

International  
**IR** Rectifier  
 SCHOTTKY RECTIFIER

PD -20503C

**35CLQ045**

35 Amp

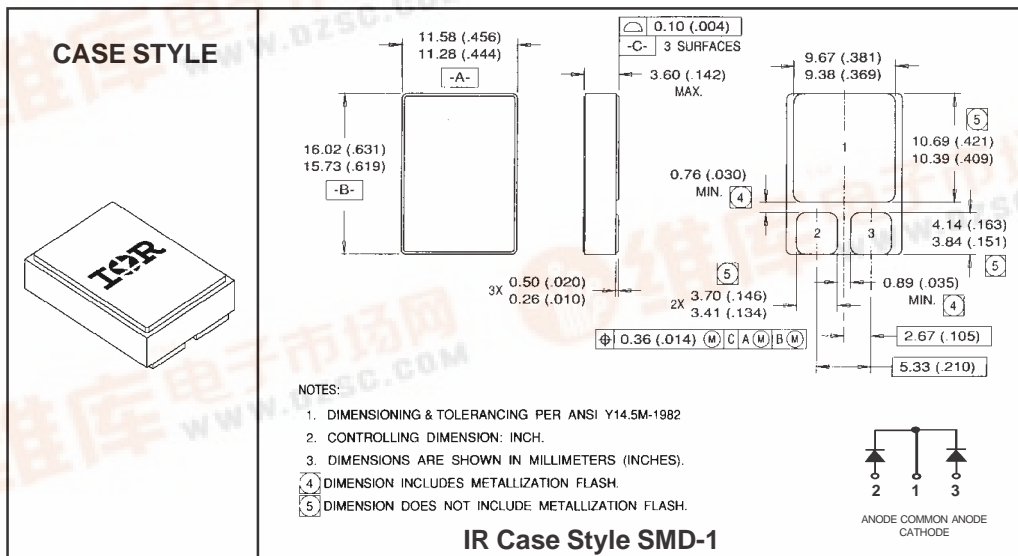
**Major Ratings and Characteristics**

Characteristics	35CLQ045	Units
$I_{F(AV)}$ Rectangular Waveform	35	A
$V_{RRM}$	45	V
$I_{FSM}$ @ $t_p = 8.3ms$ sine	300	A
$V_F$ @ 20Apk, $T_J = 125^\circ C$ (Per Leg)	0.57	V
$T_J, T_{stg}$ Operating and Storage	-55 to 150	$^\circ C$

**Description/Features**

The 35CLQ045 center tap Schottky rectifier has been expressly designed to meet the rigorous requirements of hi-rel environments. It is packaged in the hermetic surface mount SMD-1 ceramic package and has extremely low reverse leakage at high temperature. Full MIL-PRF-19500 quality conformance testing is available on source control drawings to JANTX, JANTXV and S levels. Typical applications include switching power supplies and resonant power converters.

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



**Voltage Ratings**

Part Number	35CLQ045
V <sub>R</sub> Max. DC Reverse Voltage (V) (Per Leg)	45
V <sub>RWM</sub> Max. Working Peak Reverse Voltage (V) (Per Leg)	

**Absolute Maximum Ratings**

Parameters	35CLQ045	Units	Conditions
I <sub>F(AV)</sub> Max. Average Forward Current See Fig.5	35	A	50% duty cycle @ T <sub>C</sub> = 107°C, rectangular waveform
I <sub>FSM</sub> Max. Peak One Cycle Non-Repetitive Surge Current (Per Leg)	300	A	@ t <sub>p</sub> = 8.3 ms sine

**Electrical Specifications**

Parameters	35CLQ045	Units	Conditions
V <sub>FM</sub> Max. Forward Voltage Drop (Per Leg) See Fig. 1 ①	0.63	V	@ 20A
	0.75	V	@ 35A
	0.57	V	@ 20A
	0.71	V	@ 35A
I <sub>RM</sub> Max. Reverse Leakage Current (Per Leg) See Fig. 2 ①	0.5	mA	T <sub>J</sub> = 25°C
	20	mA	T <sub>J</sub> = 125°C
C <sub>T</sub> Max. Junction Capacitance (Per Leg)	1400	pF	V <sub>R</sub> = 5V <sub>DC</sub> , (test signal range 100KHz to 1MHz) 25°C
L <sub>S</sub> Typical Series Inductance (Per Leg)	2.8	nH	Measured from center of bond pad to end of anode bonding wire

**Thermal-Mechanical Specifications**

Parameters	35CLQ045	Units	Conditions
T <sub>J</sub> Max. Junction Temperature Range	-55 to 150	°C	
T <sub>stg</sub> Max. Storage Temperature Range	-55 to 150	°C	
R <sub>thJC</sub> Max. Thermal Resistance, Junction to Case (Per Leg)	1.40	°C/W	DC operation See Fig. 4
R <sub>thJC</sub> Max. Thermal Resistance, Junction to case (Per Package)	0.70	°C/W	DC operation
wt Weight (Typical)	2.6	g	
Die Description (Square)	0.15	inches	
Case Style	SMD-1		

① Pulse Width &lt; 300μs, Duty Cycle &lt; 2%

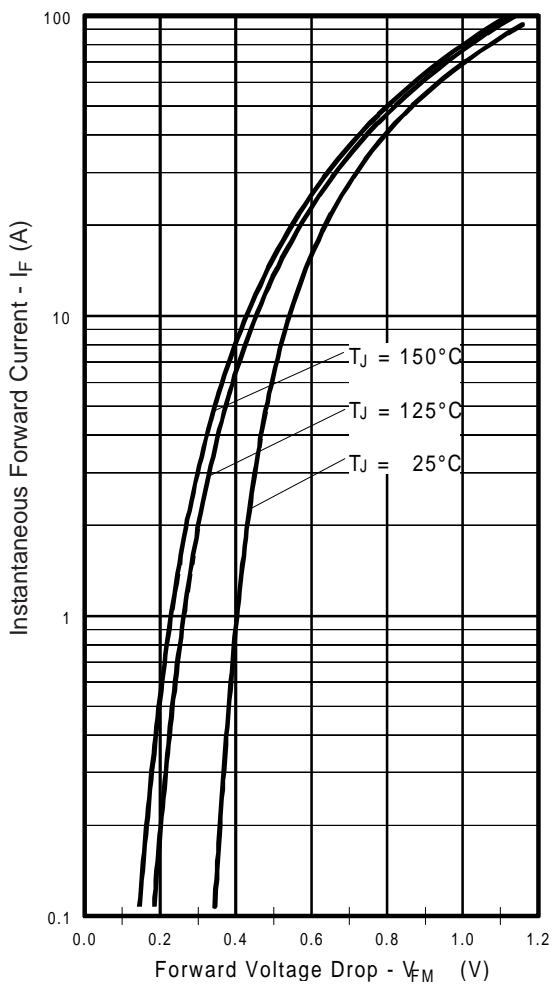


Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

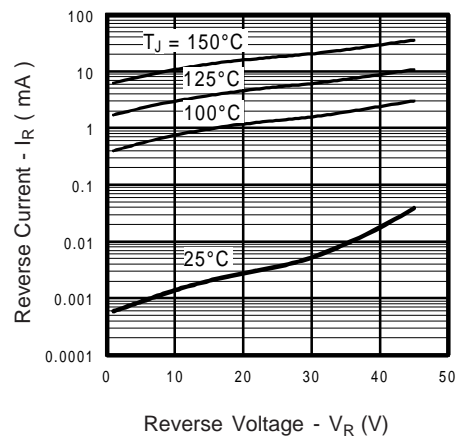


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

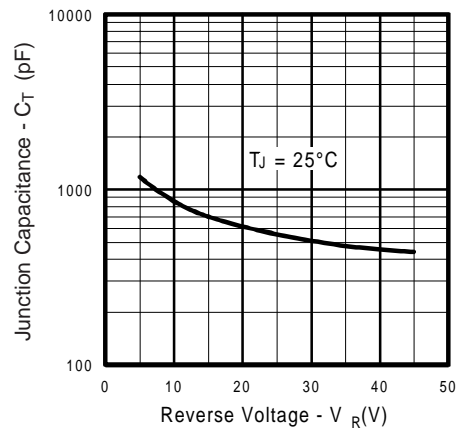


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

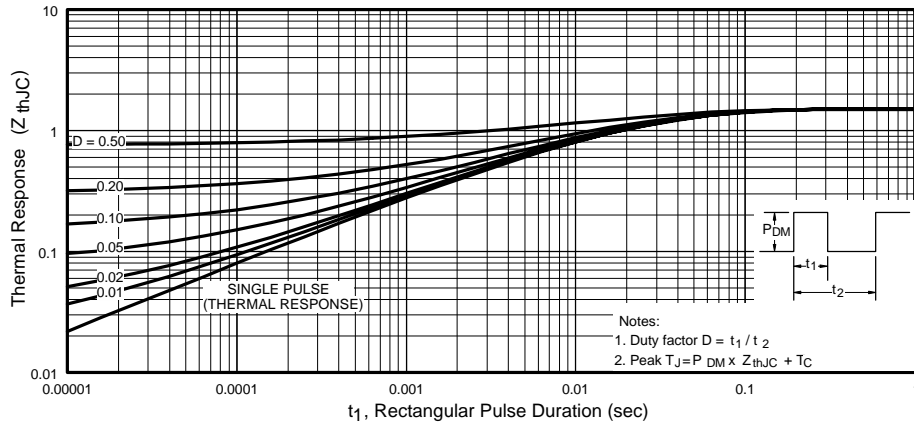


Fig. 4 - Max. Thermal Impedance  $Z_{thJC}$  Characteristics (Per Leg)

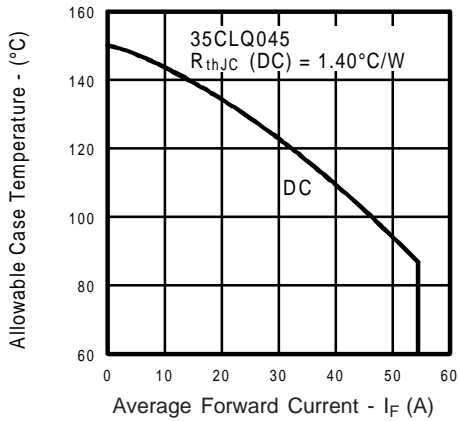


Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current (Per Leg)