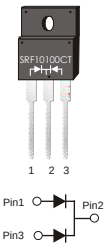
LOW VF SCHOTTKY BARRIER RECTIFIER

Features:

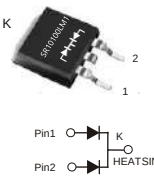
- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL Level 1，per J-STD-020, LF MAX peak of 245℃（for TO-263,252 package）
- Solder bath temperature 275℃ maximum,10s,per JESD22-B10 （for TO-220AB and ITO-220AB package）
- Component in accordance to RoHS 2011/65/EU

TO-220AB
KSR10100LCT

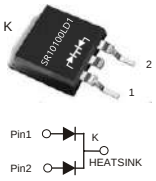
ITO-220AB
KSRF10100LCT



TO-252
KSR10100LM1



TO-263
KSR10100LD1



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

Applications:

For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications

PRIMARY CHARACTERISTICS	
IF(AV)	2×5A
VRRM	100V
IFSM	150A
VF at IF=5.0A(125℃)	0.59V
IR	10μA
TJ(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	KSR10100LCT, KSRF10100LCT, KSR10100LD1,KSR10100LM1	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	100	V
Maximum average forward rectified current (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)		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 ,Tstg	-55 to+150	℃
Isolation voltage (ITO-220AB only) from terminals to heatsink t= 1 min		V_{AC}	1500	V

RATINGS AND CHARACTERISTIC OF KSR10100LCT,KSRF10100LCT,KSR10100LD1,KSR10100LM1

ELECTRICAL CHARACTERISTCS（T_A=25℃ Unless otherwise noted）

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instaneous forward voltage	Per Leg I_F= 5.0A	T_A= 25℃	V_F 1)	0. 65	0. 70	V
		T_A=100℃		0. 62	–	
		T_A=125℃		0. 59	–	
	Per Leg 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	370		pF

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle
2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTCS（T_A=25℃ Unless otherwise noted）

Parameter	Symbol	KSR10100LCT	KSRF10100LCT	KSR10100LD1	KSR10100LM1	Unit
Typical thermal resistance 3)	$R_{\theta JC}$	2. 5	4. 5	2. 5	2. 5	℃/W

3.Thermal resistance from junction to case

AVAILABALE PACK INFORMATION

Product code	Package	Box Size L×W×H (mm)	Quantity (pcs/box)	Carton SizeL×W×H (mm)	Quantity (box/carton)
KSR10100LCT	P/T	558×148×38	1000	565×225×170	5
KSRF10100LCT	P/T	558×148×38	1000	565×225×170	5
KSR10100LD1	P/T	558×148×38	1000	565×225×170	5
KSR10100LM1	P/T	558×148×38	4000	565×225×170	5

RATINGS AND CHARACTERISTIC OF KSR10100LCT,KSRF10100LCT,KSR10100LD1,KSR10100LM1

FIG.1-FORWARD CURRENT DERATING CURVE

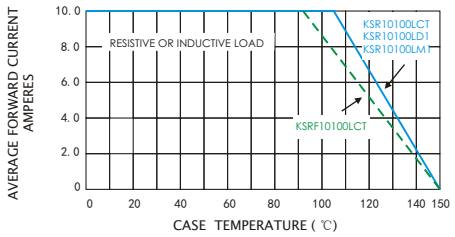


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

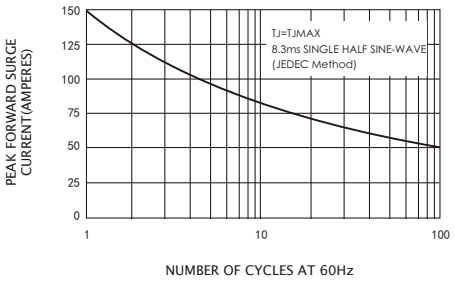


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

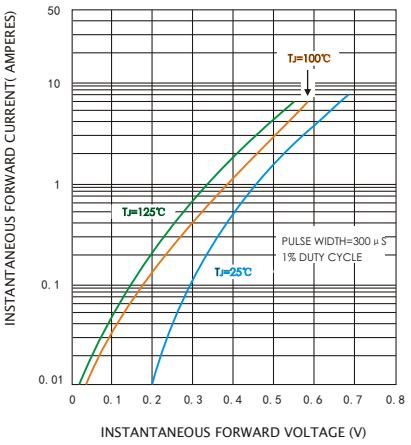


FIG.4-TYPICAL REVERSE CHARACTERISTICS

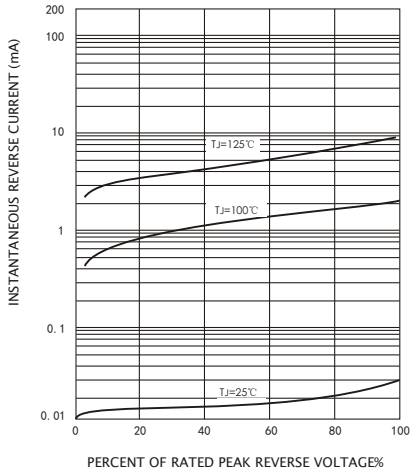
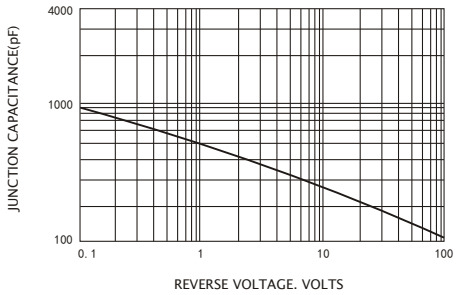


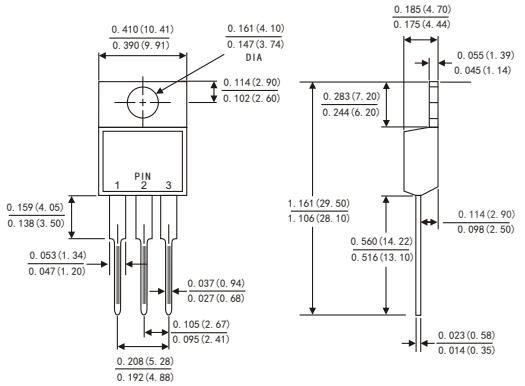
FIG.5-TYPICAL JUNCTION CAPACITANCE



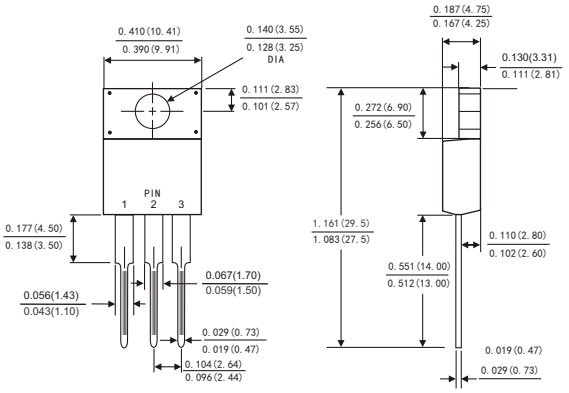
PACKAGE OUTLINE DIMENSIONS

Dimensions in inches and (millimeters)

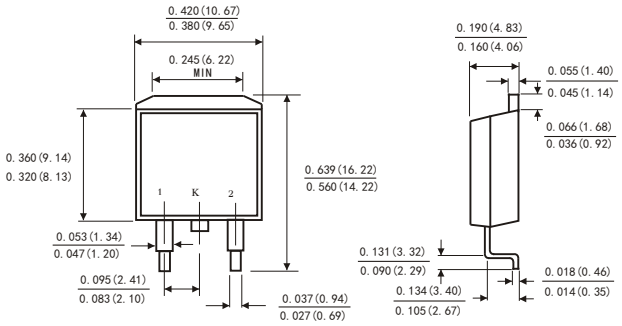
TO-220AB



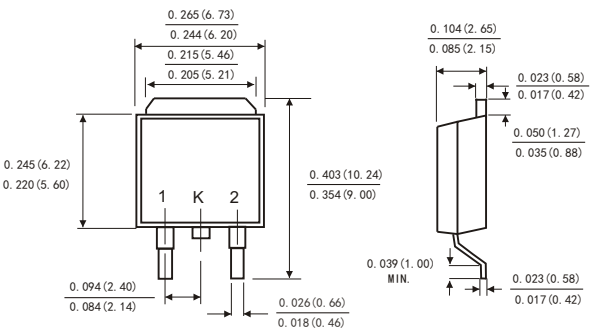
ITO-220AB



TO-263

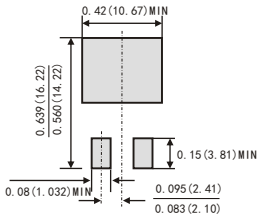


TO-252



Suggested Pad Layout

（TO-263）



Suggested Pad Layout

（TO-252）