

### FEATURES

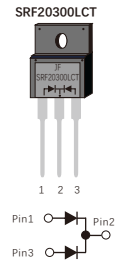
- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Per J-STD-020,LF MAX peak of 260°C (for TO-263 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



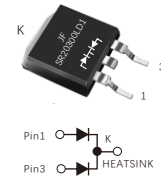
TO-220AB



ITO-220AB



TO-263  
SR20300LD1



### 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 <sub>RRM</sub>	300	V
Maximum average forward rectified current (Total device) (see fig.1)	I <sub>F(AV)</sub>	20.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL, Per Leg)	I <sub>FSM</sub>	200	A
Operating junction and Storage temperature range	T <sub>J</sub> ,T <sub>stg</sub>	-55 to+150	°C

PRIMARY CHARACTERISTICS	
I <sub>F(AV)</sub>	2×10A
V <sub>RRM</sub>	300V
I <sub>FSM</sub>	200A
V <sub>F</sub> at I <sub>F</sub> =10.0A(125°C)	0.70V
I <sub>R</sub>	0.1 μA
T <sub>J</sub> (MAX)	150°C
Package	TO-220AB, ITO-220AB, TO-263
Diode variations	Common cathode

ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	I <sub>F</sub> =10A	T <sub>J</sub> =25°C	V <sub>F</sub> <sup>1)</sup>	0.83	0.90	V
		T <sub>J</sub> =125°C		0.70	0.77	
	I <sub>F</sub> =5A	T <sub>J</sub> =25°C		0.76	-	
		T <sub>J</sub> =125°C		0.63	-	
Reverse current	V <sub>R</sub> =300V	T <sub>J</sub> =25°C	I <sub>R</sub> <sup>2)</sup>	-	5.0	μA
		T <sub>J</sub> =125°C		-	1.0	mA
Typical junction capacitance	4V,1MHz		C <sub>J</sub>	175		pF

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

2.Pulse test: pulse width ≤40ms

 THERMAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Symbol	SR20300LCT	SRF20300LCT	SR20300LD3	Unit
Typical thermal resistance <sup>3)</sup>	R <sub>θJC</sub>	1.0	3.2	1.0	°C/W

3.Thermal resistance from junction to case,Total device

## AVAILABALE 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)
SR20300LCT-TO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SRF20300LCT-ITO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SR20300LD1-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)
SR20300LD1-TO-263	Reel	364×364×235	330×330×38	φ330	5	1	800	4

FIG.1-FORWARD CURRENT DERATING CURVE

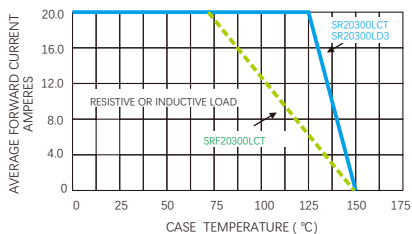


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

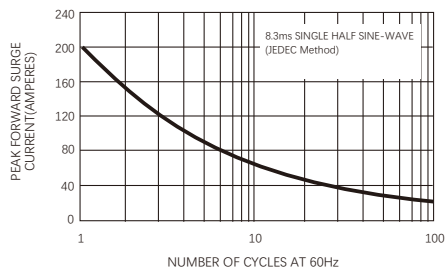


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

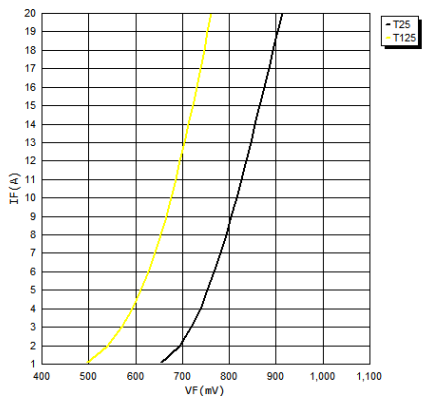


FIG.4-TYPICAL REVERSE CHARACTERISTICS

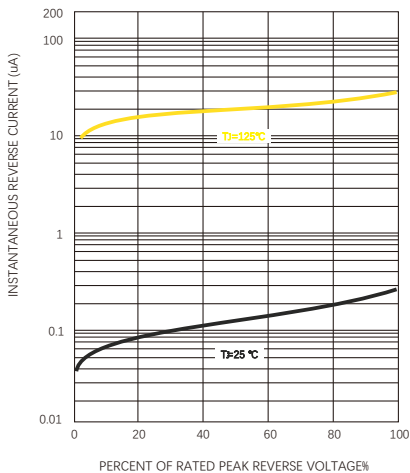
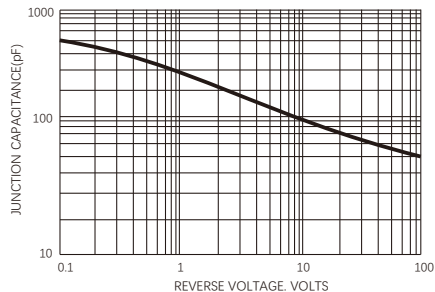
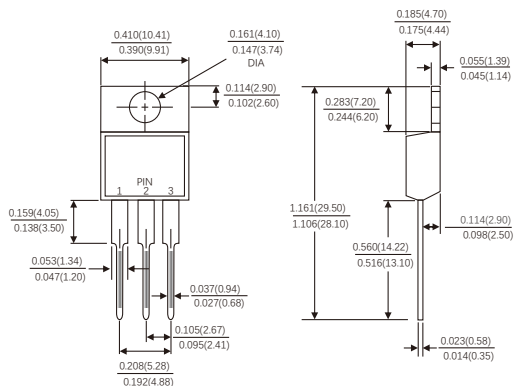


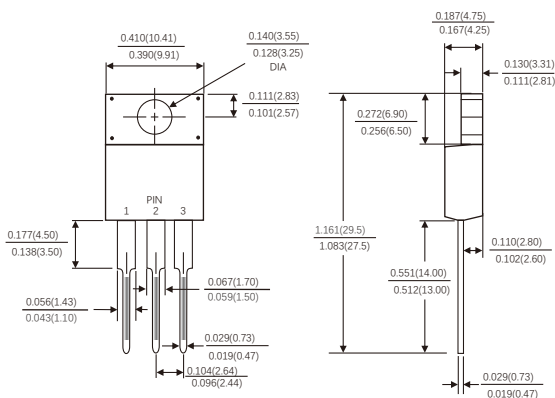
FIG.5-TYPICAL JUNCTION CAPACITANCE



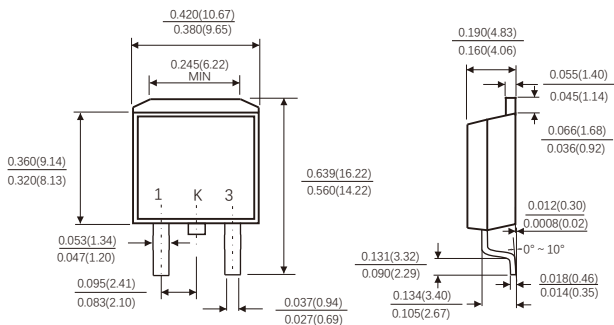
TO-220AB



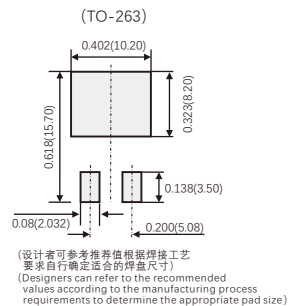
ITO-220AB



TO-263



Suggested Pad Layout



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