30SCLJQ045

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

15 Amp. 45V

Major Ratings and Characteristics

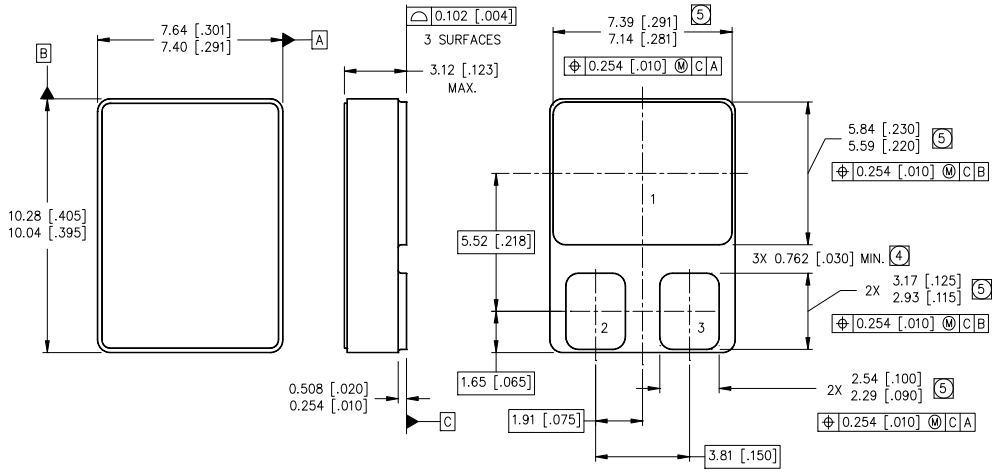
Characteristics	30SCLJQ045	Units
$I_{F(AV)}$	30	A
V_{RRM} (Per Leg)	45	V
I_{FSM} @ tp = 8.3ms half–sine (Per Leg)	112	A
V_F @ 15Apk, T_J = 125°C (Per Leg)	0.69	V
T_J, T_{stg} Operating and storage	-55 to 150	°C

Description/Features

The 30SCLJQ045 center tap 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.

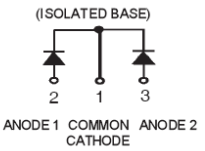
- Hermetically Sealed
- Center Tap
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Surface Mount
- Lightweight

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	30SCLJQ045
V_R Max. DC Reverse Voltage (V) (Per Leg)	45
V_{RRM} Max. Working Peak Reverse Voltage (V) (Per Leg)	

Absolute Maximum Ratings

Parameter	Limits	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current See Fig. 5	30	A	50% duty cycle @ T_C = 105°C, square waveform
I_{FSM} Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg)	112	A	@ tp = 8.3 ms half-sine

Electrical Specifications

Parameter	Limits	Units	Conditions	
V_{FM} Max. Forward Voltage Drop (Per Leg) See Fig. 1①	0.58	V	@ I_F = 7.5A	T_J = -55°C
	0.70	V	@ I_F = 15A	
	0.54	V	@ I_F = 7.5A	T_J = 25°C
	0.70	V	@ I_F = 15A	
	0.50	V	@ I_F = 7.5A	T_J = 125°C
	0.69	V	@ I_F = 15A	
I_{RM} Max. Reverse Leakage Current (Per Leg) See Fig. 1①	0.1	mA	T_J = 25°C	V_R = rated V_R
	55	mA	T_J = 125°C	
C_T Max. Junction Capacitance (Per Leg)	400	pF	V_R = 5V_{DC} (1MHz, 25°C)	
L_S Typical Series Inductance (Per Leg)	4.8	nH	Measured from center of cathode pad to center of anode pad	

Thermal-Mechanical Specifications

Parameter	Limits	Units	Conditions
T_J Max.Junction Temperature Range	-55 to 150	°C	
T_{stg} Max. Storage Temperature Range	-55 to 150	°C	
R_{thJC} Max. Thermal Resistance, Junction to Case (Per Leg)	3.5	°C/W	DC operation See Fig. 4
R_{thJC} Max. Thermal Resistance, Junction to Case (Per Package)	1.75	°C/W	DC operation
Wt Weight (Typical)	1.0	g	
Die Size (Typical)	70 x 92	mils	
Case Style	SMD-0.5		

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

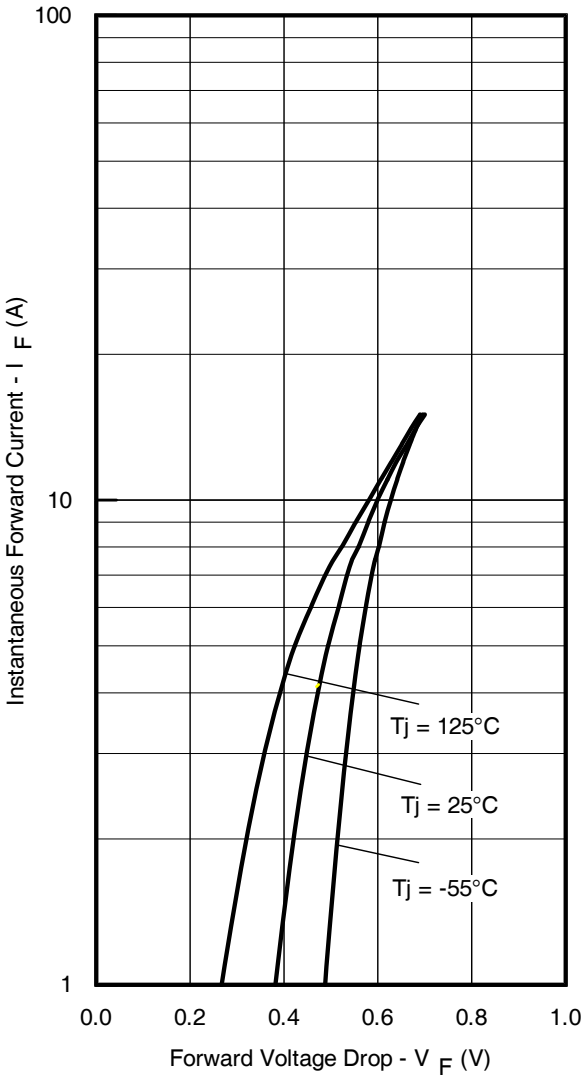


Fig 1. Max. Forward Voltage Drop Characteristics (Per Leg)

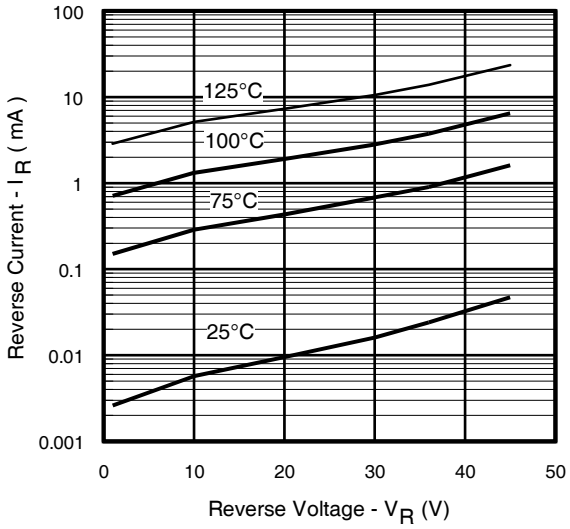


Fig 2. Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

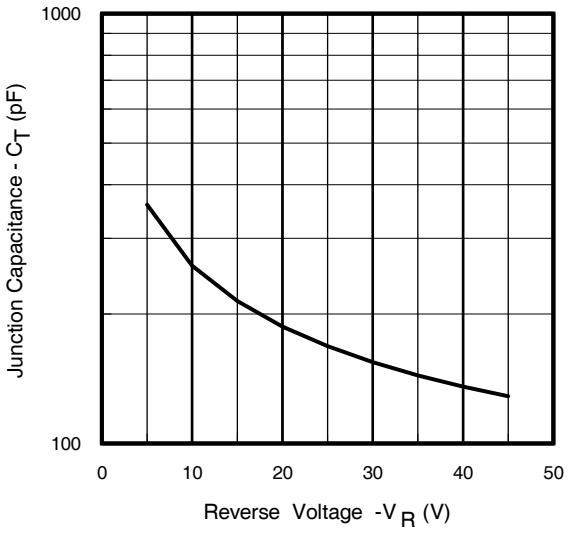


Fig 3. Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

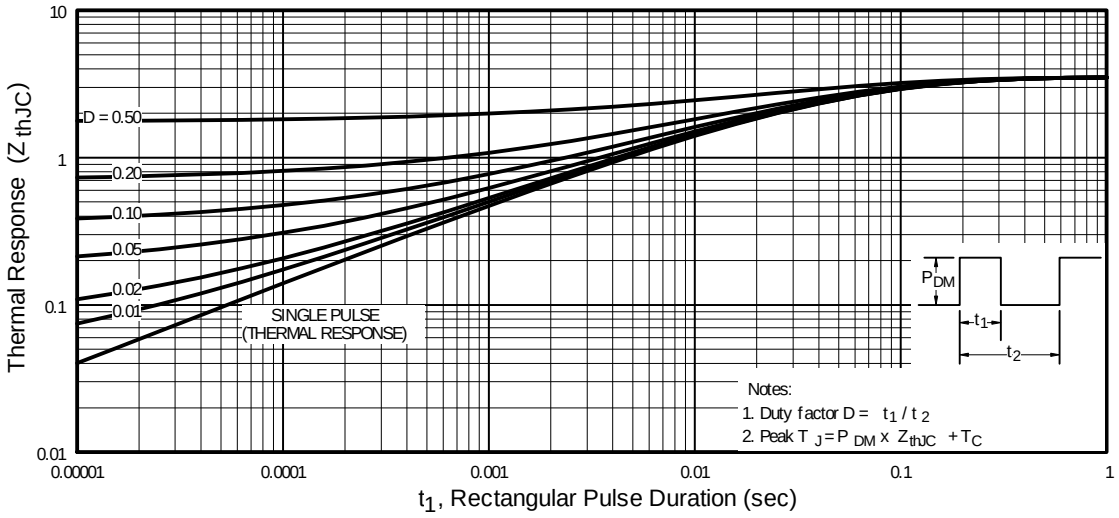


Fig 4. Max. Thermal Impedance ZthJC Characteristics (Per Leg)

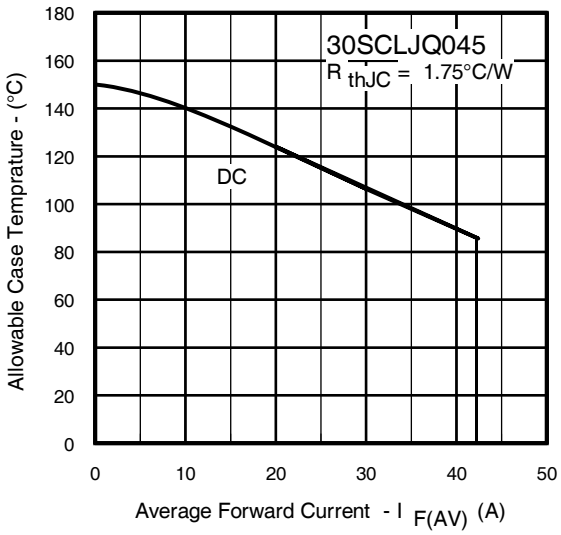


Fig 5. Max. Allowable Case Temperature Vs. Average Forward Current

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