

30A 45V LOW VF SCHOTTKY RECTIFIER

Features:

- Super Low Forward Voltage Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 150°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant

Applications :

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications

KSR3045LCT



TO-220AB

KSRF3045LCT



ITO-220AB

KSRB3045LCT

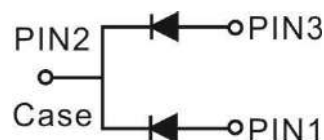


TO-262

KSRD3045LCT



TO-263



Major ratings and characteristics

Characteristics	Values	Units
I _{F(AV)} Rectangular Waveform	15 × 2	A
V _{RRM}	45	V
V _{F@ 15A, T_j=125 °C}	0.45	V
T _J Operating Junction Temperature	-65 to +150	°C

1. Characteristics

Maximum Ratings Characteristics

($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Values	Units
DC Blocking Voltage	V_{RM}	45	Volts
Working Peak Reverse Voltage	V_{RWM}		
Peak Repetitive Reverse Voltage	V_{RRM}		
Average Rectified Forward Current Per device (Rated VR-20Khz Square Wave) - 50% duty cycle	I_o	30	Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	300	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	4.5	Amps
Typical Thermal Resistance (per leg) Package = TO-220AB Package = ITO-220AB Package = TO-262 Package = TO-263	$R\theta_{JC}$	2 4 2 2	$^\circ\text{C} / \text{W}$
Isolation voltage (ITO-220 only)	V_{AC}	1500	V
Maximum Rate of Voltage Change (at Rated V_R)	dv/dt	10000	V/uS
Operating Junction Temperature	T_J	- 40 to +150	$^\circ\text{C}$
Storage Junction Temperature	T_{STG}	- 40 to +150	

Electrical Characteristics - (per leg)

($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 7.5 A	$T_J = 25^\circ\text{C}$	V_F^*	0.42	-----	Volts
	IF = 15 A			0.45	0.50	
	IF = 7.5 A	$T_J = 125^\circ\text{C}$		0.38	-----	
	IF = 15 A			-----	0.47	
Instantaneous Reverse Current	At V_{RM}	$T_J = 25^\circ\text{C}$	I_R^*	-----	100	μA
		$T_J = 125^\circ\text{C}$		-----	8	mA

* Pulse width < 300 uS, Duty cycle < 2%

Typical Junction Capacitance ¹	C_J	650	pF
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Notes:

1. Measured at 1MHz and applied reverse voltage of 5.0V D.C.

2. Characteristics Curves

Ratings and Characteristics Curves Ratings and Characteristics Curves

($T_A = 25^{\circ}\text{C}$ unless otherwise specified)
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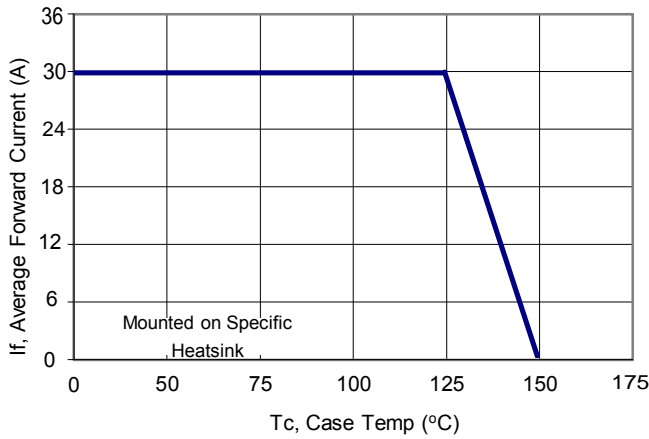


Figure 1: Current Derating, Case

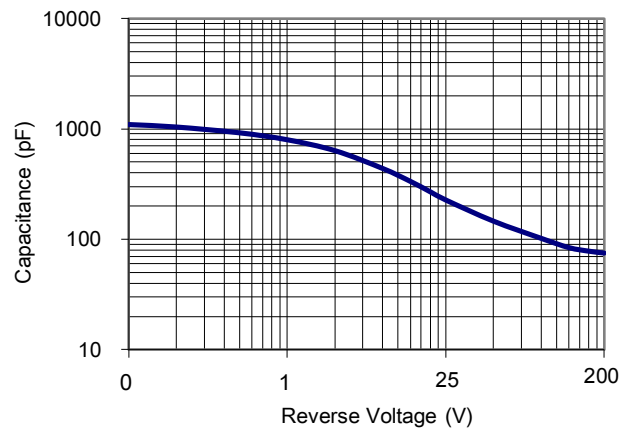


Figure 2: Typical Junction Capacitance

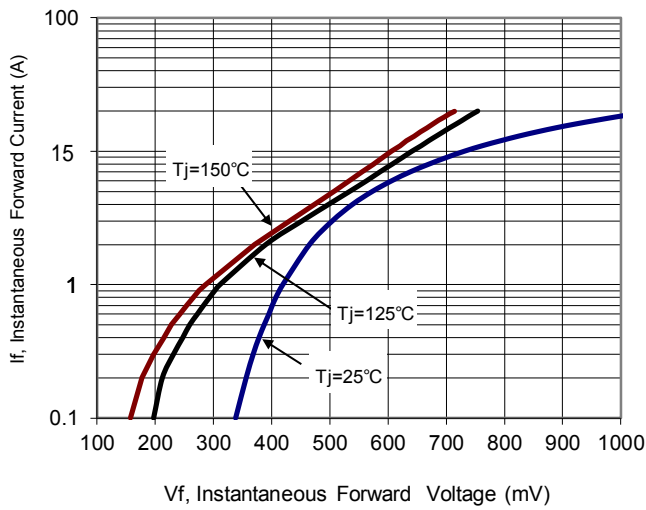


Figure 3: Typical Forward Voltage

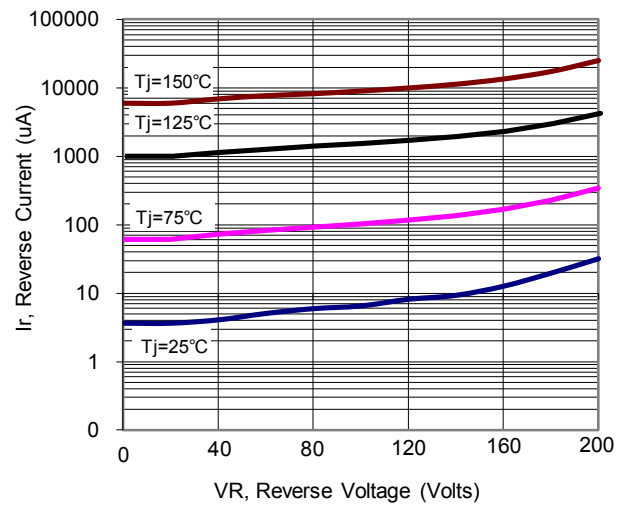


Figure 4: Typical Reverse Current

3. Marking information

Top Marking Rule

SR3045LCT
YWW

SR3045LCT = Product Type Marking Code
YWW = Date Code
Y = Last two digits of year
WW = Week code

SRF3045LCT
YWW

SRF3045LCT = Product Type Marking Code
YYWW = Date Code
YY = Last two digits of year
WW = Week code

SRB3045LCT
YWW

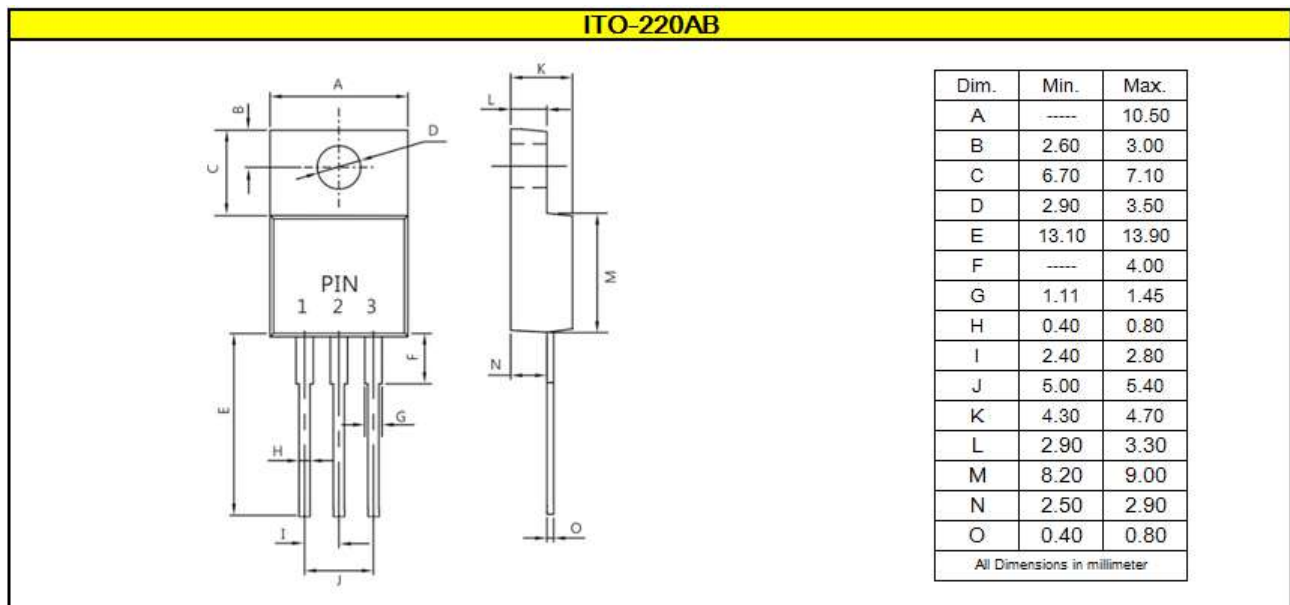
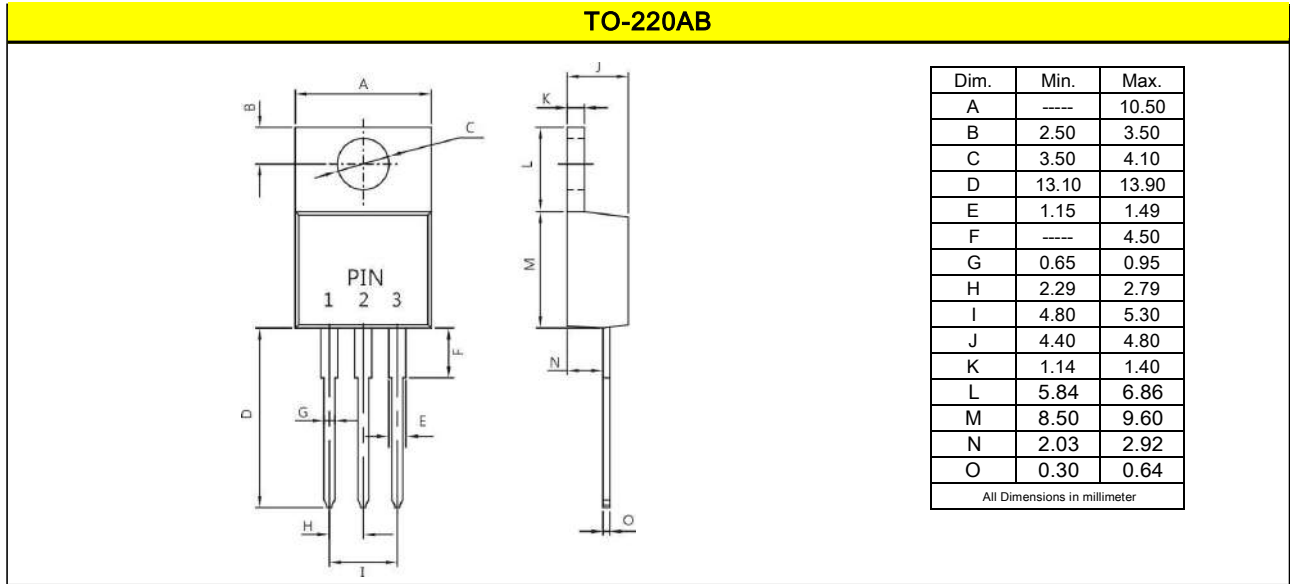
SRB3045LCT = Product Type Marking Code
YWW = Date Code
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SRD3045LCT
YWW

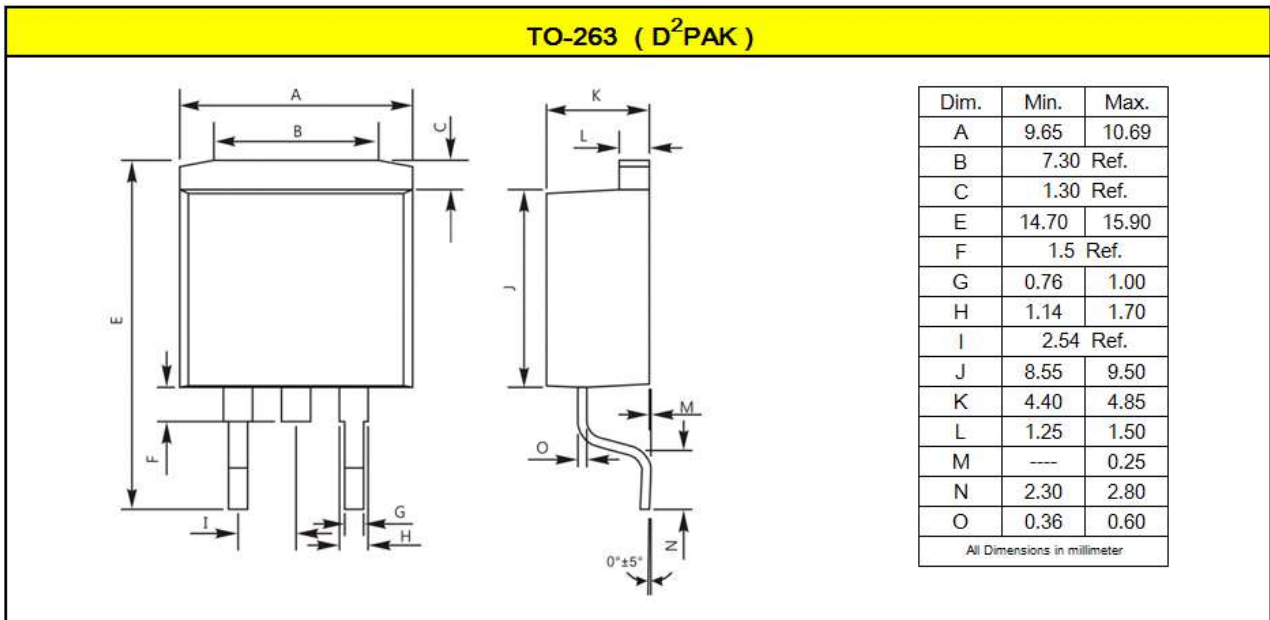
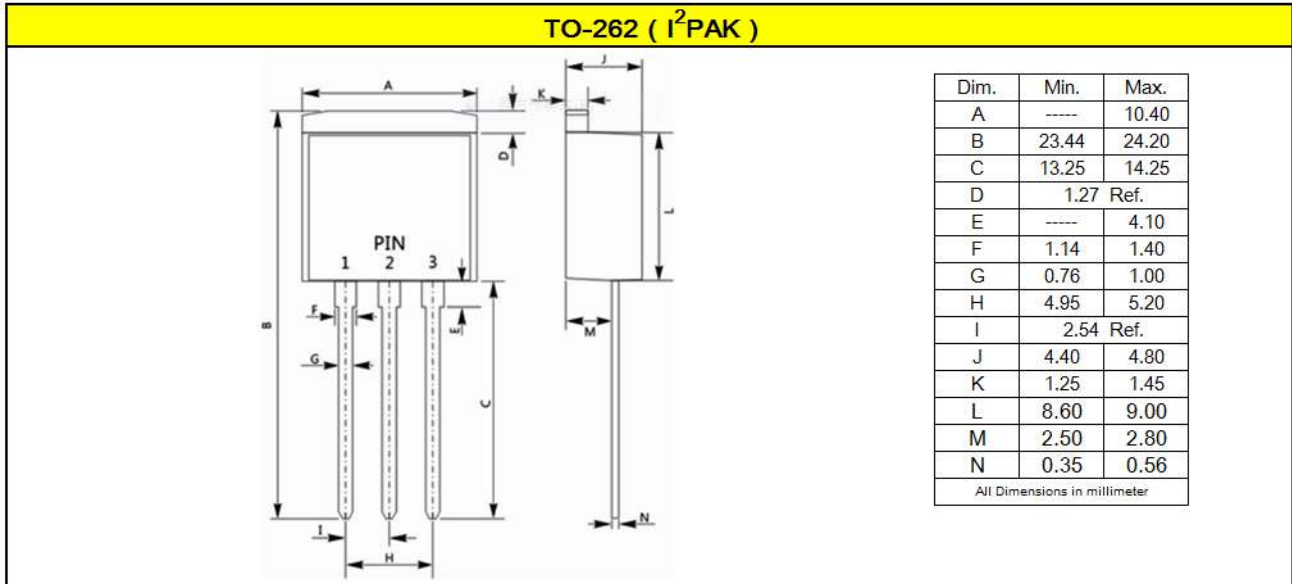
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4. Package information

Package Outline Dimensions millimeters



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5. Ordering information

Part Number	Package	Delivery mode
KSR3045LCT	TO-220AB	50 pieces / tube
KSRF3045LCT	ITO-220AB	50 pieces / tube
KSRB3045LCT	TO-262	50 pieces / tube
KSRD3045LCT	TO-263	800 pieces / 13" diameter reel

Mechanical

- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.07 ounces (1.96grams) - TO-220AB
0.06 ounces (1.74grams) - ITO-220AB
0.05 ounces (1.45 grams) - TO-262
0.04 ounces (1.16 grams) - TO-263
- Mounting Torque : Recommended 4~5 kg-cm.