

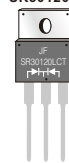
FEATURES

- 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 2015/863/EU

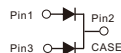


TO-220AB

SR30120LCT

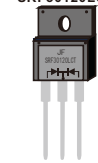


1 2 3

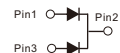


ITO-220AB

SRF30120LCT

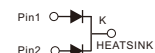


1 2 3



TO-263

SR30120LD1



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	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

PRIMARY CHARACTERISTICS	
$I_F(AV)$	2X 15A
V_{RRM}	120V
I_{FSM}	250A
V_f at $I_f=15.0A$, Per leg, 25°C	0.79V
I_f	11 μA
$T_J(MAX)$	150°C
Package	TO-220AB, ITO-220AB, TO-263
Diode variations	Common cathode

RATINGS AND CHARACTERISTIC OF SR30120LCT,SRF30120LCT,SR30120LD1

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	Per leg I _F =15.0A	T _A =25°C	V _F ¹⁾	0.79	0.85	V
		T _A =100°C		0.68	–	
		T _A =125°C		0.64	–	
	Per leg I _F =5.0A	T _A =25°C		0.54	–	
		T _A =100°C		0.51	–	
		T _A =125°C		0.49	–	
Reverse current	V _R =120V	T _A =25°C	I _R ²⁾	11	50	μA
		T _A =100°C		2.5	–	mA
		T _A =125°C		10	–	
Typical junction capacitance	4V, 1MHz		C _J	570		pF

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

2.Pulse test: pulse width ≤ 40ms

THERMAL CHARACTERISTICS

Parameter	Symbol	SR30120LCT	SRF30120LCT	SR30120LD1	Unit
Typical thermal resistance ³⁾	R _{θJC}	2.0	4.0	2.0	°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)
SR30120LCT-TO-220AB	P/T	558×148×38	1000	565×225×170	5
SRF30120LCT-ITO-220AB	P/T	558×148×38	1000	565×225×170	5
SR30120LD1-TO-263	P/T	558×148×38	1000	565×225×170	5

RATINGS AND CHARACTERISTIC OF SR30120LCT,SRF30120LCT,SR30120LD1

FIG.1-FORWARD CURRENT DERATING CURVE

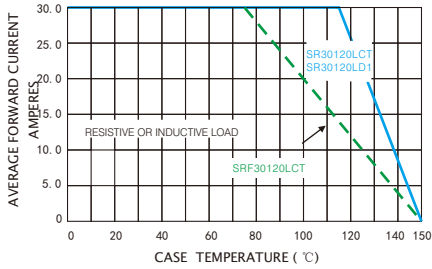


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

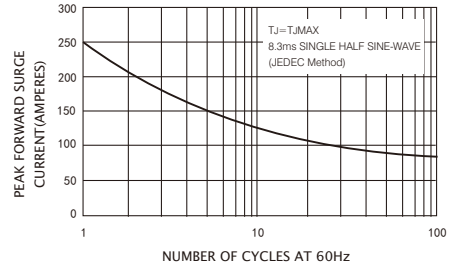


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

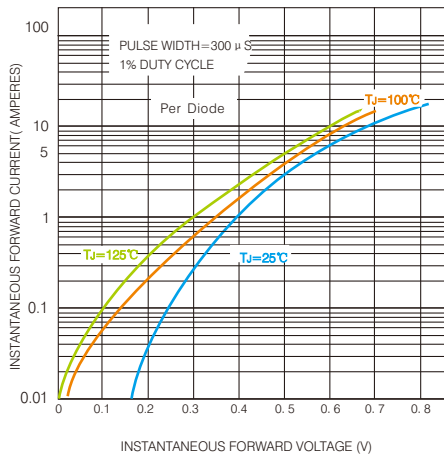


FIG.4-TYPICAL REVERSE CHARACTERISTICS

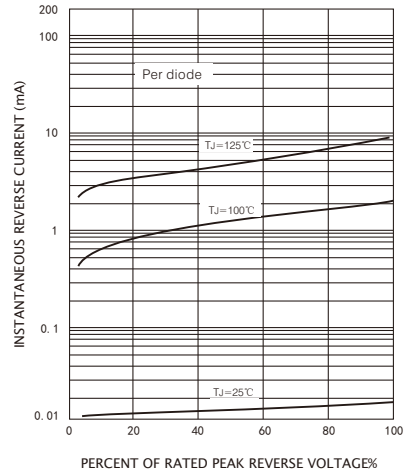
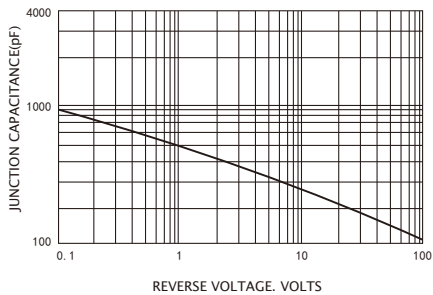
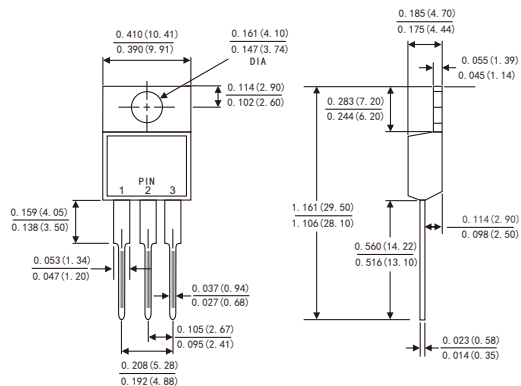


FIG.5-TYPICAL JUNCTION CAPACITANCE

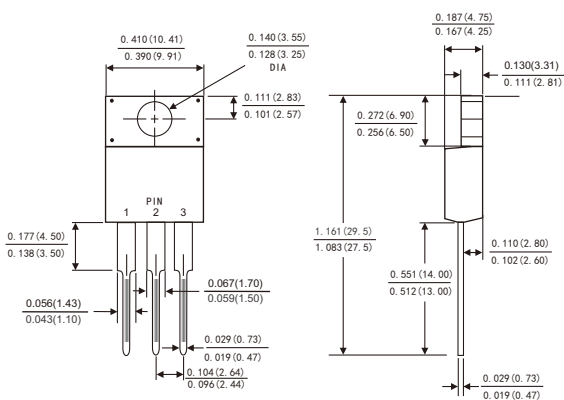


PACKAGE OUTLINE DIMENSIONS

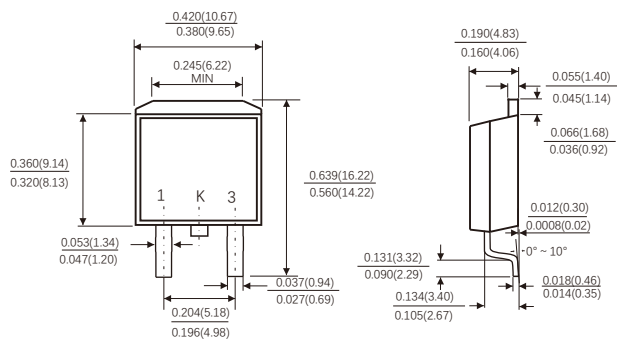
TO-220AB



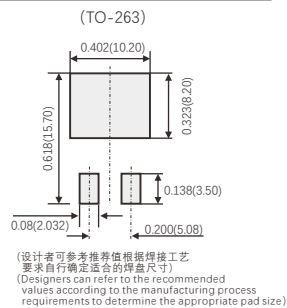
ITO-220AB



TO-263



Suggested Pad Layout



Dimensions in inches and (millimeters)

Friendship Reminder

- JiNan JingHeng (hereinafter referred to as JH) reserves the right to make changes to this document and its products and specifications at anytime without notice.
济南晶恒（以下简称JH）保留，未经通知变更本文件和与本文件相关的产品及规格的权利。
- Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.
使用方应在使用、采购本产品之前获取并确认产品信息和规格书的最新版本。
- JH makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does JH assume any liability for application assistance or customer product design.
JH对其产品用于某特定用途的适用性，既不做任何保证、说明或担保、也不承担任何应用协助或使用方设计的法定责任。
- JH does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.
JH不保证或承担任何责任，其产品被采购使用于任何非预期或授权的应用。
- No license is granted by implication or otherwise under any intellectual property rights of JH.
此规格书属于JH的知识产权，没有经过我司授权不得抄袭。
- JH's products are not authorized for use as critical components in life support devices or systems without express written approval of JH.
没有JH的书面授权，JH的产品不能在生命支撑设备或系统里作为关键零件使用。