

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
- 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



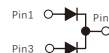
TO-220AB

SR30100LCT



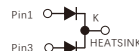
ITO-220AB

SRF30100LCT



TO-263

SR30100LD1



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}	100	V
Maximum average forward rectified current,D=0.5, Square waveform,Tc≤130°C for TO-220AB and TO-263, 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,Per Leg (JEDEC method at rated TL)	I_{FSM}	150	A
Operating junction and Storage temperature range	T_J, T_{stg}	-55 to+150	°C

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
Diode variations	Common cathode

ELECTRICAL CHARACTERISTICS (Per leg,T_A=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	I _F =15.0A	T _J =25°C	V _F ¹⁾	0.68	0.73	V
		T _J =125°C		0.62	-	
	I _F =5.0A	T _J =25°C		0.50	0.55	
		T _J =125°C		0.43	-	
Reverse current	V _R =100V	T _J =25°C	I _R ²⁾	-	50	μA
		T _J =125°C		-	15	mA
Typical junction capacitance	4V,1MHz		C _J	970		pF

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

2.Pulse test: pulse width ≤40ms

THERMAL CHARACTERISTICS

Parameter	Symbol	SR30100LCT	SRF30100LCT	SR30100LD1	Unit
Typical thermal resistance ³⁾	R _{θjc}	1.0	3.2	1.0	°C/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
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	φ330	5	1	800	4

FIG.1-FORWARD CURRENT DERATING CURVE

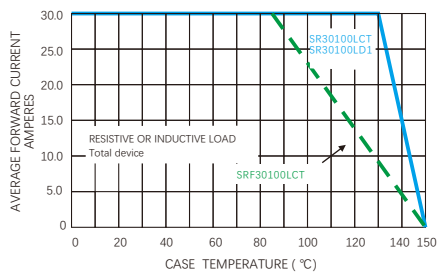


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

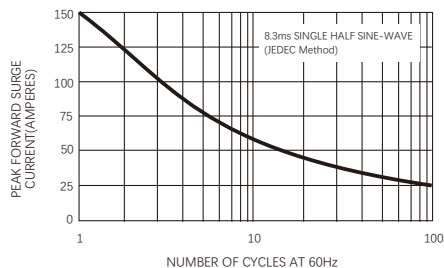


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

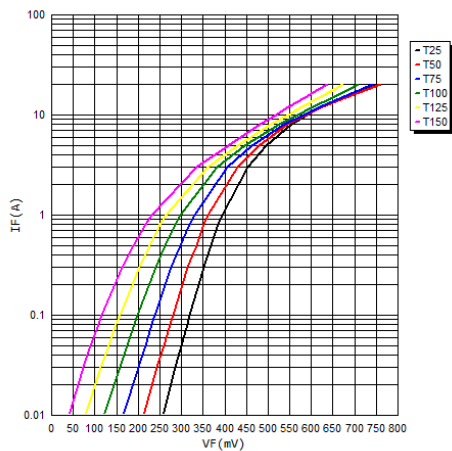


FIG.4-TYPICAL REVERSE CHARACTERISTICS

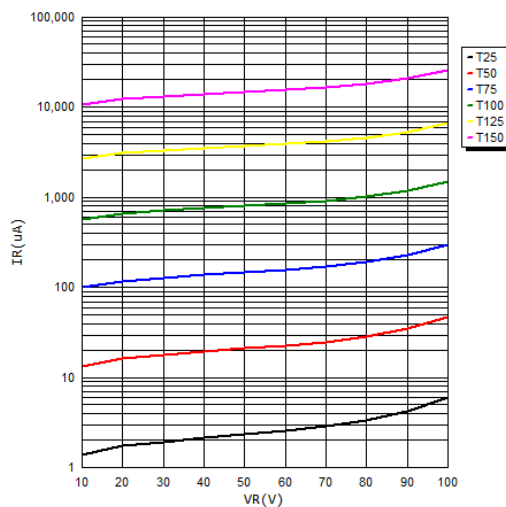
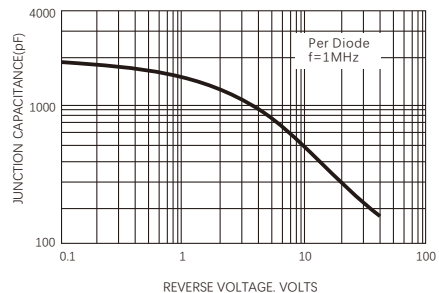


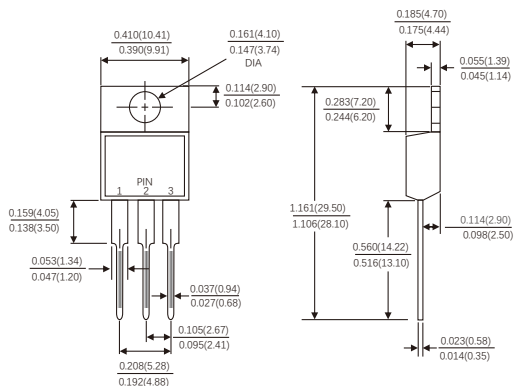
FIG.5-TYPICAL JUNCTION CAPACITANCE



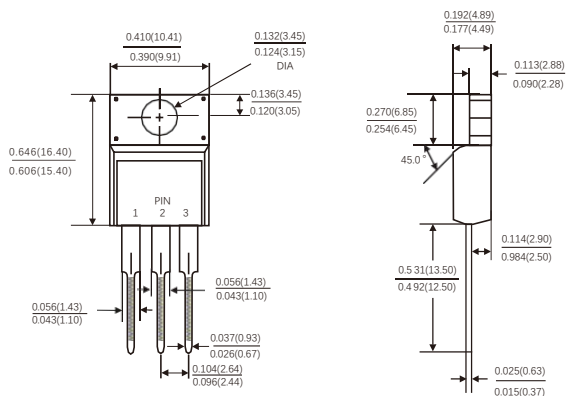
PACKAGE OUTLINE DIMENSIONS

Dimensions in inches and (millimeters)

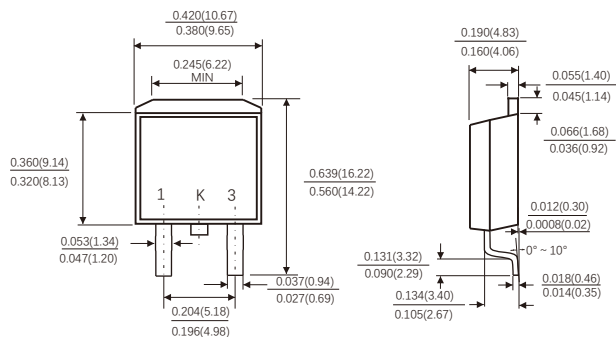
TO-220AB



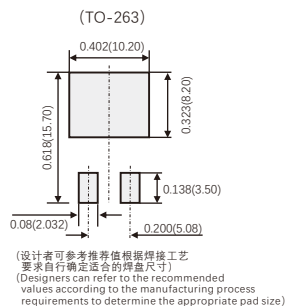
ITO-220AB



TO-263



Suggested Pad Layout



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