SEMICONDUCTOR

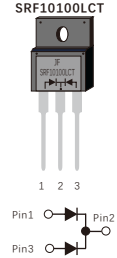
SR10100LCT,SRF10100LCT,SR10100LD1,SR10100LM1

LOW VF SCHOTTKY BARRIER RECTIFIER

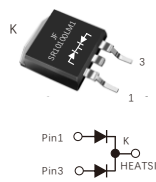
Reverse Voltage - 100 Volts
Forward Current - 10.0Amperes

TO-220AB
SR10100LCT

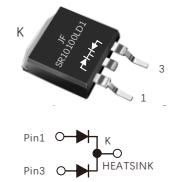
ITO-220AB
SRF10100LCT



TO-252
SR10100LM1



TO-263
SR10100LD1



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 260℃（for TO-263、TO-252 package）
- Solder bath temperature 275℃ maximum，10s，per JESD22-B106（for TO-220AB and ITO-220AB package）
- Component in accordance to RoHS 2015/863/EU

Pb
RoHS
COMPLIANT

MECHANICAL DATA

- Case: JEDEC TO-220AB、ITO-220AB、TO-263、TO-252
- 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	
$I_{F(AV)}$	2×5A
V_{RRM}	100V
I_{FSM}	150A
V_f at I_f=5.0A(125℃)	0.59V
I_R	10μA
T_j(MAX)	150℃
Package	TO-220AB,ITO-220AB, TO-263,TO-252
Diode variations	Common cathode

MAXIMUM RATINGS

(Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter		Symbol	Value	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	100	V
Maximum average forward rectified current,D=0.5, Square waveform,Tc≤134℃ for TO-220AB and TO-263, TO-252,Tc≤120℃ for ITO-220AB (see Fig.1)	Per leg	$I_{F(AV)}$	5.0	A
	Total device		10.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL,Total device)		I_{FSM}	150	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

ELECTRICAL CHARACTERISTCS (Per leg,T_A=25℃ Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instaneous forward voltage	I_F=5.0A	T_A=25℃	V_F 1)	0.65	0.71	V
		T_A=100℃		0.62	–	
		T_A=125℃		0.59	–	
	I_F=3.0A	T_A=25℃		0.55	0.60	
		T_A=100℃		0.53	–	
		T_A=125℃		0.51	–	
Reverse current	V_R=100V	T_A=25℃	I_R 2)	10	50	μA
		T_A=100℃		2	5	mA
		T_A=125℃		10	20	
Typical junction capacitance	4V,1MHz		C_J	270		pF

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

2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTCS

Parameter	Symbol	SR10100LCT	SRF10100LCT	SR10100LD1	SR10100LM1	Unit
Typical thermal resistance 3)	$R_{\theta JC}$	2.5	4.5	2.5	2.5	℃/W

3.Thermal resistance from junction to case, Total device

AVAILABALE 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)
SR10100LCT-TO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SRF10100LCT-ITO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SR10100LD1-TO-263	Tube	565×225×170	548×151×37	538	5	20	50	5
SR10100LM1-TO-252	Tube	565×225×170	548×151×37	520	5	60	75	22.5
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)
SR10100LD1-TO-263	Reel	364×364×235	330×330×38	φ330	5	1	800	4
SR10100LM1-TO-252	Reel	364×364×235	346×346×23	φ330	8	1	2500	20

FIG.1-FORWARD CURRENT DERATING CURVE

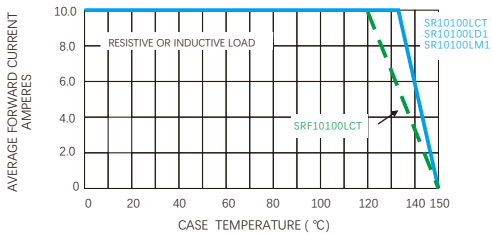


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

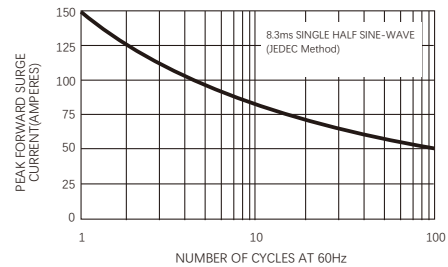


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

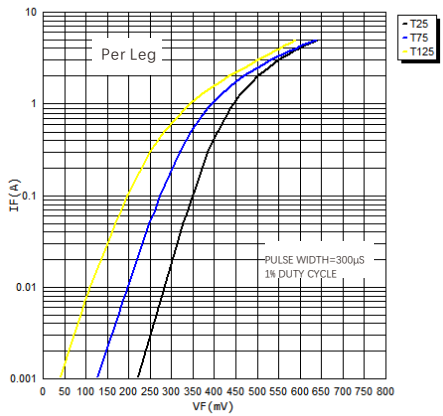


FIG.4-TYPICAL REVERSE CHARACTERISTICS

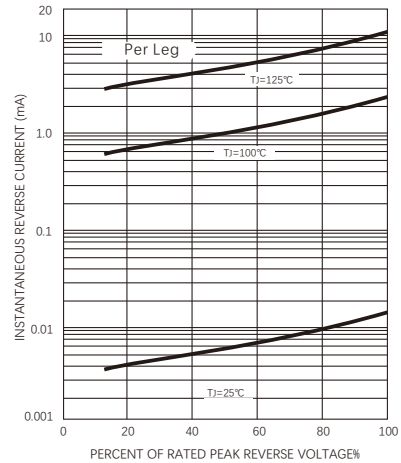
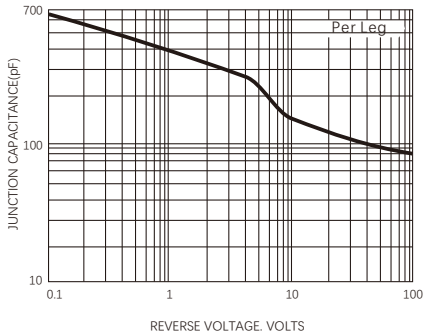


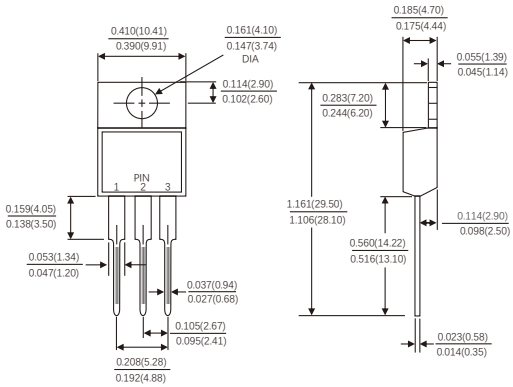
FIG.5-TYPICAL JUNCTION CAPACITANCE



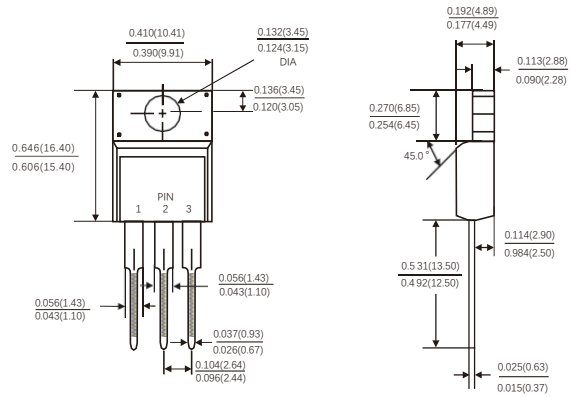
PACKAGE OUTLINE DIMENSIONS

Dimensions in inches and (millimeters)

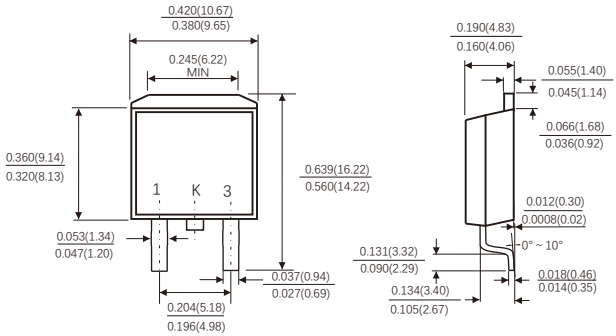
TO-220AB



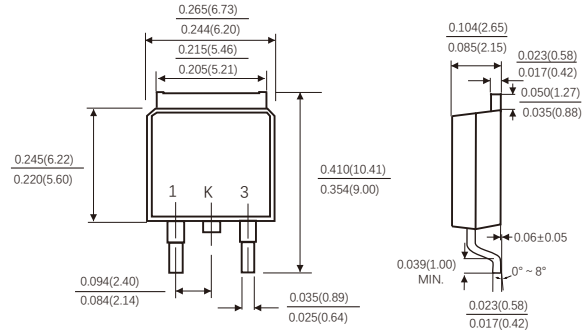
ITO-220AB



TO-263

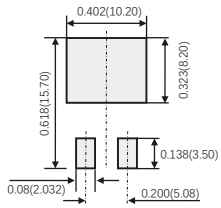


TO-252



Suggested Pad Layout

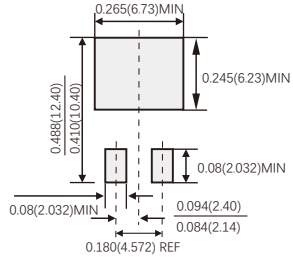
(TO-263)



(设计者可参考推荐值根据焊接工艺
要求自行确定适合的焊盘尺寸)
(Designers can refer to the recommended
values according to the manufacturing process
requirements to determine the appropriate pad size)

Suggested Pad Layout

(TO-252)



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