

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°C (for TO-263,252 package)
- Solder bath temperature 275°C maximum,10s,per JESD22-B10 (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2011/65/EU

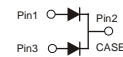
Mechanical Data:

- 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

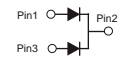
Applications:

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

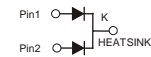
TO-220AB



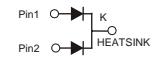
ITO-220AB



TO-252



TO-263



PRIMARY CHARACTERISTICS	
IF(AV)	2×5A
VRRM	100V
IFSM	150A
VF at IF=5.0A(125°C)	0.59V
IR	10 μ A
TJ(MAX)	150°C
Package	TO- 220AB, ITO- 220AB, TO- 263, TO- 252
Diode variations	Common cathode

MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	KSR10100LCT, KSRF10100LCT, KSR10100LD1, KSR10100LM1	Unit
Maximum repetitive peak reverse voltage	VRRM	100	V
Maximum average forward rectified current (see fig.1)	Per leg	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)	IFSM	150	A
Peak repetitive reverse current per diode at tp= 2 μ s 1KHz	IRRM	0.5	A
Operating junction and Storage temperature range	TJ ,Tstg	-55 to+150	°C
Isolation voltage (ITO-220AB only) from terminals to heatsink t= 1 min	VAC	1500	V

RATINGS AND CHARACTERISTIC OF KSR10100LCT,KSRF10100LCT,KSR10100LD1,KSR10100LM1
ELECTRICAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instaneous forward voltage	Per Leg I _F = 5.0A	T _A = 25°C	V _F 1)	0.65	0.70	V
		T _A =100°C		0.62	—	
		T _A =125°C		0.59	—	
	Per Leg I _F = 3.0A	T _A = 25°C		0.55	0.60	
		T _A =100°C		0.53	—	
		T _A =125°C		0.51	—	
Reverse current	V _R = 100V	T _A = 25°C	I _R 2)	10	50	μA
		T _A =100°C		2	5	mA
		T _A =125°C		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 CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Symbol	KSR10100LCT	KSRF10100LCT	KSR10100LD1	KSR10100LM1	Unit
Typical thermal resistance 3)	R _{θjc}	2.5	4.5	2.5	2.5	°C/W

3.Thermal resistance from junction to case

AVAILABALE PACK INFORMATION

Product code	Package	Box Size LxWxH (mm)	Quantity (pcs/box)	Carton SizeLxWxH (mm)	Quantity (box/carton)
KSR10100LCT	P/T	558x148x38	1000	565x225x170	5
KSRF10100LCT	P/T	558x148x38	1000	565x225x170	5
KSR10100LD1	P/T	558x148x38	1000	565x225x170	5
KSR10100LM1	P/T	558x148x38	4000	565x225x170	5

RATINGS AND CHARACTERISTIC OF KSR10100LCT,KSRF10100LCT,KSR10100LD1,KSR10100LM1

FIG.1-FORWARD CURRENT DERATING CURVE

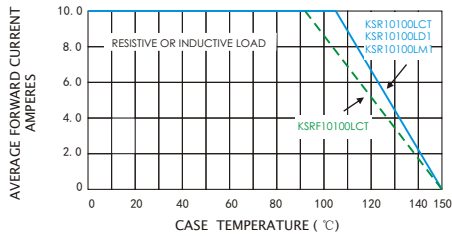


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

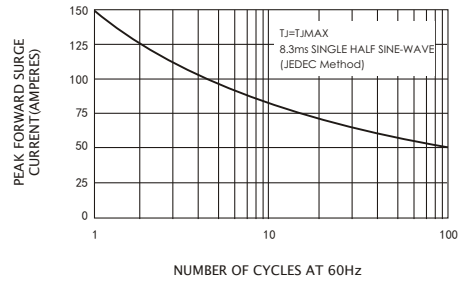


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

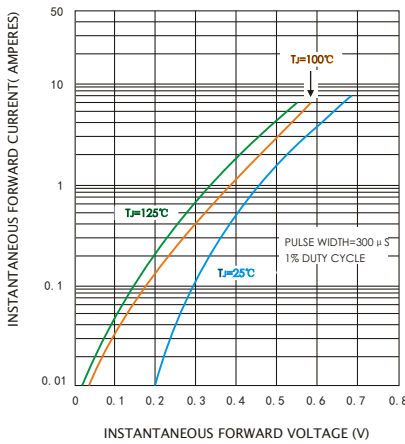


FIG.4-TYPICAL REVERSE CHARACTERISTICS

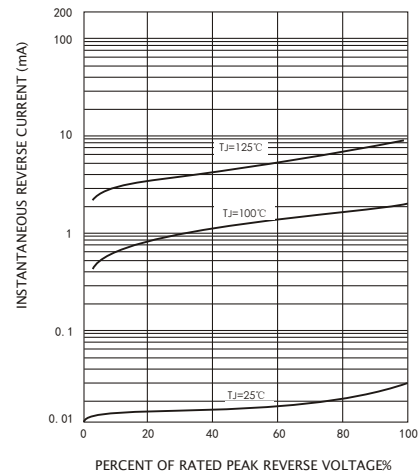
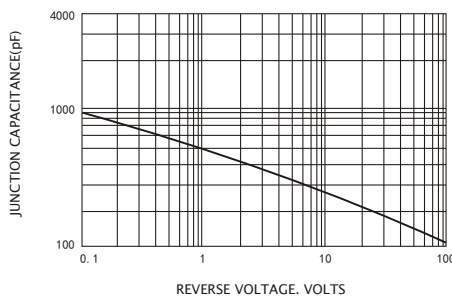


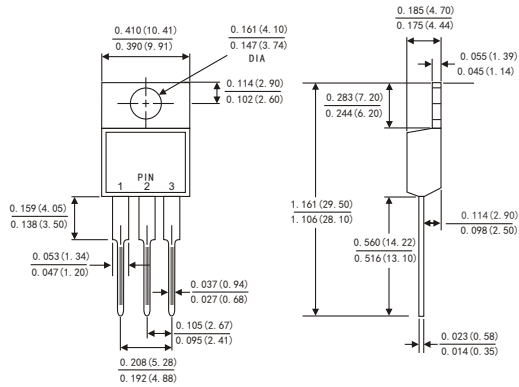
FIG.5-TYPICAL JUNCTION CAPACITANCE



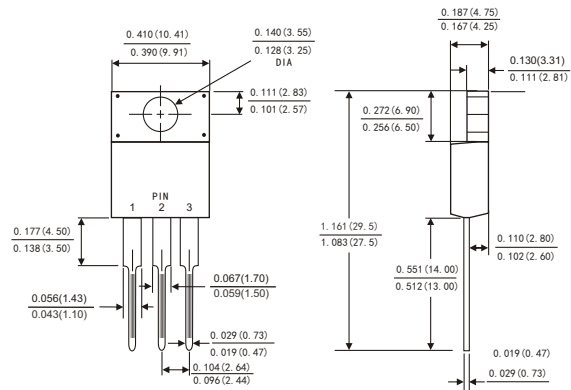
PACKAGE OUTLINE DIMENSIONS

Dimensions in inches and (millimeters)

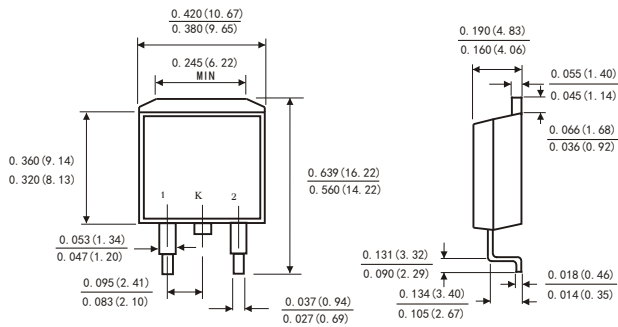
TO-220AB



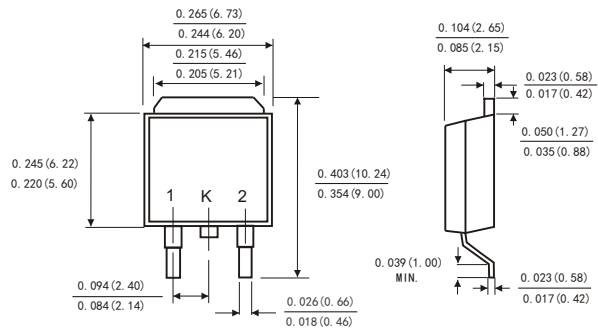
ITO-220AB



TO-263

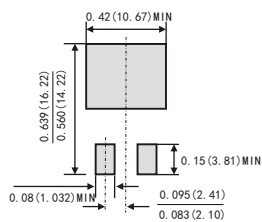


TO-252



Suggested Pad Layout

(TO-263)



Suggested Pad Layout

(TO-252)

