

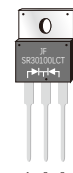
FEATURES

- 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



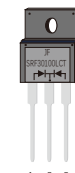
TO-220AB

SR30100LCT



ITO-220AB

SRF30100LCT



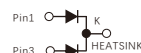
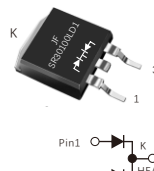
TO-262

SR30100LE1



TO-263

SR30100LD1



MECHANICAL DATA

- Case: JEDEC TO-220AB、ITO-220AB、TO-263 TO-262
- 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}	100	V
Maximum average forward rectified current,D=0.5, Square waveform,Tc≤130°C for TO-220AB and TO-263/262 Tc≤85°C for ITO-220AB (see Fig.1)	Per leg	15.0	A
	Total device	30.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	300	A
Peak repetitive reverse current per diode at tp=2 μ s 1KHz	I_{RRM}	0.5	A
Operating junction and Storage temperature range	T_J, T_{stg}	-55 to+150	°C
Isolation voltage (ITO-220AB only) from terminals to heatsink t=1 min	V_{AC}	1500	V

PRIMARY CHARACTERISTICS	
$I_F(AV)$	2×15A
V_{RRM}	100V
I_{FSM}	300A
V_f at $I_f=5.0A$,Per leg,125°C	0.48V
I_r	20μA
$T_J(MAX)$	150°C
Package	TO-220AB, ITO-220AB, TO-263 TO-262
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	$I_F=15.0\text{A}$	$T_A=25^{\circ}\text{C}$	V_F ¹⁾	0.69	0.73	V
		$T_A=100^{\circ}\text{C}$		0.67	-	
		$T_A=125^{\circ}\text{C}$		0.64	-	
	$I_F=5.0\text{A}$	$T_A=25^{\circ}\text{C}$		0.50	0.52	
		$T_A=100^{\circ}\text{C}$		0.49	-	
		$T_A=125^{\circ}\text{C}$		0.48	-	
Reverse current	$V_R=100\text{V}$	$T_A=25^{\circ}\text{C}$	I_R ²⁾	20	50	μA
		$T_A=100^{\circ}\text{C}$		2	5	mA
		$T_A=125^{\circ}\text{C}$		8	20	
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	SR30100LCT	SRF30100LCT	SR30100LD1 SR30100LE1	Unit
Typical thermal resistance ³⁾	$R_{\theta jc}$	1.0	3.2	1.0	$^{\circ}\text{C}/\text{W}$

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)
SR30100LCT- TO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SRF30100LCT- ITO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SR30100LE1- TO-262	Tube	565×225×170	548×151×37	540	5	20	50	5
SR30100LD1- 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)
SR30100LD1- TO-263	Reel	364×364×235	330×330×38	$\phi 330$	5	1	800	4

FIG.1-FORWARD CURRENT DERATING CURVE

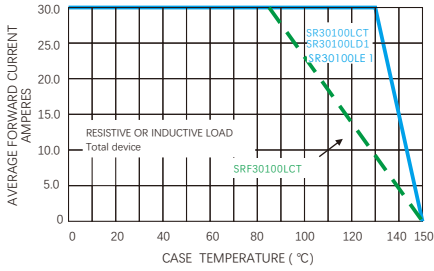


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

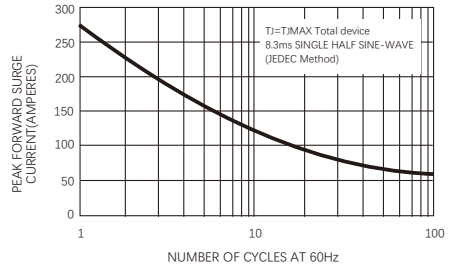


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

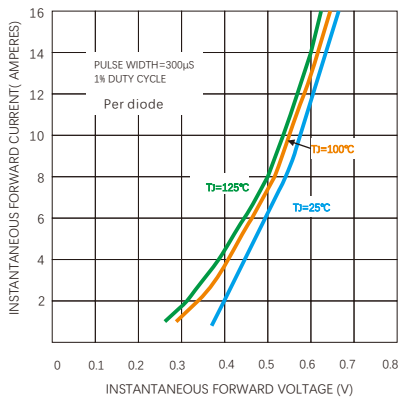


FIG.4-TYPICAL REVERSE CHARACTERISTICS

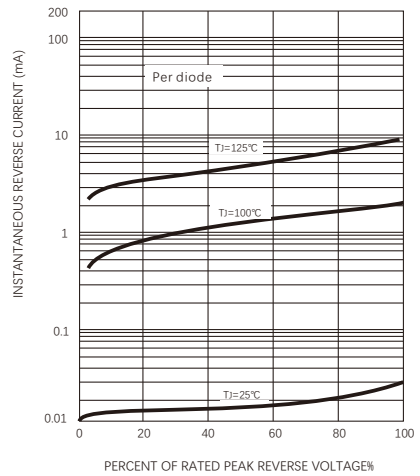
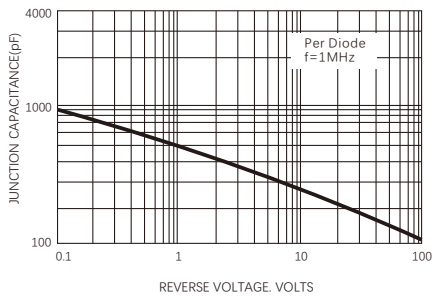
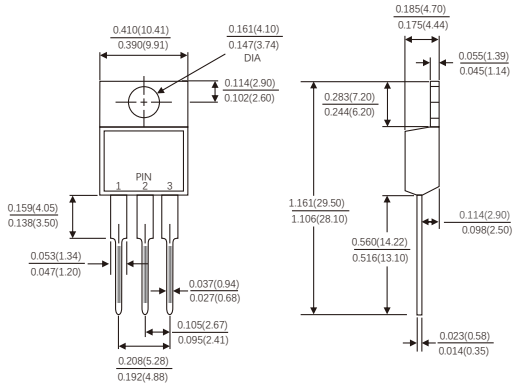


FIG.5-TYPICAL JUNCTION CAPACITANCE

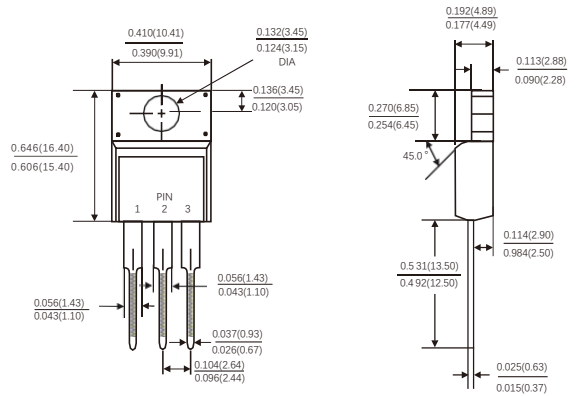


Dimensions in inches and (millimeters)

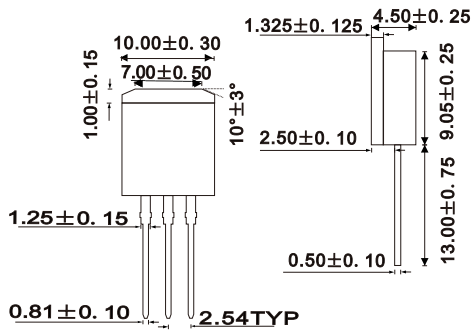
TO-220AB



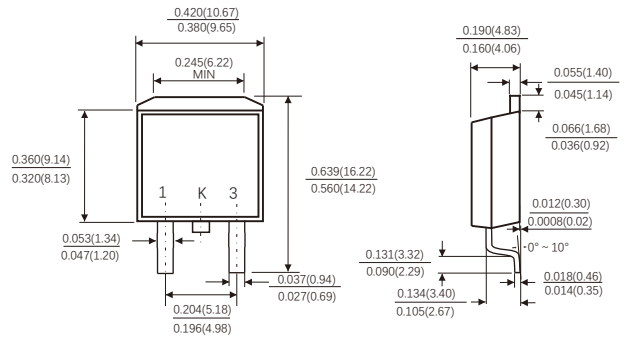
ITO-220AB



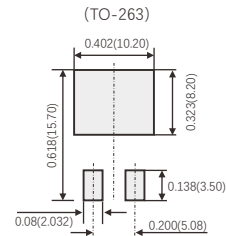
TO-262



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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