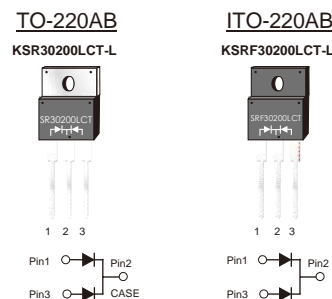


# LOW VF SCHOTTKY BARRIER RECTIFIER

## 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 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



## 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

## Applications:

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

PRIMARY CHARACTERISTICS	
$I_F(AV)$	2×15A
$V_{RRM}$	200V
$I_{FSM}$	250A
$V_F$ at $I_F=15.0A, T_j=125^\circ C$	0.70V
$I_R$	5 $\mu$ A
$T_j(MAX)$	150°C
Package	TO-220AB, ITO-220AB, TO-263
Diode variations	Common cathode

## MAXIMUM RATINGS

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

Parameter	Symbol	KSR30200LCT-L, KSRF30200LCT-L, KSR30200LD1-L			Unit
Marking Code	-	SR30200LCT/ SR30200CT	SRF30200LCT	SR30200LD1	-
Maximum repetitive peak reverse voltage	$V_{RRM}$	200			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

RATINGS AND CHARACTERISTIC OF KSR30200LCT-L,KSRF30200LCT-L,KSR30200LD1-L

ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	Per leg IF= 15.0A	T <sub>A</sub> =25°C	V <sub>F</sub> <sup>1)</sup>	-	0.85	V
		T <sub>A</sub> =100°C		-	0.75	
		T <sub>A</sub> =125°C		0.68	0.70	
	Per leg IF= 10.0A	T <sub>A</sub> =25°C		-	0.80	
		T <sub>A</sub> =100°C		-	0.72	
		T <sub>A</sub> =125°C		0.65	0.68	
Reverse current	VR= 200V	T <sub>A</sub> =25°C	I <sub>R</sub> <sup>2)</sup>	5	10	μA
		T <sub>A</sub> =100°C		0.3	1	mA
		T <sub>A</sub> =125°C		1	2	
Typical junction capacitance	4V, 1MHz		C <sub>J</sub>	300		pF

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

2.Pulse test: pulse width ≤ 40ms

THERMAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Symbol	KSR30200LCT	KSRF30200LCT	KSR30200LD1	Unit
Typical thermal resistance <sup>3)</sup>	R <sub>θc</sub>	2.0	4.0	3.0	°C/W

3.Thermal resistance from junction to case

AVAILABLE PACK INFORMATION

Product code	Pack	Box Size LxWxH(mm)	Quantity (pcs/box)	Carton Size LxWxH(mm)	Quantity (box/carton)
KSR30200LCT-L	P/T	558x148x38	1000	565x225x170	5
KSRF30200LCT-L	P/T	558x148x38	1000	565x225x170	5
KSR30200LD1-L	P/T	558x148x38	1000	565x225x170	5

**RATINGS AND CHARACTERISTIC OF KSR30200LCT-L, KSRF30200LCT-L, KSR30200LD1-L**

FIG.1-FORWARD CURRENT DERATING CURVE

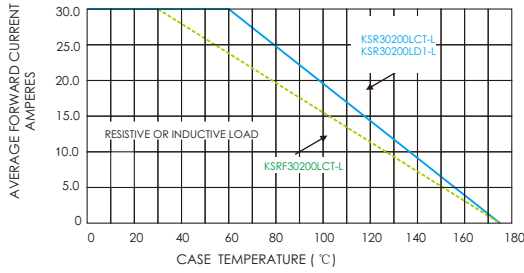


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

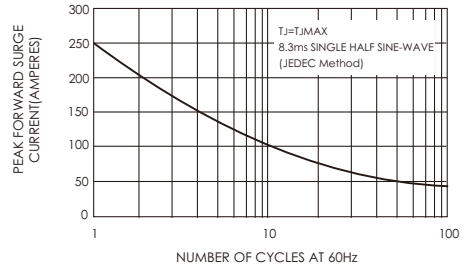


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

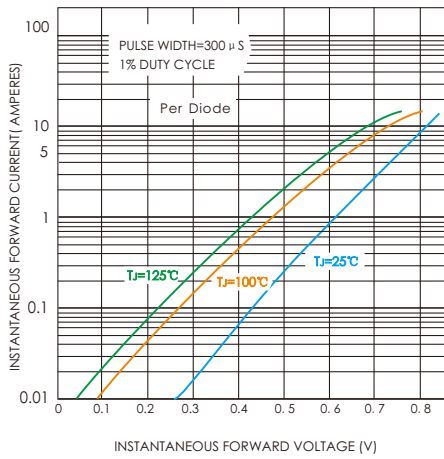


FIG.4-TYPICAL REVERSE CHARACTERISTICS

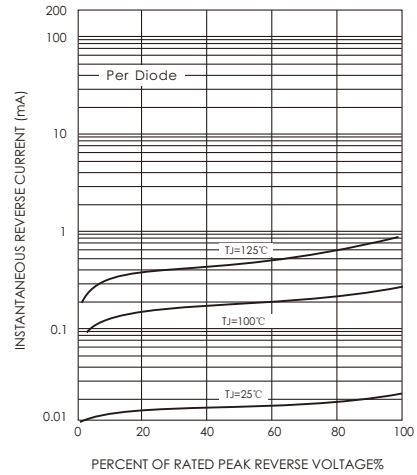
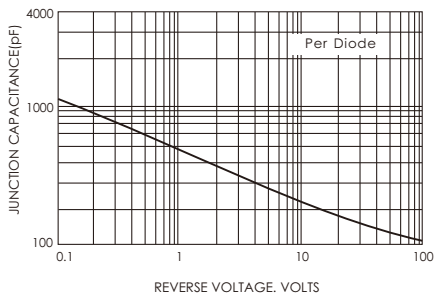
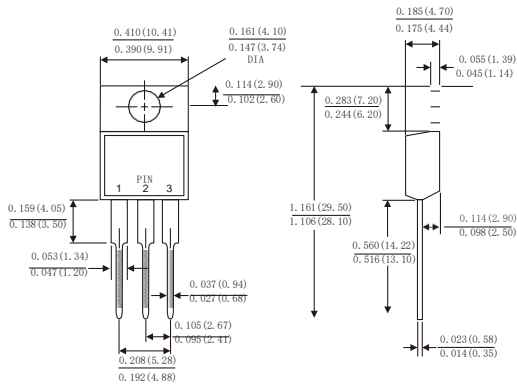


FIG.5-TYPICAL JUNCTION CAPACITANCE

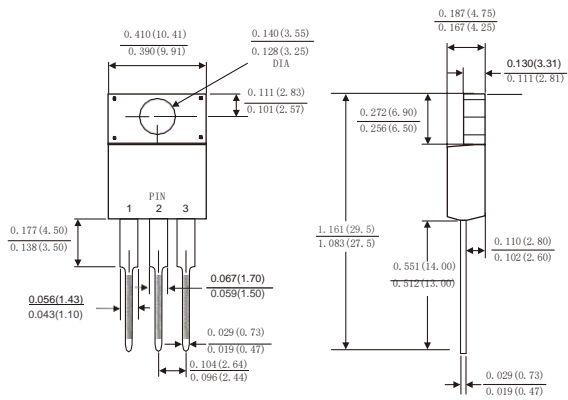


**PACKAGE OUTLINE DIMENSIONS**

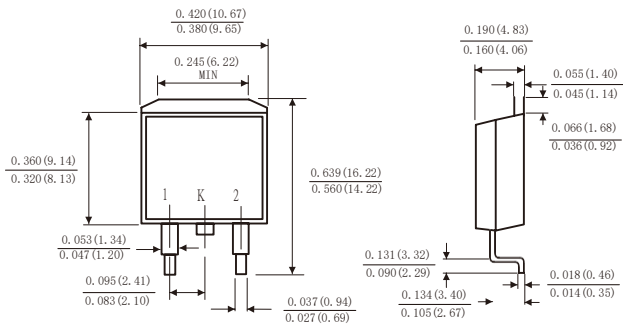
**TO-220AB**



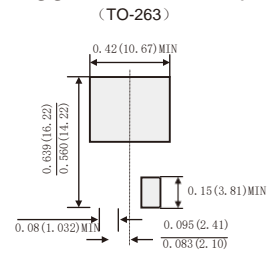
**ITO-220AB**



**TO-263**



**Suggested Pad Layout**



Dimensions in inches and (millimeters)