

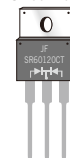
FEATURES

- 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-263 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

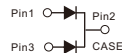


TO-220AB

SR60120CT

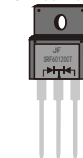


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ITO-220AB

SRF60120CT



1 2 3



TO-263

SR60120D1



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_{RRM}	120	V
Maximum average forward rectified current (see fig.1)	Per leg	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 $t_p=2 \mu s$ 1 KHz	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	
$I_F(AV)$	2×30A
V_{RRM}	120V
I_{FSM}	300A
V_f at $I_f=30.0A$, Per leg · 125°C	0.71V
I_r	17 μA
$T_J(MAX)$	150°C
Package	TO-220AB, ITO-220AB, TO-263
Diode variations	Dual Common cathode

RATINGS AND CHARACTERISTIC OF SR60120CT,SRF60120CT,SR60120D1

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	Per leg T _A =25°C	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°C	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°C	I _R ²⁾	17	50	μA
		T _A =125°C		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 CHARACTERISTICS

Parameter	Symbol	SR60120CT	SRF60120CT	SR60120D1	Unit
Typical thermal resistance ³⁾	R _{θJC}	0.8	3.5	0.8	°C/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)
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

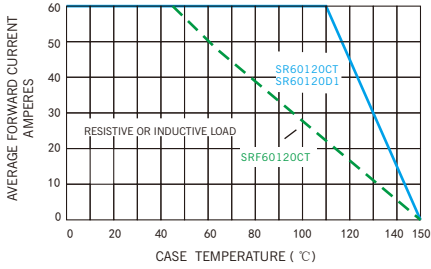


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

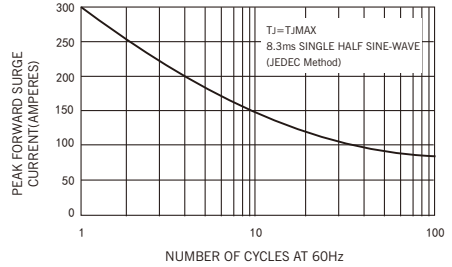


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

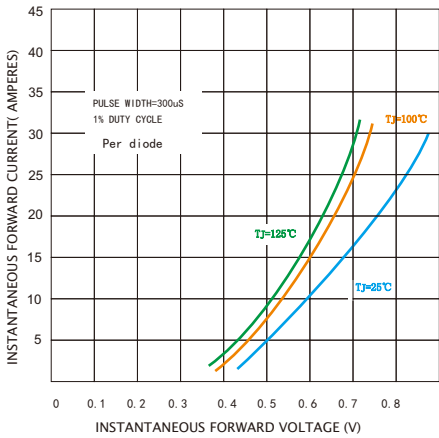


FIG.4-TYPICAL REVERSE CHARACTERISTICS

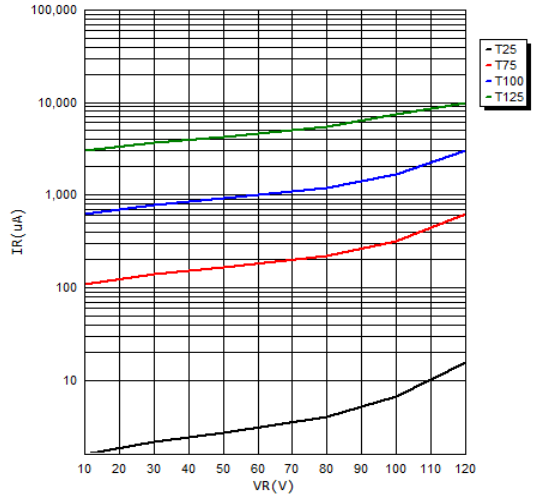
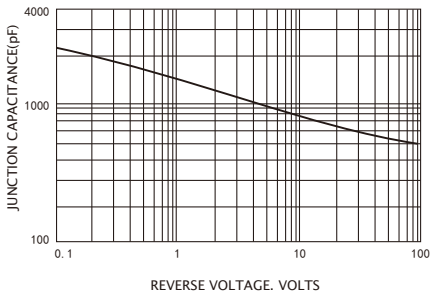
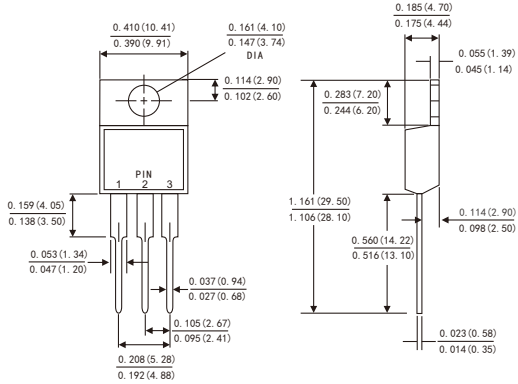


FIG.5-TYPICAL JUNCTION CAPACITANCE

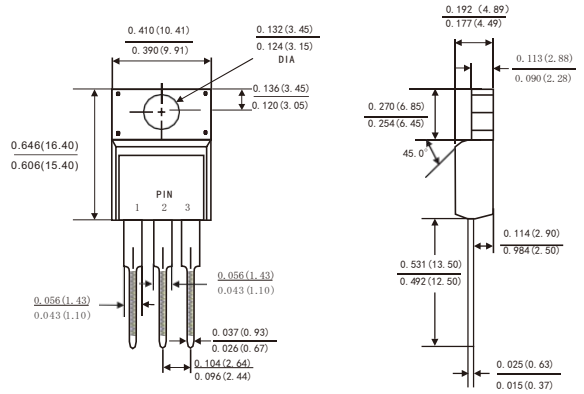


PACKAGE OUTLINE DIMENSIONS

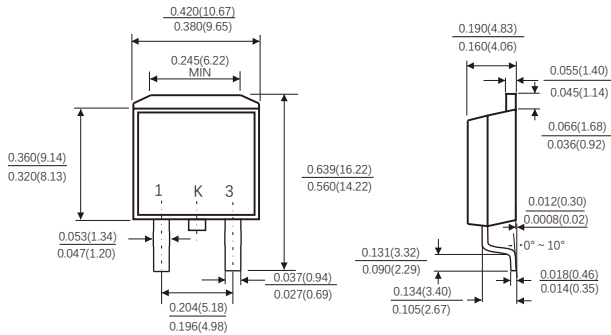
TO-220AB



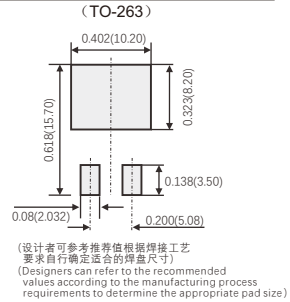
ITO-220AB



TO-263



Suggested Pad Layout



Dimensions in inches and (millimeters)