SEMICONDUCTOR

SR60120CT,SRF60120CT,SR60120D1

SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 120 Volts

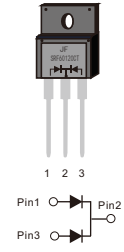
Forward Current - 60Amperes

TO-220AB

SR60120CT

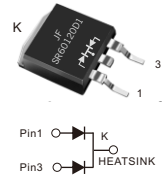
ITO-220AB

SRF60120CT



TO-263

SR60120D1



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℃（for TO-263 package）
- Solder bath temperature 275℃ maximum，10s，per JESD22-B106（for TO-220AB and ITO-220AB package）
- Component in accordance to RoHS 2011/65/EU

Pb RoHS COMPLIANT

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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2×30A
V_{RRM}	120V
I_{FSM}	300A
V_F at I_F=30. 0A,Per leg，125℃	0. 71V
I_R	17μA
T_J(MAX)	150℃
Package	TO-220AB,ITO-220AB, TO-263
Diode variations	Dual Common cathode

MAXIMUM RATINGS

(Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter		Symbol	Value	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	120	V
Maximum average forward rectified current (see fig.1)	Per leg	$I_{F(AV)}$	30	A
	Total device		60	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)		I_{FSM}	300	A
Peak repetitive reverse current per diode at tp=2μs 1KHz		I_{RRM}	0.5	A
Operating junction and Storage temperature range		T_J,T_{stg}	-55 to+150	℃
Isolation voltage (ITO-220AB only) from terminals to heatsink t=1 min		V_{AC}	1500	V

RATINGS AND CHARACTERISTIC OF SR60120CT,SRF60120CT,SR60120D1

ELECTRICAL CHARACTERISTCS（T_A=25℃ Unless otherwise noted）

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instaneous forward voltage	Per leg T_A=25℃	I_F=3A	V_F 1)	0.44	–	V
		I_F=5A		0.48	–	
		I_F=15A		0.66	–	
		I_F=30A		0.88	0.95	
	Per leg T_A=125℃	I_F=3A		0.35	–	
		I_F=5A		0.41	–	
		I_F=15A		0.58	–	
		I_F=30A		0.71	0.75	
Reverse current	V_R=120V	T_A=25℃	I_R 2)	17	50	μA
		T_A=125℃		10	30	mA
Typical junction capacitance	4V,1MHz		C_J	1000		pF

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

2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTCS

Parameter	Symbol	SR60120CT	SRF60120CT	SR60120D1	Unit
Typical thermal resistance 3)	$R_{\theta JC}$	0.8	3.5	0.8	℃/W

3.Thermal resistance from junction to case

AVAILABALE PACK INFORMATION

Product code	Pack	Box Size L×W×H(mm)	Quantity(pcs/box)	Carton SizeL×W×H(mm)	Quantity(box/carton)
SR60120CT-TO-220AB	P/T	558×148×38	1000	565×225×170	5
SRF60120CT-ITO-220AB	P/T	558×148×38	1000	565×225×170	5
SR60120D1-TO-263	P/T	558×148×38	1000	565×225×170	5

RATINGS AND CHARACTERISTIC OF SR60120CT,SRF60120CT,SR60120D1

FIG.1-FORWARD CURRENT DERATING CURVE

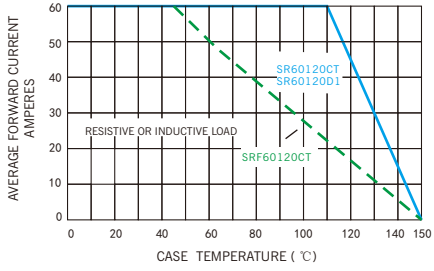


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

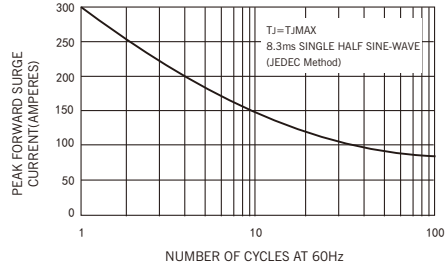


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

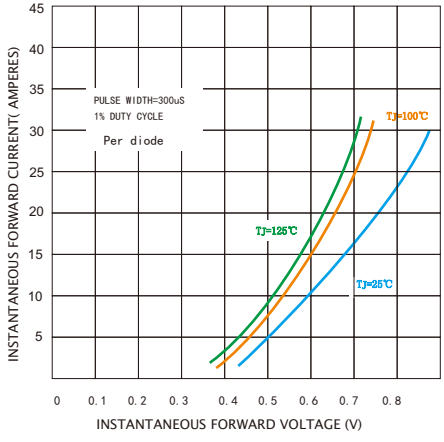


FIG.4-TYPICAL REVERSE CHARACTERISTICS

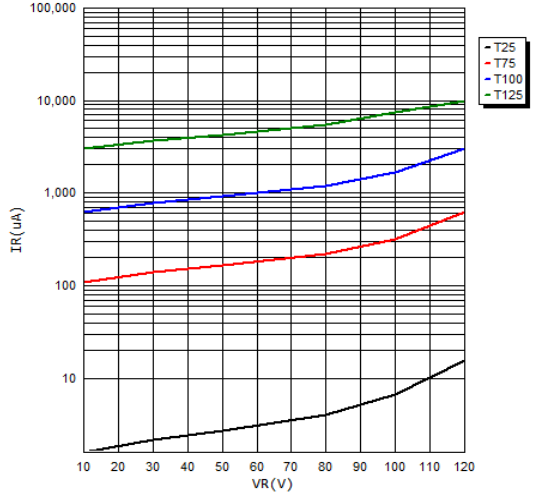
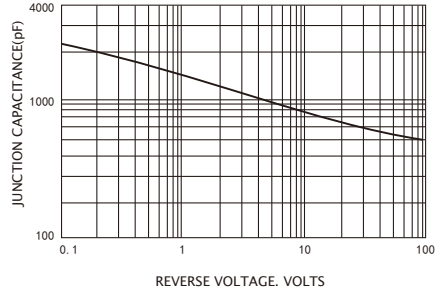
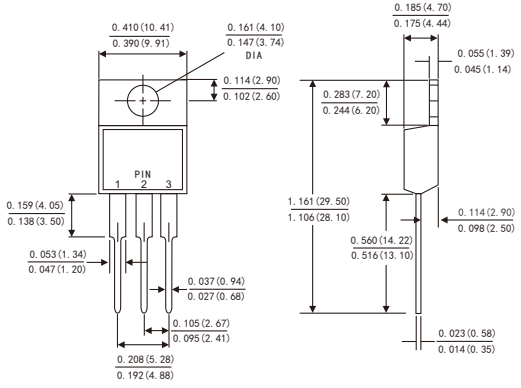


FIG.5-TYPICAL JUNCTION CAPACITANCE

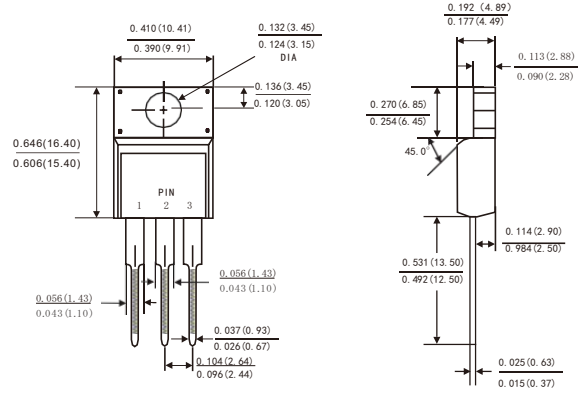


PACKAGE OUTLINE DIMENSIONS

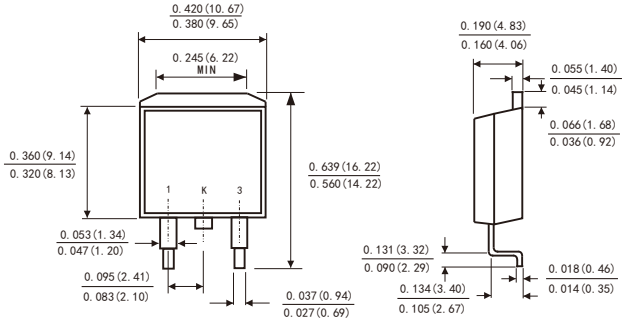
TO-220AB



ITO-220AB

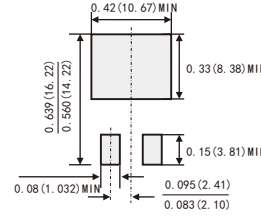


TO-263



Suggested Pad Layout

(TO-263)



Dimensions in inches and (millimeters)