

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-220AC

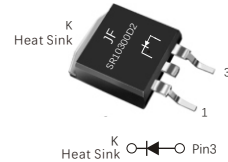


ITO-220AC



TO-263(D²PAK)

SR10300D2



MECHANICAL DATA

- Case: JEDEC TO-220AC、ITO-220AC、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}	300	V
Maximum average forward rectified current (see fig.1)	I _{F(AV)}	10.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I _{FSM}	150	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)}	10A
V _{RRM}	300V
I _{FSM}	150A
V _F at I _F =10A(125°C)	0.70V
I _{R,Typ}	0.1 μ A
T _J (MAX)	150°C
Package	TO-220AC, ITO-220AC, TO-263
Diode variations	Single Chip

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	I _F =10A	T _A =25°C	V _F ¹⁾	0.84	0.90	V
		T _A =125°C		0.70	0.80	
	I _F =6A	T _A =25°C		0.76	-	
		T _A =125°C		0.66	-	
Reverse current	V _R =300V	T _A =25°C	I _R ²⁾	-	10	μA
		T _A =125°C		-	1	mA
Typical junction capacitance	4V,1MHz		C _J	175		pF

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

2.Pulse test: pulse width ≤ 40ms

THERMAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Symbol	SR10300	SRF10300	SR10300D2	Unit
Typical thermal resistance ³⁾	R _{θjc}	2.5	4.5	2.5	°C/W

3.Thermal resistance from junction to case

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)
SR10300-TO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SRF10300-ITO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SR10300D2-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)
SR10300D2-TO-263	Reel	364×364×235	330×330×38	φ330	5	1	800	4

FIG.1-FORWARD CURRENT DERATING CURVE

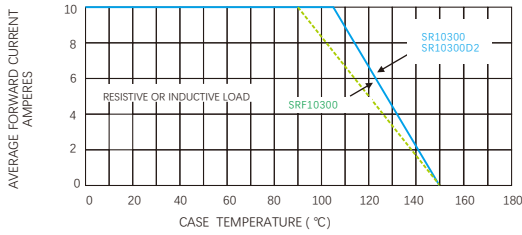


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

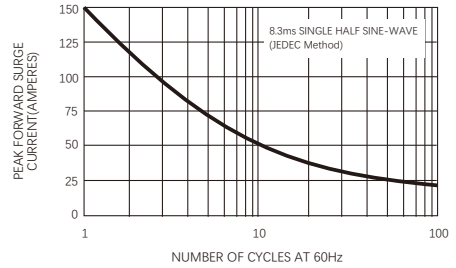


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

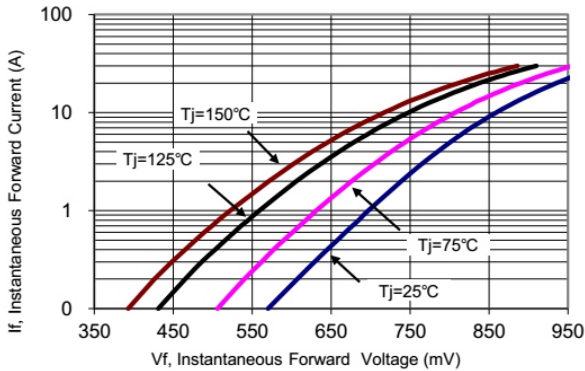


FIG.4-TYPICAL REVERSE CHARACTERISTICS

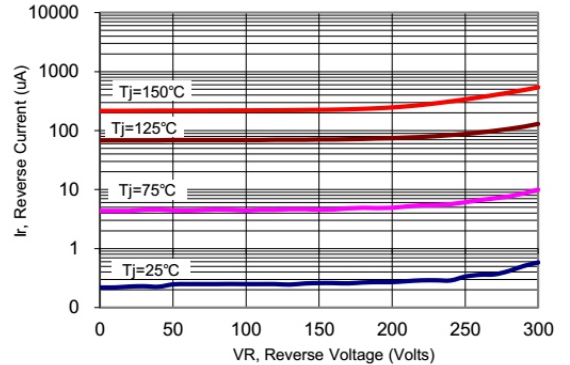
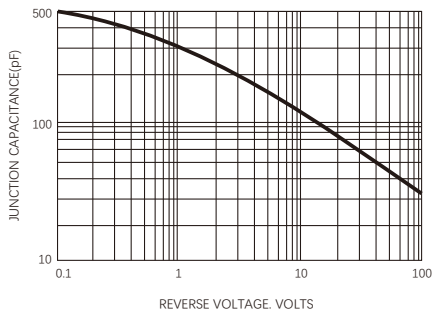
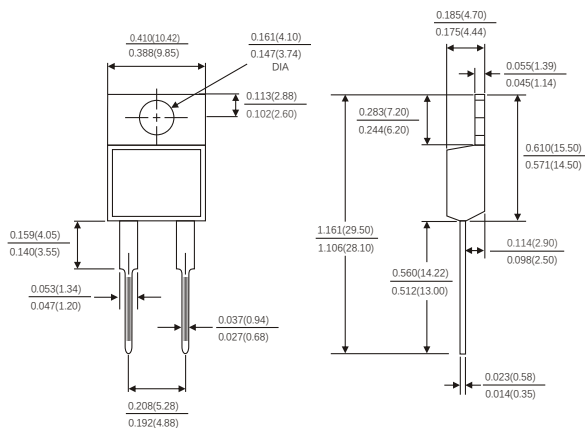


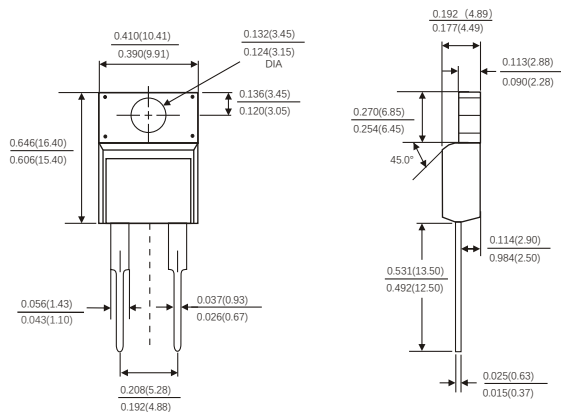
FIG.5-TYPICAL JUNCTION CAPACITANCE



TO-220AC

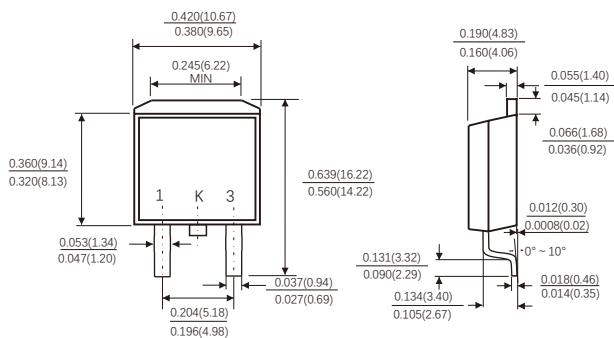


ITO-220AC

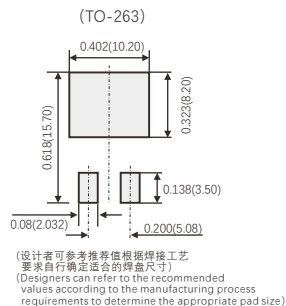


Dimensions in inches and (millimeters)

TO-263 D²PAK



Suggested Pad Layout



Dimensions in inches and (millimeters)

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