30SLJQ045

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

30 Amp. 45V

Major Ratings and Characteristics

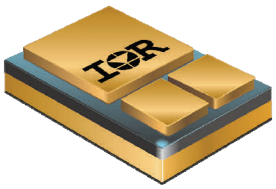
Characteristics	30SLJQ045	Units
$I_{F(AV)}$	30	A
V_{RRM}	45	V
I_{FSM} @ tp = 8.3ms half–sine	270	A
V_F @ I_F = 30Apk, T_J = 125°C	0.71	V
T_J, T_{STG} Operating and storage	-55 to 150	°C

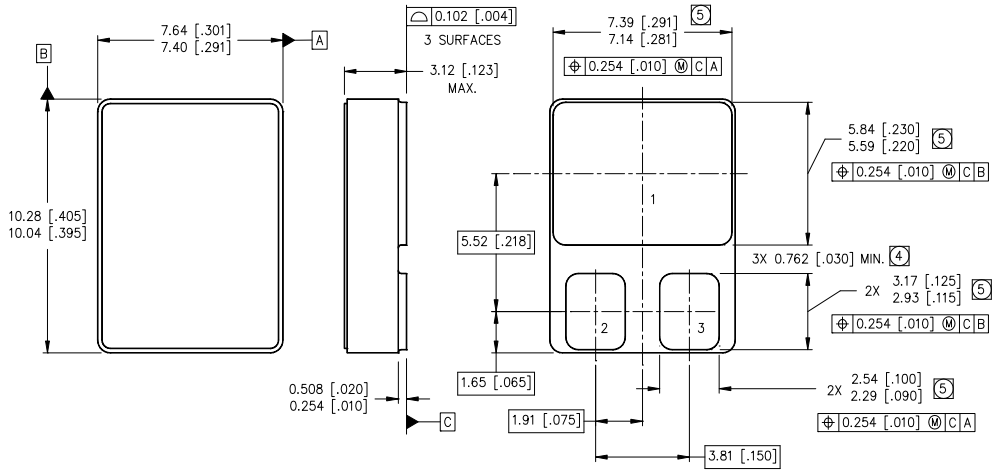
Description/Features

The 30SLJQ045 Schottky rectifier has been expressly designed to meet the rigorous requirements of IR HiRel environments. It is packaged in the hermetic surface mount SMD-0.5 ceramic package. The device's forward voltage drop and reverse leakage current are optimized for the lowest power loss and the highest circuit efficiency for typical high frequency switching power supplies and resonant power converters. Full MIL-PRF-19500 quality conformance testing is available on source control drawings to TX, TXV and S quality levels.

- Hermetically Sealed
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Surface Mount
- Lightweight

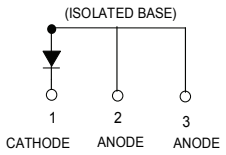
CASE STYLE





NOTES:

1. DIMENSIONING & TOLERANCING PER ASME Y14.5M–1994.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSIONS ARE SHOWN IN MILLIMETERS [INCHES].
4. DIMENSION INCLUDES METALLIZATION FLASH.
5. DIMENSION DOES NOT INCLUDE METALLIZATION FLASH.



Case Outline and Dimensions - SMD-0.5

Voltage Ratings

Part Number	30SLJQ045
V_R DC Reverse Voltage (V), maximum	45
V_{RRM} Working Peak Reverse Voltage (V), maximum	

Absolute Maximum Ratings

Parameter	Limits	Units	Conditions
$I_{F(AV)}$ Maximum Average Forward Current See Fig. 5,	30	A	50% duty cycle @ T_C = 97°C, square waveform
I_{FSM} Maximum Peak One Cycle Non - Repetitive Surge Current	270	A	tp = 8.3 ms half-sine

Electrical Specifications

Parameter	Limits	Units	Conditions	
V_{FM} Maximum Forward Voltage Drop See Fig. 1①	0.58	V	I_F = 15A	T_J = -55°C ②
	0.63	V	I_F = 20A	
	0.70	V	I_F = 30A	
	0.53	V	I_F = 15A	T_J = 25°C ②
	0.59	V	I_F = 20A	
	0.70	V	I_F = 30A	
	0.48	V	I_F = 15A	T_J = 125°C ②
	0.57	V	I_F = 20A	
	0.71	V	I_F = 30A	
I_{RM} Maximum Reverse Leakage Current See Fig. 2①	0.4	mA	T_J = 25°C	V_R = rated V_R ②
	32	mA	T_J = 100°C	
	200	mA	T_J = 125°C	
C_T Maximum Junction Capacitance	1230	pF	V_R = 5V_{DC} (1MHz, 25°C) ②	
L_S Series Inductance, typical	4.8	nH	Measured from center of cathode pad to center of anode pad	

Thermal-Mechanical Specifications

Parameter	Limits	Units	Conditions
T_J Maximum Junction Temperature Range	-55 to 150	°C	
T_{stg} Maximum Storage Temperature Range	-55 to 150	°C	
R_{thJC} Maximum Thermal Resistance, Junction to Case	1.6	°C/W	DC operation See Fig. 4
Wt Weight, typical	1.0	g	
Case Style	SMD-0.5		

① Pulse Width < 300µs, Duty Cycle < 2%

② Pins 2 and 3 externally tied together

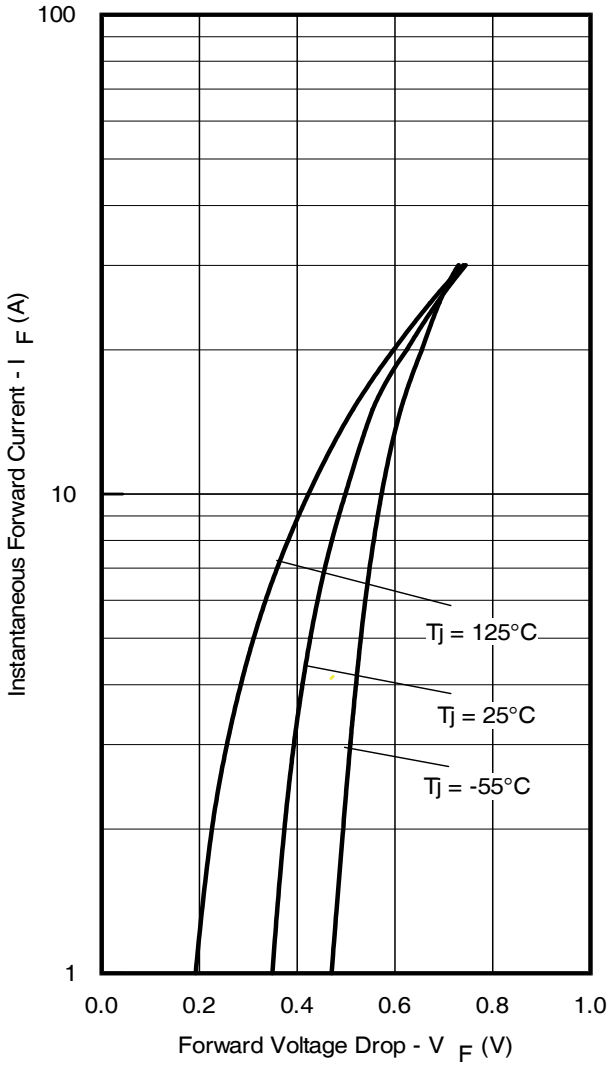


Fig 1. Max. Forward Voltage Drop Characteristics

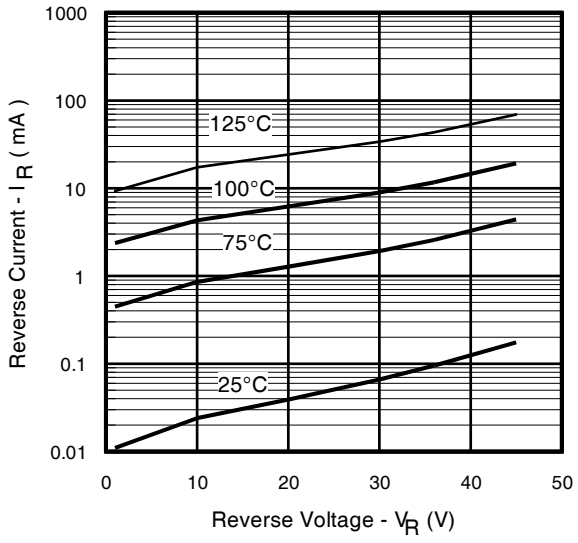


Fig 2. Typical Values of Reverse Current Vs. Reverse Voltage

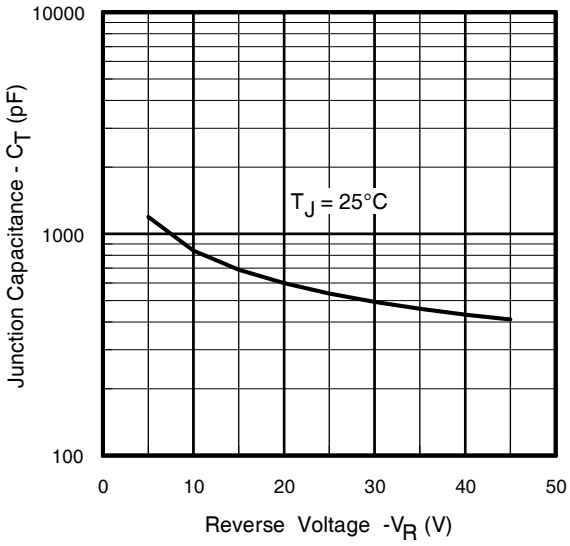


Fig 3. Typical Junction Capacitance Vs. Reverse Voltage

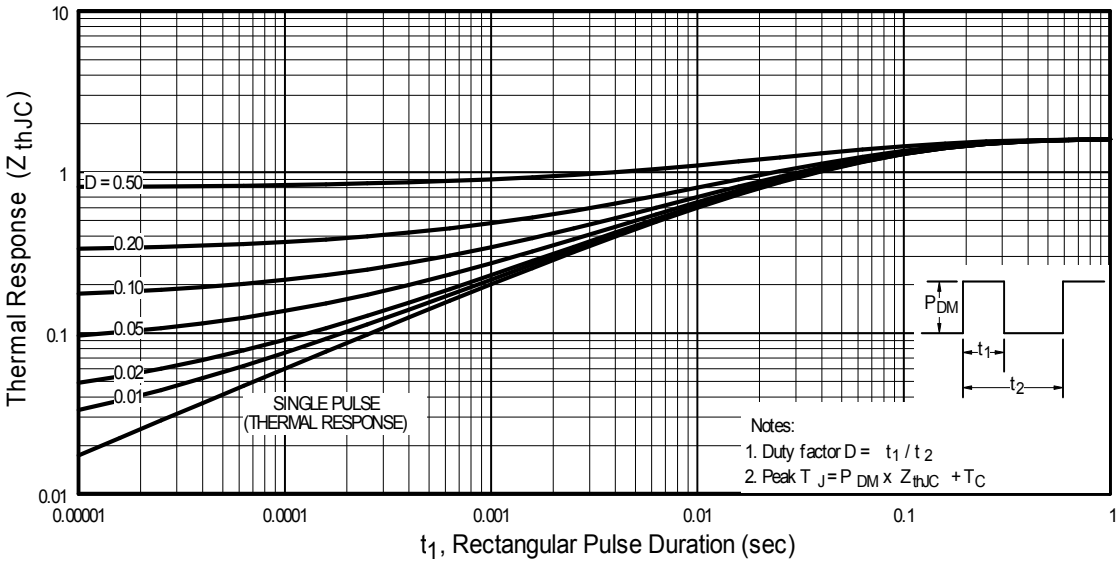


Fig 4. Max. Thermal Impedance ZthJC Characteristics

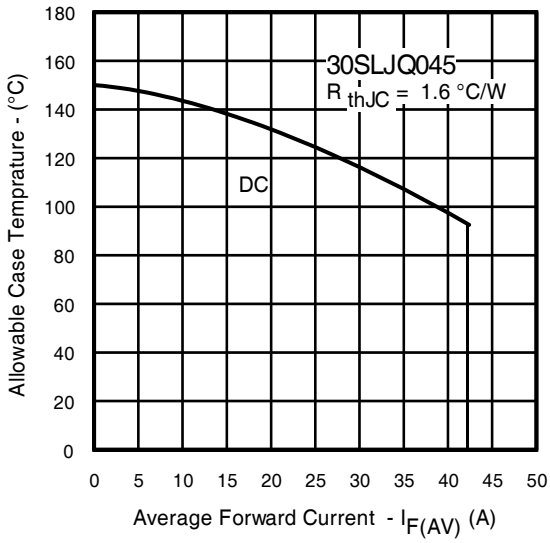


Fig 5. Max. Allowable Case Temperature Vs. Average Forward Current

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