8CLJQ045

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

8 Amp. 45V

Major Ratings and Characteristics

Characteristics	8CLJQ045	Units
$I_{F(AV)}$ Rectangular Waveform	8	A
V_{RRM} (Per Leg)	45	V
I_{FSM} @ tp = 8.3ms half–sine (Per Leg)	80	A
V_F @ 4Apk, T_J = 125°C (Per Leg)	0.58	V
T_J, T_{stg} Operating and storage	-55 to 150	°C

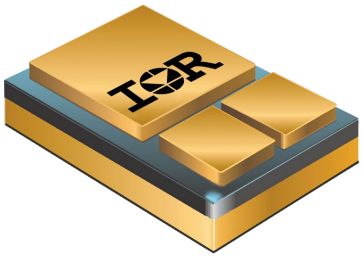
Description/Features

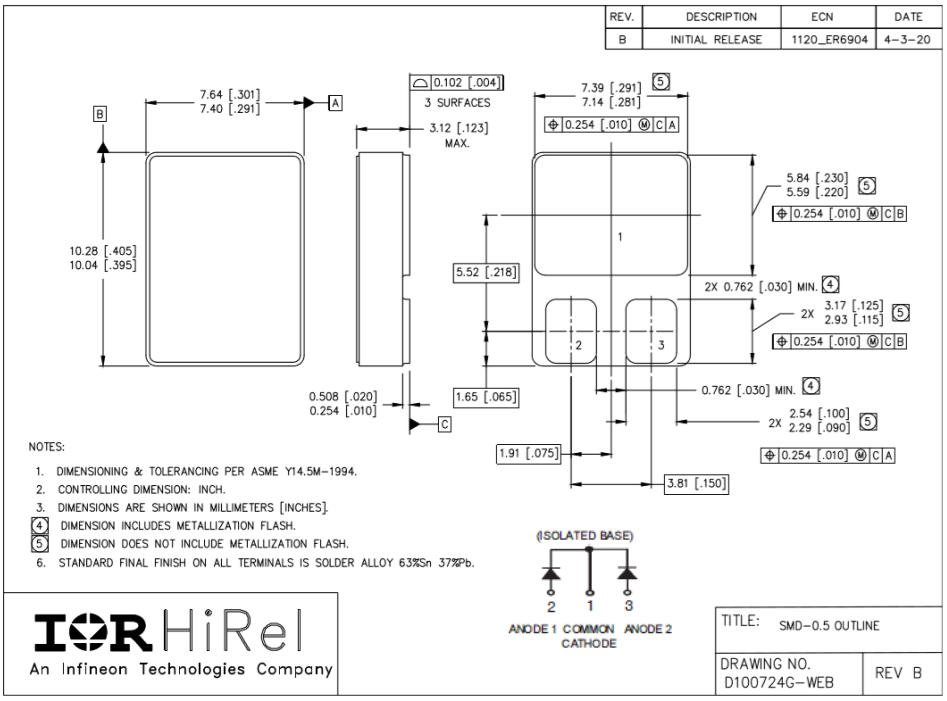
The 8CLJQ045 center tap Schottky rectifier has been expressly designed to meet the rigorous requirements of HiRel environments. It is packaged in the hermetic surface mount SMD-0.5 ceramic package. The device's forward voltage drop and reverse leakage current are optimized for the lowest power loss and the highest circuit efficiency for typical high frequency switching power supplies and resonant power converters. Full MILPRF-19500 quality conformance testing is available on source controlled drawings to TX, TXV and S levels.

- Hermetically Sealed
- Center Tap
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Surface Mount
- Lightweight
- ESD Rating:Class 3B per MIL-STD-750, Method 1020

Note: For the most updated package outline, please see the website: SMD-0.5

CASE STYLE





Case Outline and Dimensions - SMD-0.5

Voltage Ratings

Part Number	8CLJQ045
V_R Max. DC Reverse Voltage (V)	45
V_{RRM} Max. Working Peak Reverse Voltage (V)	

Absolute Maximum Ratings

Parameter	Limits	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current See Fig. 5	8.0	A	50% duty cycle @ T_C = 106°C, rectangular waveform
I_{FSM} Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg)	80	A	@ tp = 8.3 ms half-sine

Electrical Specifications

Parameter	Limits	Units	Conditions	
V_{FM} Max. Forward Voltage Drop (Per Leg) See Fig. 1①	0.72	V	@ I_F = 4A	T_J = -55°C
	0.97	V	@ I_F = 8A	
	0.67	V	@ I_F = 4A	T_J = 25°C
	0.96	V	@ I_F = 8A	
	0.58	V	@ I_F = 4A	T_J = 125°C
	0.92	V	@ I_F = 8A	
I_{RM} Max. Reverse Leakage Current (Per Leg) See Fig. 2①	0.15	mA	T_J = 25°C	V_R = rated V_R
	43	mA	T_J = 125°C	
C_T Max. Junction Capacitance (Per Leg)	760	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)	3.73	°C/W	DC operation See Fig. 4
R_{thJC} Max. Thermal Resistance, Junction to Case (Per Leg)	1.86	°C/W	DC operation
Wt Weight (Typical)	1.0	g	
Die Size (Typical)	60 x 60	mils	
Case Style	SMD-0.5		

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

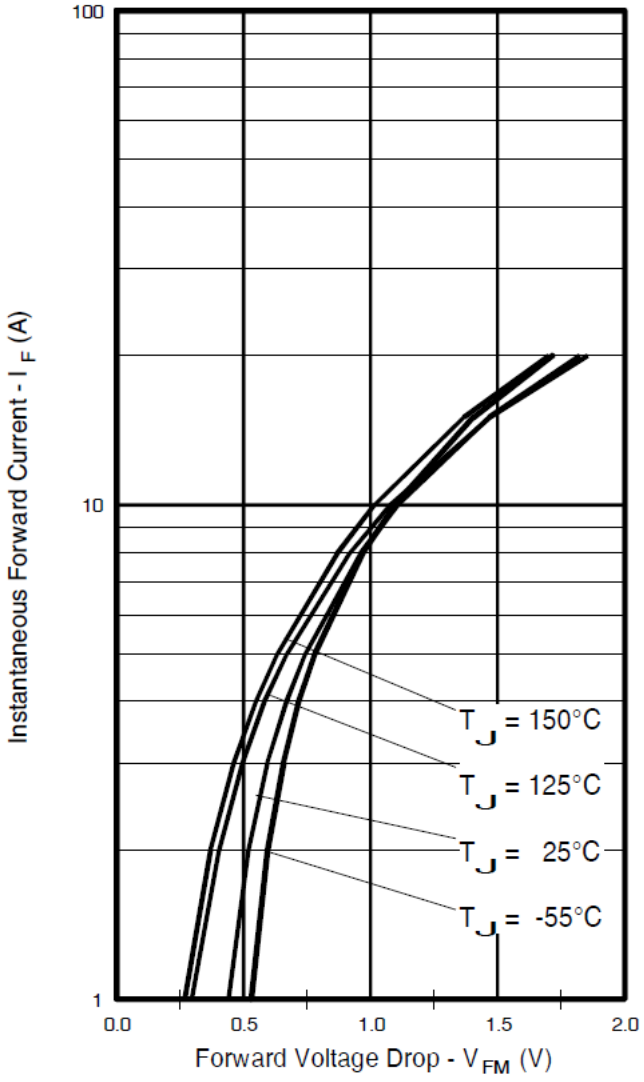


Fig 1. Max. Forward Voltage Drop Characteristics (Per Leg)

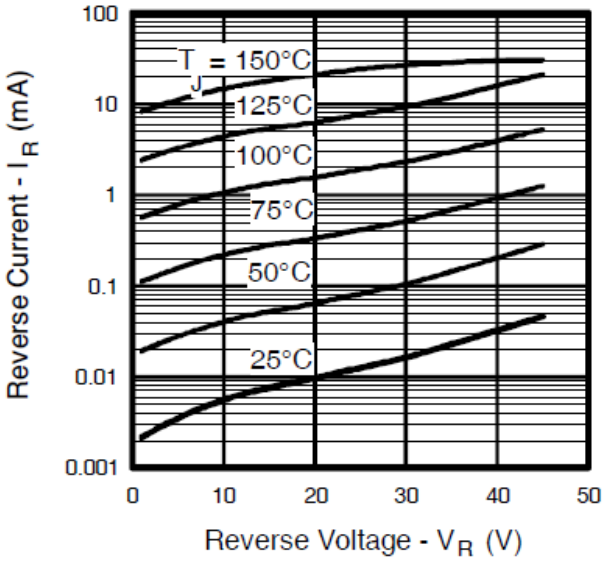


Fig 2. Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

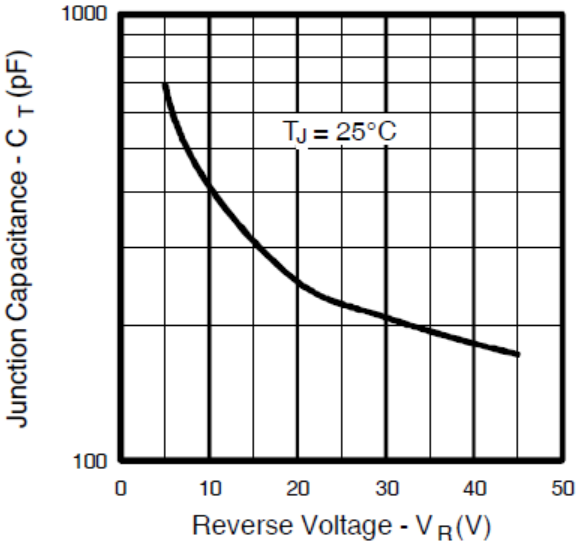


Fig 3. Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

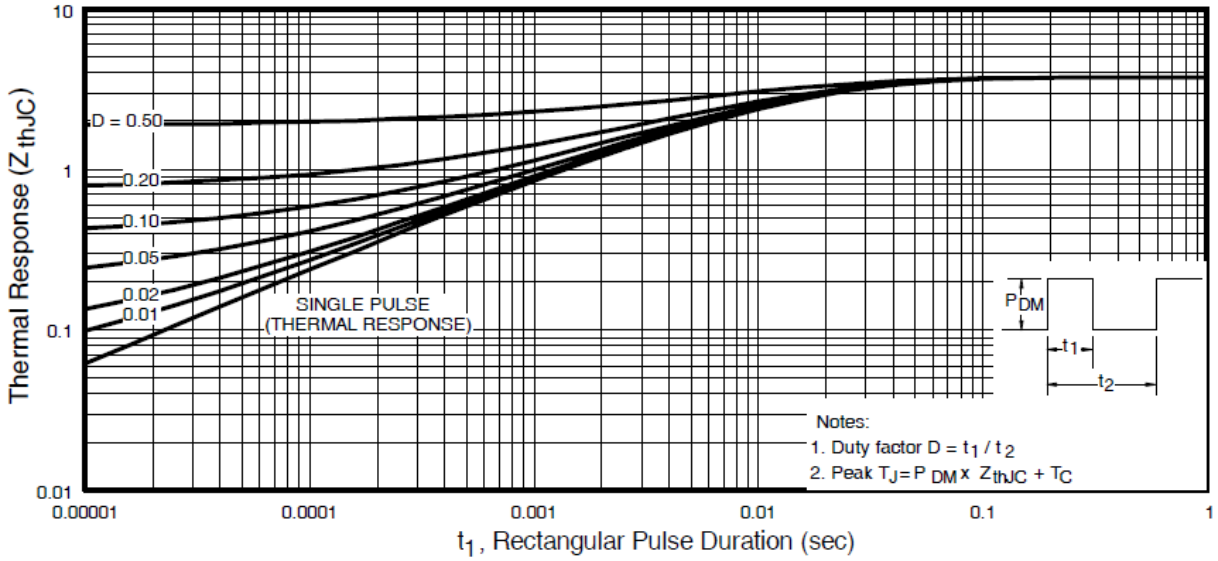


Fig 4. Max. Thermal Impedance ZthJC Characteristics (Per Leg)

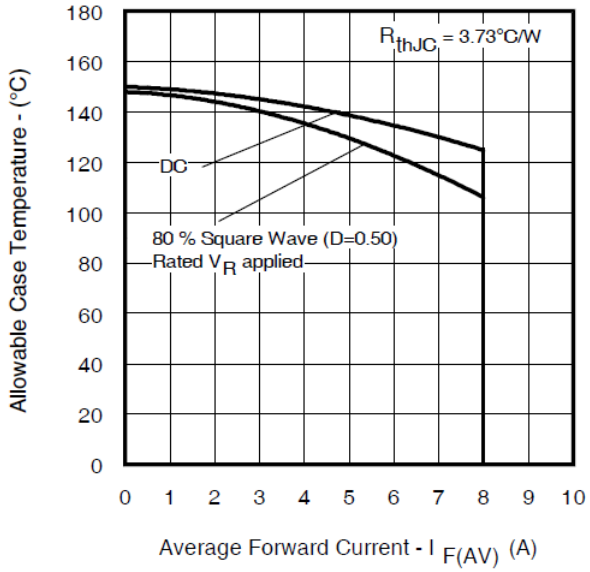


Fig 5. Max. Allowable Case Temperature Vs. Average Forward Current (Per Leg)

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