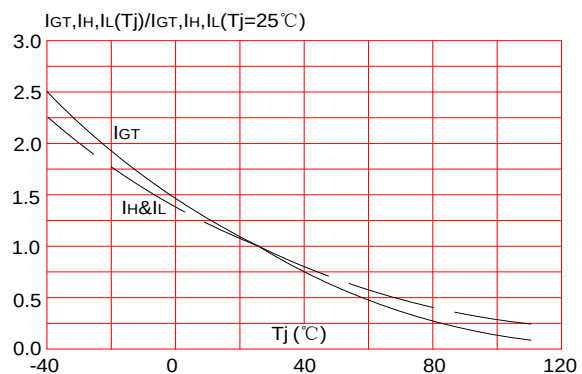
TO-220A Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	



TO-220B Non-Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.60		10.4	0.378		0.409
F	6.20		6.60	0.244		0.260
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

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 $t_p < 10\text{ms}$, 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

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