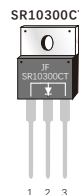


## FEATURES

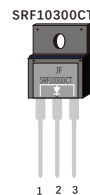
- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL Level 1, Per J-STD-020,LF MAX peak of 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



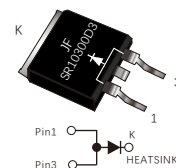
TO-220AB



ITO-220AB



TO-263  
SR10300LD3



## 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 )

PRIMARY CHARACTERISTICS	
$I_F(AV)$	10A
$V_{RRM}$	300V
$I_{FSM}$	150A
$V_F$ at $I_F=10A(125^{\circ}C)$	0.70V
$I_R$	0.1 $\mu A$
$T_J(MAX)$	175°C
Package	TO-220AB, ITO-220AB, TO-263
Diode variations	Single Chip

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	300	V
Maximum average forward rectified current (see fig.1)	$I_F(AV)$	5.0	A
		10.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated $T_L$ )	$I_{FSM}$	150	A
Peak repetitive reverse current per diode at $t_p=2 \mu s$ 1KHz	$I_{RRM}$	0.5	A
Operating junction and Storage temperature range	$T_J, T_{stg}$	-55 to +175	°C
Isolation voltage (ITO-220AB only) from terminals to heatsink $t=1$ min	$V_{AC}$	1500	V

## ELECTRICAL CHARACTERISTICS (Pin1 & Pin2 is shorted,TA=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instaneous forward voltage	I <sub>F</sub> =10A	T <sub>A</sub> =25°C	V <sub>F</sub> <sup>1)</sup>	0.84	0.90	V
		T <sub>A</sub> =125°C		0.70	0.80	
	I <sub>F</sub> =6A	T <sub>A</sub> =25°C		0.76	-	
		T <sub>A</sub> =125°C		0.66	-	
Reverse current	V <sub>R</sub> =300V	T <sub>A</sub> =25°C	I <sub>R</sub> <sup>2)</sup>	-	10	μA
		T <sub>A</sub> =125°C		-	1	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	SR10300CT	SRF10300CT	SR10300D3	Unit
Typical thermal resistance <sup>3)</sup>	R <sub>θjc</sub>	2.5	4.5	2.5	°C/W

3.Thermal resistance from junction to case

## 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)
SR10300CT-TO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SRF10300CT-ITO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SR10300D1-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)
SR10300D3-TO-263	Reel	364×364×235	330×330×38	φ330	5	1	800	4

FIG.1-FORWARD CURRENT DERATING CURVE

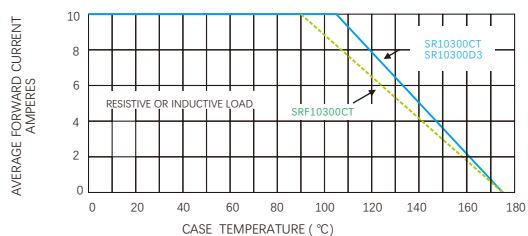


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

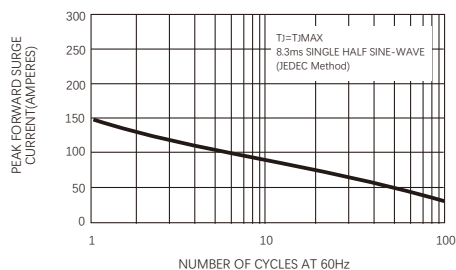


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

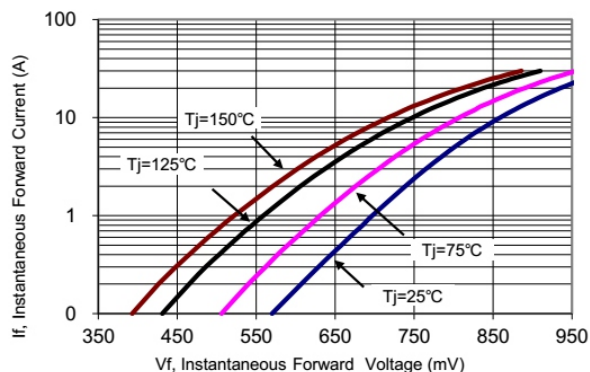


FIG.4-TYPICAL REVERSE CHARACTERISTICS

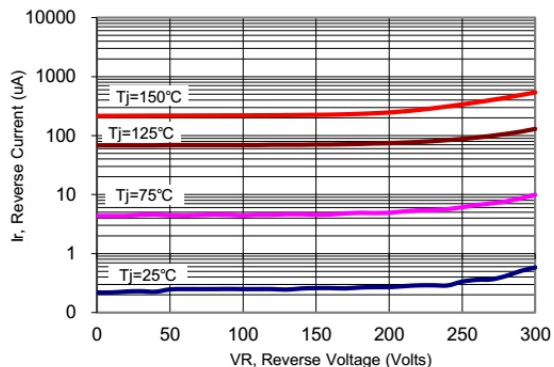
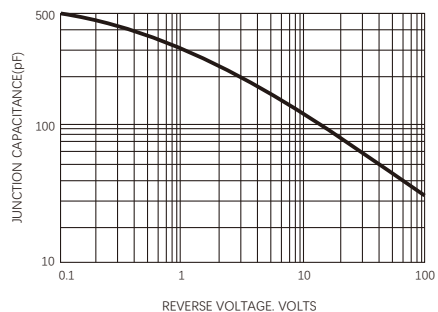
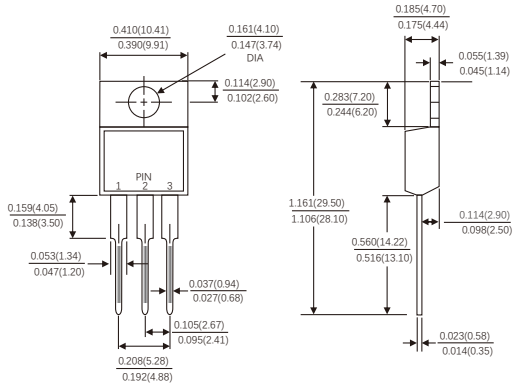


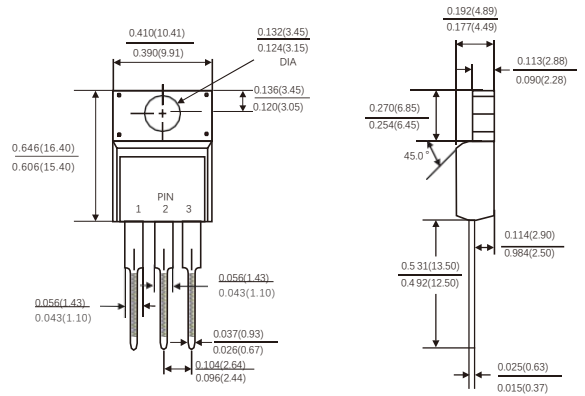
FIG.5-TYPICAL JUNCTION CAPACITANCE



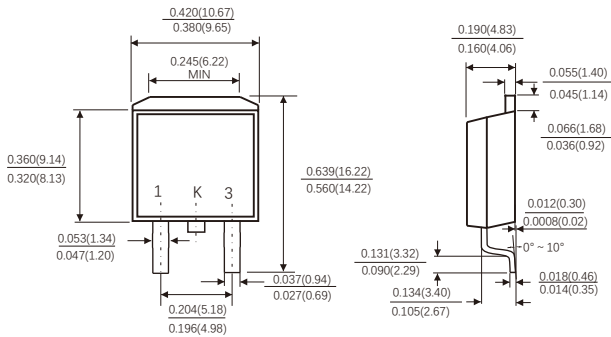
## TO-220AB



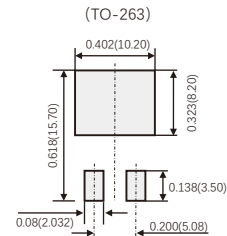
## ITO-220AB



## TO-263



## Suggested Pad Layout



(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)

Dimensions in inches and (millimeters)

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