

FEATURES

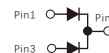
- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL Level 1, per J-STD-020,LF MAX peak of 260°C (for TO-263 package)
- Solder bath temperature 275°C maximum,10s,per JESD22-B106 (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2015/863/EU



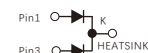
TO-220AB



ITO-220AB



TO-263
SR2080LD1



MECHANICAL DATA

- Case: JEDEC TO-220AB、ITO-220AB、TO-263
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting Torque: 10 in-lbs maximum

TYPICAL APPLICATIONS

For use in low voltage ,high frequency inverters ,DC/DC converters,free wheeling ,and polarity protection applications

MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	80	V
Maximum average forward rectified current,D=0.5, Square waveform, $T_c \leq 126^\circ\text{C}$ for TO-220AB and TO-263, $T_c \leq 103^\circ\text{C}$ for ITO-220AB (see Fig.1)	Per leg	10.0	A
	Total device	20.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL, Total device)	I_{FSM}	200	A
Peak repetitive reverse current per diode at $t_p=2\mu\text{s}$ 1KHz	I_{RRM}	0.5	A
Operating junction and Storage temperature range	T_j, T_{stg}	-55 to+150	$^\circ\text{C}$
Isolation voltage(I TO-220AB only)from terminals to heatsink $t=1$ min	V_{AC}	1500	V

PRIMARY CHARACTERISTICS	
$I_F(AV)$	2×10A
V_{RRM}	80V
I_{FSM}	200A
VF at $I_F=10.0A$,Per leg	0.58V
I_r	15 μ A
$T_j(MAX)$	150 $^\circ\text{C}$
Package	TO-220AB, ITO-220AB, TO-263
Diode variations	Common cathode

ELECTRICAL CHARACTERISTICS (Per leg, $T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	$I_F=10.0\text{A}$	$T_A=25^{\circ}\text{C}$	V_F ¹⁾	0.58	0.62	V
		$T_A=100^{\circ}\text{C}$		0.55	–	
		$T_A=125^{\circ}\text{C}$		0.54	–	
	$I_F=5.0\text{A}$	$T_A=25^{\circ}\text{C}$		0.49	0.53	
		$T_A=100^{\circ}\text{C}$		0.45	–	
		$T_A=125^{\circ}\text{C}$		0.44	–	
Reverse current	$V_R=80\text{V}$	$T_A=25^{\circ}\text{C}$	I_R ²⁾	15	200	μA
		$T_A=100^{\circ}\text{C}$		2	–	mA
		$T_A=125^{\circ}\text{C}$		7	–	
Typical junction capacitance	4V, 1MHz		C_J	570		pF

 Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

 2.Pulse test: pulse width $\leq 40\text{ms}$

THERMAL CHARACTERISTICS

Parameter	Symbol	SR2080LCT	SRF2080LCT	SR2080LD1	Unit
Typical thermal resistance ³⁾	$R_{\theta jc}$	2.0	4.0	2.0	$^{\circ}\text{C}/\text{W}$

3.Thermal resistance from junction to case,Total device

AVAILABLE PACK INFORMATION

Product code	Pack	Carton Size L×W×H(mm)	Inner Box Size L×W×H(mm)	Tube Length (mm)	Inner Box Number	Tube Number Per A Inner Box	Part Number Per A Tube	Quantity(carton) (K)
SR2080LCT-TO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SRF2080LCT-ITO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SR2080LD1-TO-263	Tube	565×225×170	548×151×37	538	5	20	50	5
Product code	Pack	Carton Size L×W×H(mm)	Inner Box Size L×W×H(mm)	Reel Diameter (mm)	Inner Box Number	Reel Number Per A Inner Box	Part Number Per A Reel	Quantity(carton) (K)
SR2080LD1-TO-263	Reel	364×364×235	330×330×38	$\phi 330$	5	1	800	4

FIG.1-FORWARD CURRENT DERATING CURVE

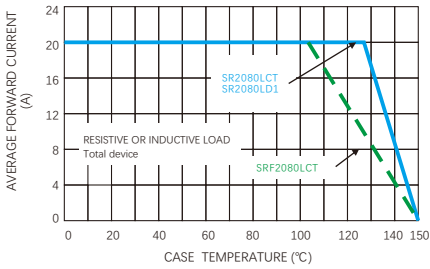


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

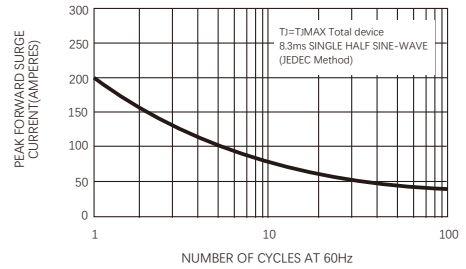


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

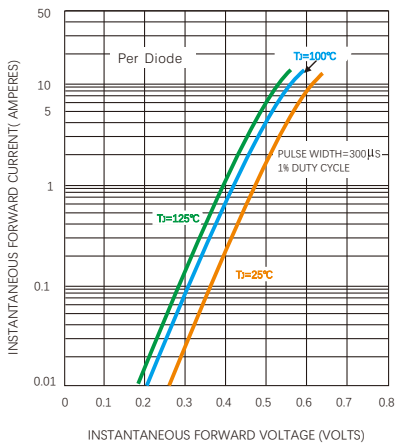


FIG.4-TYPICAL REVERSE CHARACTERISTICS

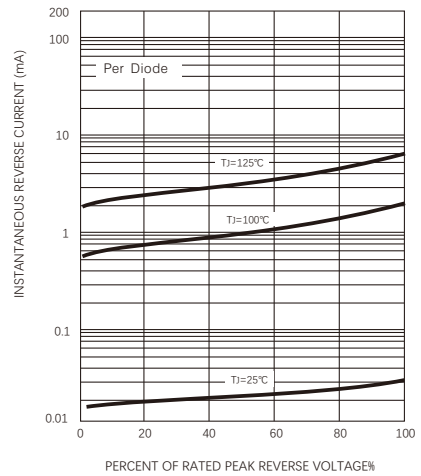
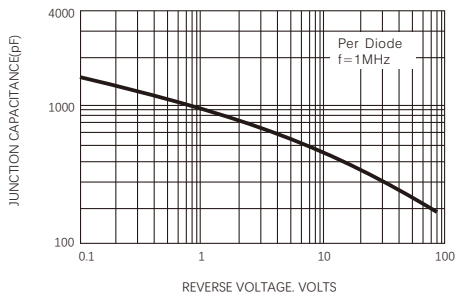
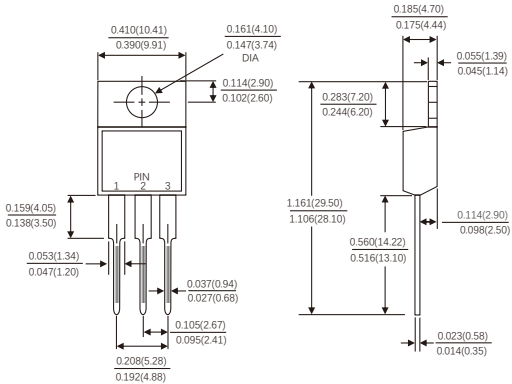


FIG.5-TYPICAL JUNCTION CAPACITANCE

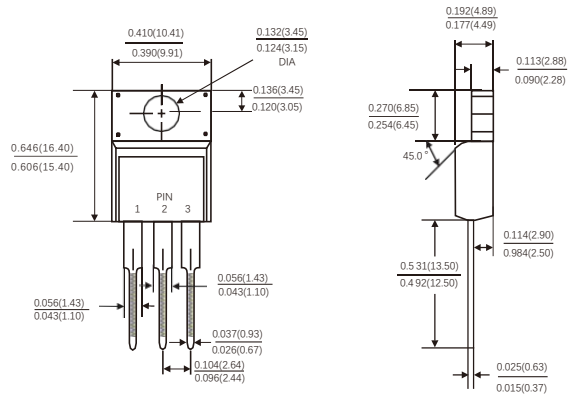


Dimensions in inches and (millimeters)

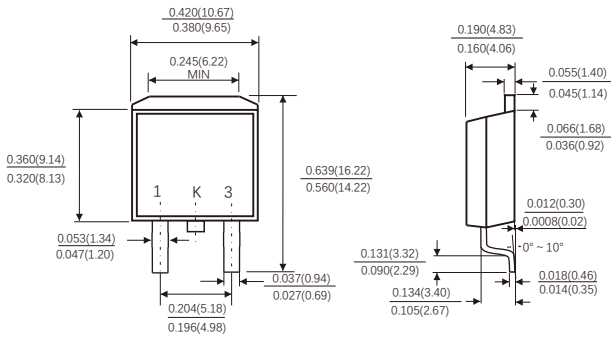
TO-220AB



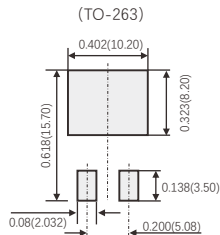
ITO-220AB



TO-263



Suggested Pad Layout



(设计者可参考推荐值根据焊接工艺要求自行确定适合的焊盘尺寸)
(Designers can refer to the recommended values according to the manufacturing process requirements to determine the appropriate pad size)

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