

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 245°C (for TO-263AB package)
- Solder bath temperature 275°C maximum , 10s , per JESD22-B106 (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2011/65/EU
- AEC-Q101 qualified and PPAP capable



AEC-Q101 Qualified

MECHANICAL DATA

- Case: JEDEC TO-220AB, ITO-220AB, TO-263AB
- 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	
$I_{r(AV)}$	2×15A
V_{RRM}	100V
I_{FSM}	250A
VF at $I_r=15.0A$,Per leg	0.75V
I_r	2μA
$T_j(MAX)$	150°C
Package	TO-220AB, ITO-220AB, TO-263AB
Diode variations	Common cathode

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	100	V
Maximum average forward rectified current (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}	250	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 +150	°C
Isolation voltage(ITO-220AB only)from terminals to heatsink $t=1$ min	V_{AC}	1500	V

SR30100CT-V,SRF30100CT-V,SR30100D1-V

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	Per leg IF=15.0A	$T_A=25^{\circ}\text{C}$	V_F ¹⁾	0.75	0.85	V
		$T_A=100^{\circ}\text{C}$		0.65	-	
		$T_A=125^{\circ}\text{C}$		0.61	-	
	Per leg IF=10.0A	$T_A=25^{\circ}\text{C}$		0.71	0.81	
		$T_A=100^{\circ}\text{C}$		0.61	-	
		$T_A=125^{\circ}\text{C}$		0.57	-	
Reverse current	VR=100V	$T_A=25^{\circ}\text{C}$	I_R ²⁾	2	5	μA
		$T_A=100^{\circ}\text{C}$		-	2	mA
		$T_A=125^{\circ}\text{C}$		-	5	
Typical junction capacitance	4V,1MHz		C_J	367		pF

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

2.Pulse test: pulse width \leq 40ms

THERMAL CHARACTERISTICS

Parameter	Symbol	SR30100CT-V	SRF30100CT-V	SR30100D1-V	Unit
Typical thermal resistance ³⁾	$R_{\theta JC}$	2.0	4.5	2.0	$^{\circ}\text{C}/\text{W}$

3.Thermal resistance from junction to case

AVAILABLE PACK INFORMATION

Product code	Pack	Box Size L×W×H(mm)	Quantity(pcs/box)	Carton SizeL×W×H(mm)	Quantity(box/carton)
SR30100CT-V-TO-220AB	P/T	558×148×38	1000	565×225×170	5
SRF30100CT-V-ITO-220AB	P/T	558×148×38	1000	565×225×170	5
SR30100D1-V-TO-263AB	P/T	558×148×38	1000	565×225×170	5

SR30100CT-V,SRF30100CT-V,SR30100D1-V

FIG.1-FORWARD CURRENT DERATING CURVE

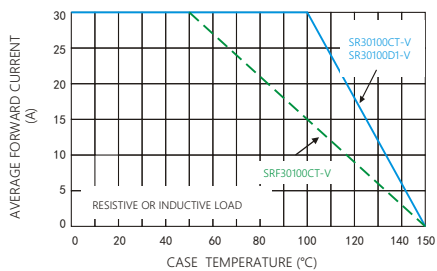


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

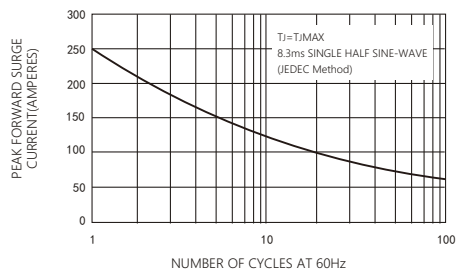


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

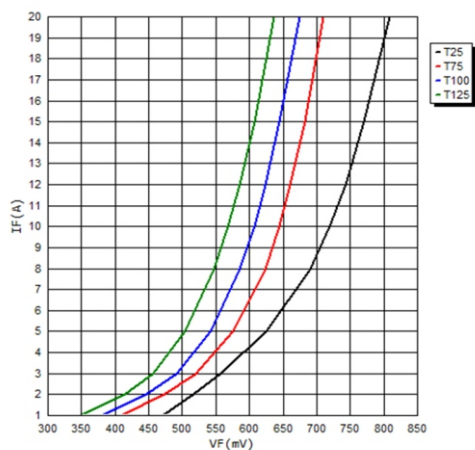


FIG.4-TYPICAL REVERSE CHARACTERISTICS

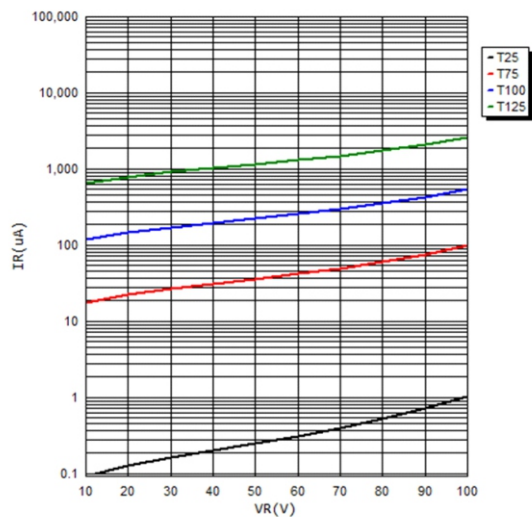
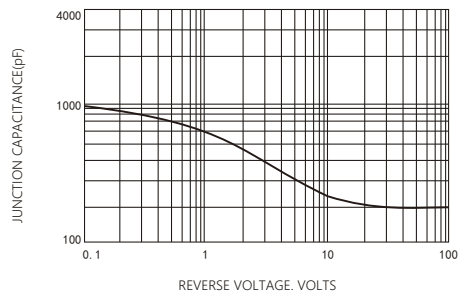


FIG.5-TYPICAL JUNCTION CAPACITANCE

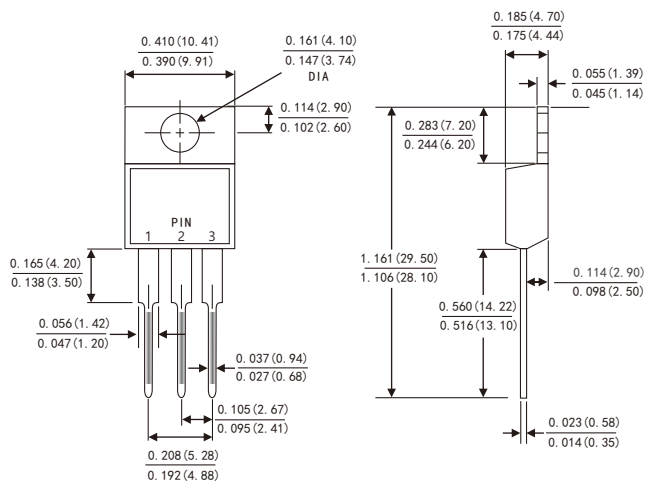
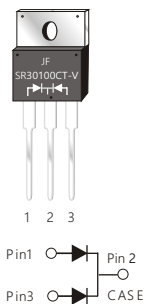


SR30100CT-V,SRF30100CT-V,SR30100D1-V

PACKAGE OUTLINE DIMENSIONS

TO-220AB

SR30100CT-V

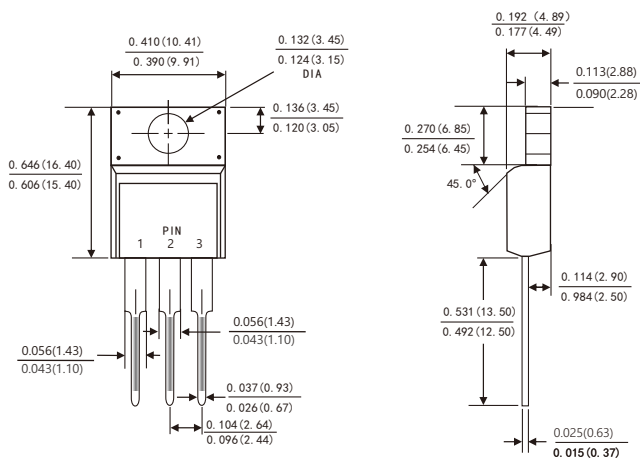
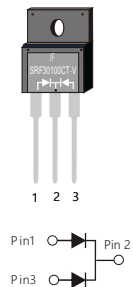


Dimensions in inches and (millimeters)

ITO-220AB

ITO-220AB

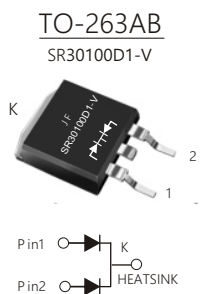
SRF30100CT-V



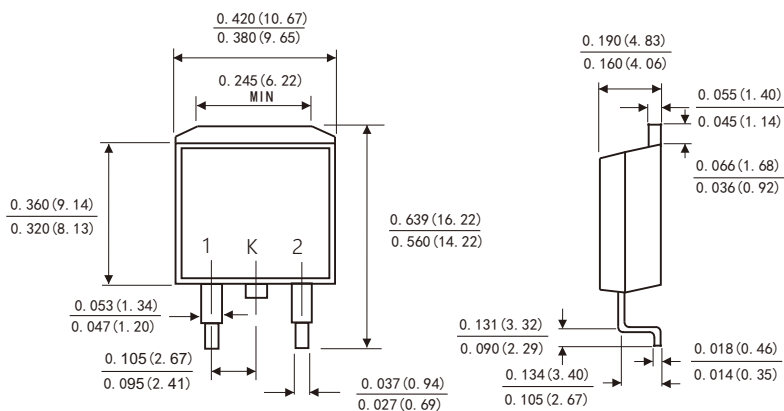
Dimensions in inches and (millimeters)

SR30100CT-V,SRF30100CT-V,SR30100D1-V

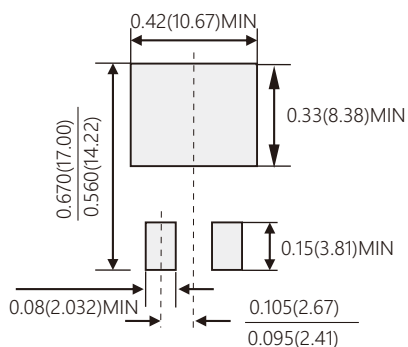
PACKAGE OUTLINE DIMENSIONS



TO-263AB



Suggested Pad Layout



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