

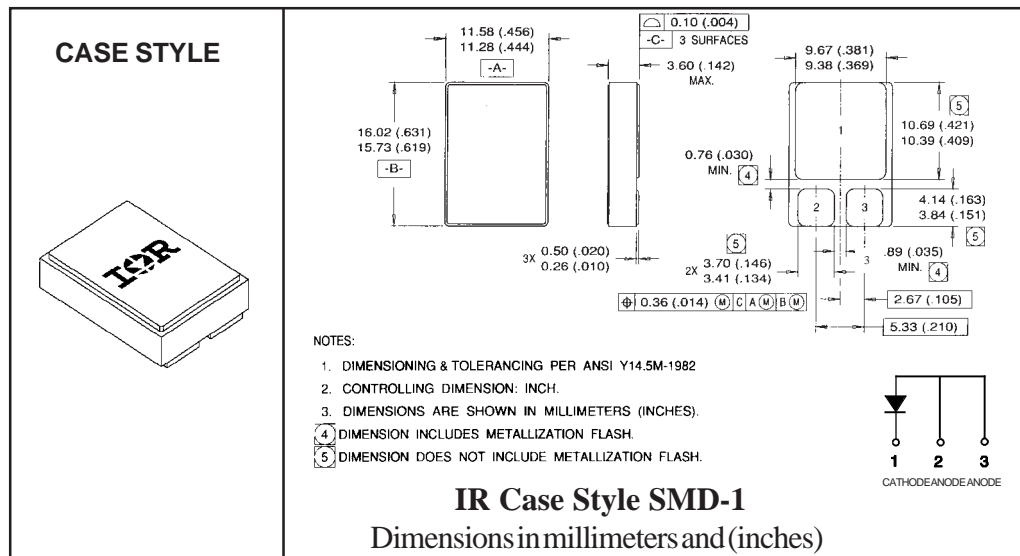
**Major Ratings and Characteristics**

Characteristics	60LQ045	Units
$I_{F(AV)}$ Rectangular waveform	60	A
$V_{RRM}$	45	V
$I_{FSM}$ @ $t_p = 8.3ms$ sine	400	A
$V_F$ @ 60Apk, $T_J = 25^\circ C$	0.68	V
$T_J, T_{stg}$ Operating and storage	-55 to 150	$^\circ C$

**Description/Features**

The 60LQ045 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
- Lightweight



**Voltage Ratings**

Part number	60LQ045
V <sub>R</sub> Max. DC Reverse Voltage (V)	45
V <sub>RWM</sub> Max. Working Peak Reverse Voltage (V)	

**Absolute Maximum Ratings**

Parameters	60LQ045	Units	Conditions
I <sub>F(AV)</sub> Max. Average Forward Current See Fig. 5	60	A	50% duty cycle @ T <sub>C</sub> = 105°C, rectangular waveform ②
I <sub>FSM</sub> Max. Peak One Cycle Non - Repetitive Surge Current	400	A	@ t <sub>p</sub> = 8.3 ms sine ②

**Electrical Specifications**

Parameters	60LQ045	Units	Conditions	
V <sub>FM</sub> Max. Forward Voltage Drop See Fig. 1 ①	0.51	V	@ 10A	
	0.68	V	@ 60A	
	0.82	V	@ 120A	
	0.69	V	@ 10A	T <sub>J</sub> = -55°C ②
	0.60	V	@ 60A	T <sub>J</sub> = 125°C ②
I <sub>RM</sub> Max. Reverse Leakage Current See Fig. 2 ①	0.80	mA	T <sub>J</sub> = 25°C	
	45	mA	T <sub>J</sub> = 125°C	
C <sub>T</sub> Max. Junction Capacitance	2900	pF	V <sub>R</sub> = 5V <sub>DC</sub> , ( 100KHz to 1MHz) 25°C ②	
L <sub>S</sub> Typical Series Inductance	2.8	nH	Measured from center of bond pad to end of anode bonding wire	

**Thermal-Mechanical Specifications**

Parameters	60LQ045	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	1.0	°C/W	DC operation See Fig. 4
R <sub>thJC</sub> Max. Thermal Resistance, Junction to case (Per Package)	0.50	°C/W	DC operation
wt Weight (Typical)	2.6	g	
Die Description (Square)	0.200	inches	
Case Style	SMD-1		

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

② Pins 2 and 3 externally tied together

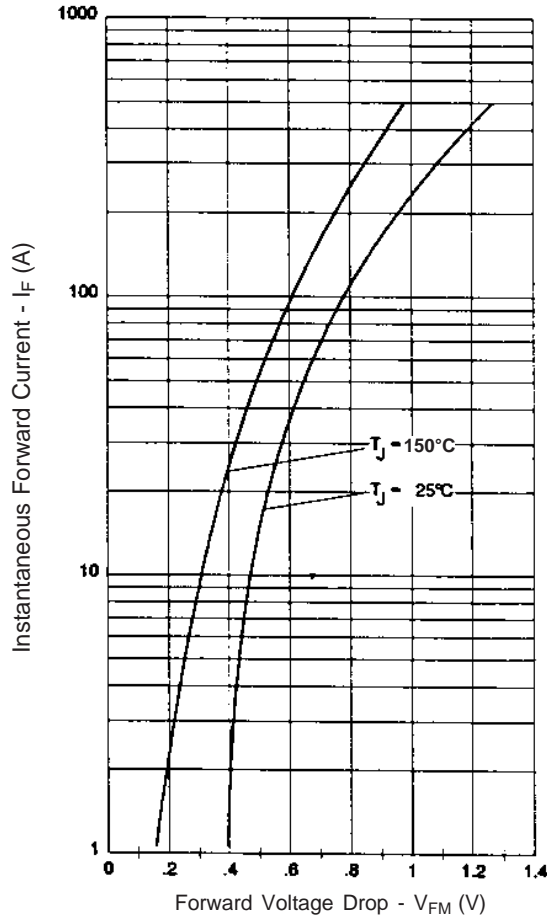


Fig. 1 - Max. Forward Voltage Drop Characteristics

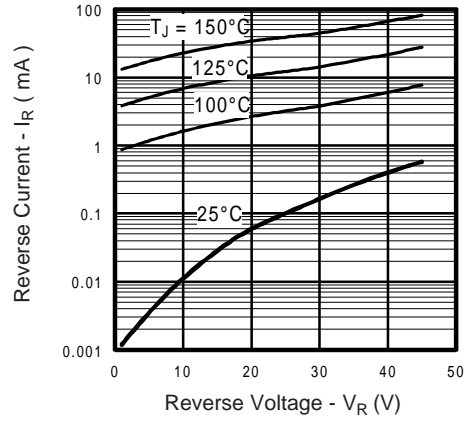


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

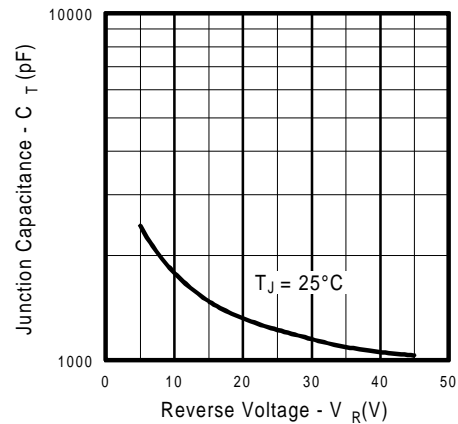


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

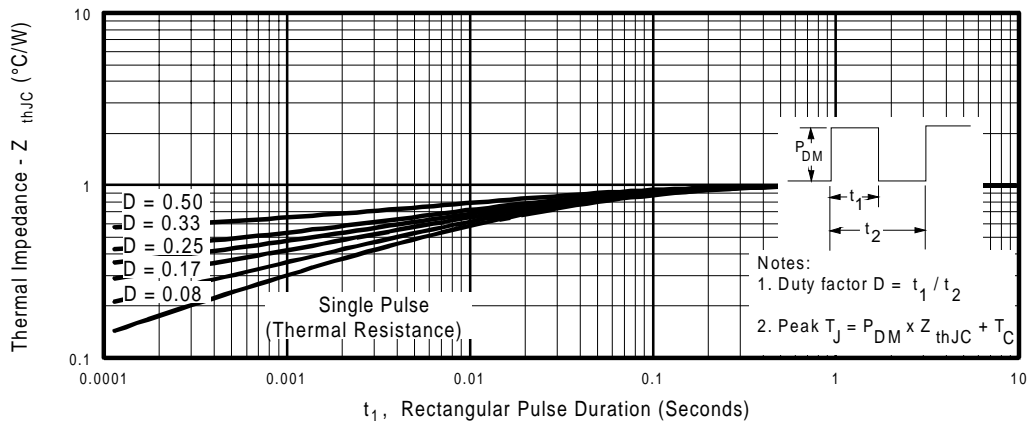


Fig. 4 - Max. Thermal Impedance  $Z_{thJC}$  Characteristics

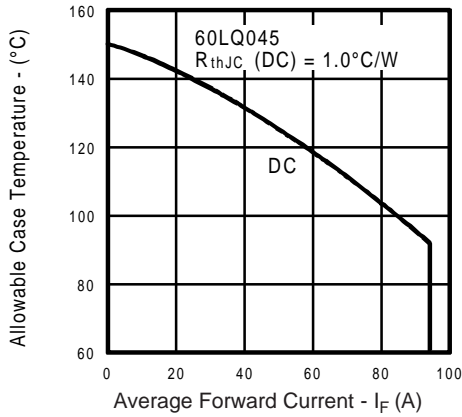


Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current

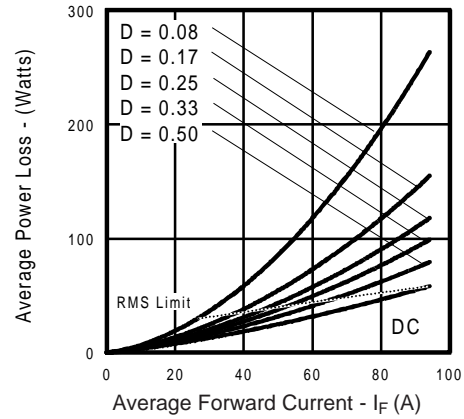


Fig. 6 - Forward Power Loss Characteristics