

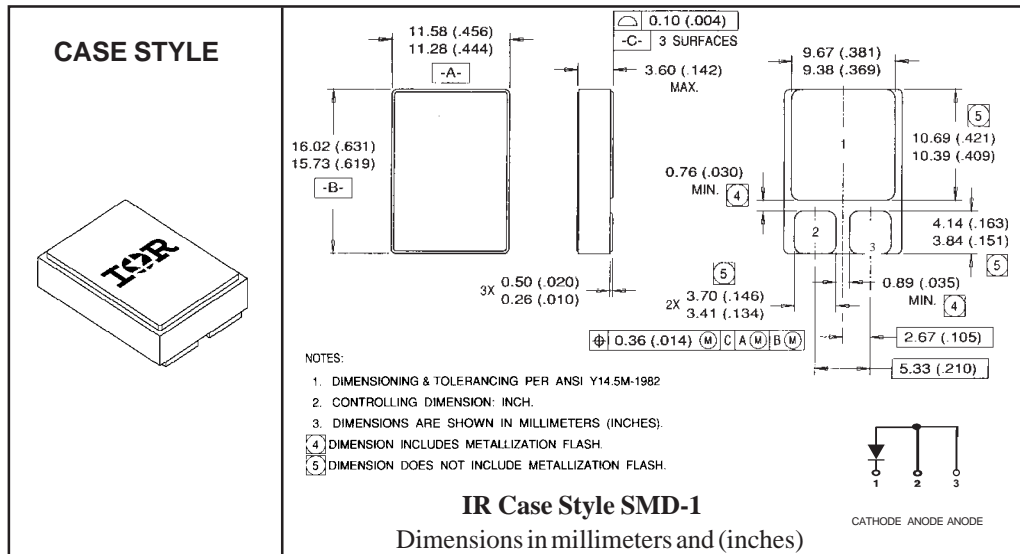
Major Ratings and Characteristics

Characteristics	60LQ100	Units
$I_{F(AV)}$ Rectangular waveform	60	A
V_{RRM}	100	V
I_{FSM} @ $t_p = 8.3ms$ sine	400	A
V_F @ 60Apk, $T_J = 125^\circ C$ (Per Leg)	0.70	V
T_J, T_{stg} Operating and storage	-55 to 150	$^\circ C$

Description/Features

The 60LQ100 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	60LQ100
V_R Max. DC Reverse Voltage (V)	100
V_{RWM} Max. Working Peak Reverse Voltage (V)	

Absolute Maximum Ratings

Parameters	60LQ100	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current See Fig. 5	60	A	50% duty cycle @ $T_C = 102^\circ\text{C}$, rectangular waveform ②
I_{FSM} Max. Peak One Cycle Non - Repetitive Surge Current	400	A	@ $t_p = 8.3$ ms sine ②

Electrical Specifications

Parameters	60LQ045	Units	Conditions	
V_{FM} Max. Forward Voltage Drop See Fig. 1①	0.62	V	@ 10A	$T_J = 25^\circ\text{C}$ ②
	0.95	V	@ 60A	
	1.15	V	@ 120A	
	0.68	V	@ 10A	$T_J = -55^\circ\text{C}$ ②
	0.70	V	@ 60A	$T_J = 125^\circ\text{C}$ ②
	0.97	V	@ 120A	
I_{RM} Max. Reverse Leakage Current See Fig. 2①	0.8	mA	$T_J = 25^\circ\text{C}$	$V_R = \text{rated } V_R$ ②
	45	mA	$T_J = 125^\circ\text{C}$	
C_T Max. Junction Capacitance	1400	pF	$V_R = 5V_{DC}$, (100KHz to 1MHz) 25°C ②	
L_S Typical Series Inductance	2.8	nH	Measured from center of bond pad to end of anode bonding wire	

Thermal-Mechanical Specifications

Parameters	60LQ100	Units	Conditions	
T_J Max. Junction Temperature Range	-55 to 150	$^\circ\text{C}$		
T_{stg} Max. Storage Temperature Range	-55 to 150	$^\circ\text{C}$		
R_{thJC} Max. Thermal Resistance, Junction to Case	1.0	$^\circ\text{C}/\text{W}$	DC operation	See Fig. 4
R_{thJC} Max. Thermal Resistance, Junction to case	0.50	$^\circ\text{C}/\text{W}$	DC operation	
w_t Weight (Typical)	2.6	g		
Die Description (Square)	0.20	inches		
Case Style	SMD-1			

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

② Pins 2 and 3 externally tied together

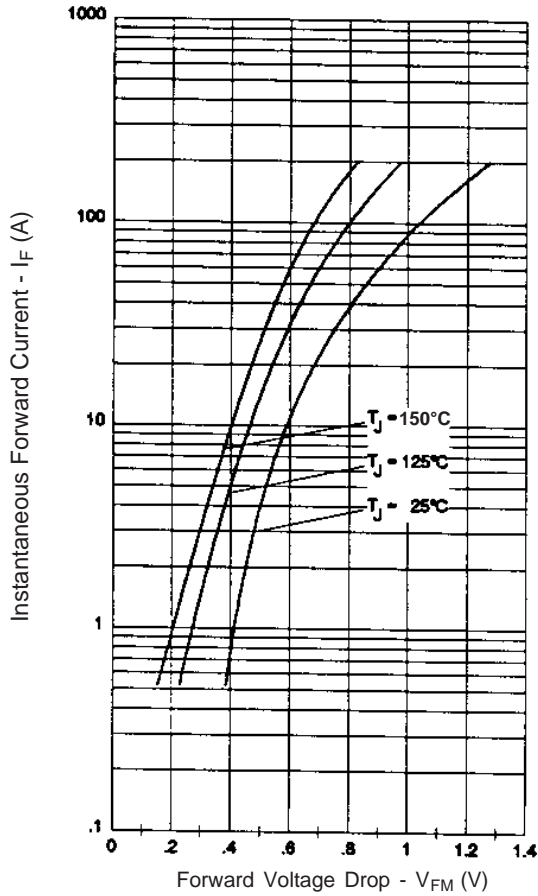


Fig. 1 - Max. Forward Voltage Drop Characteristics

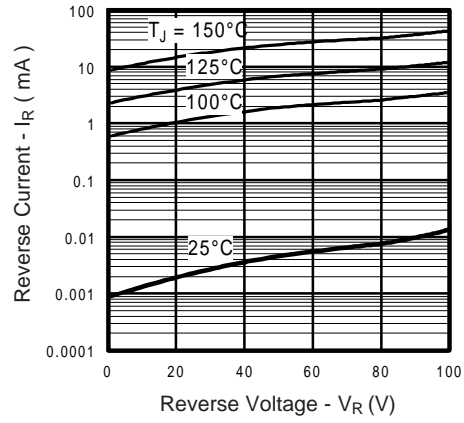


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

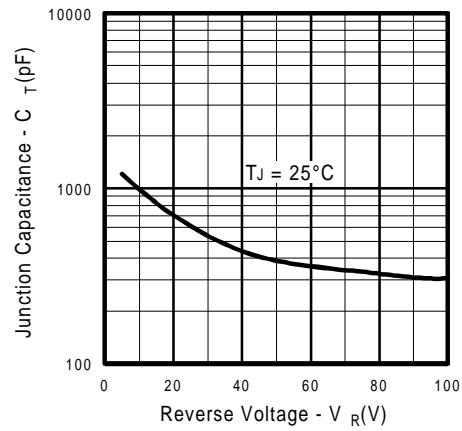


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

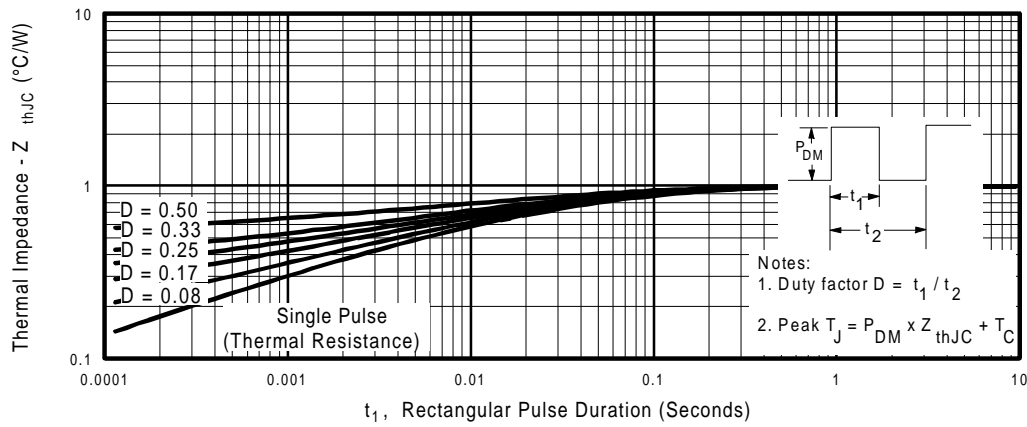


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

60LQ100

International
IR Rectifier

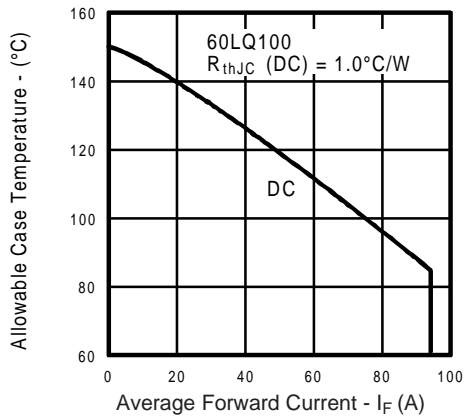


Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current

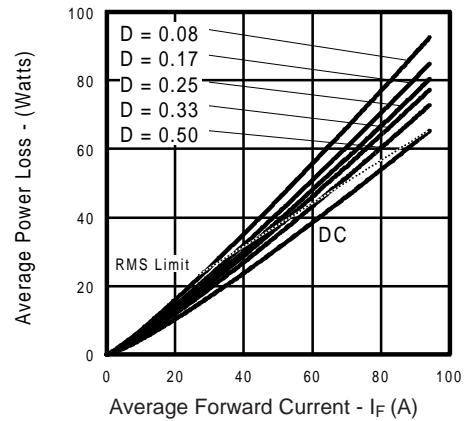


Fig. 6 - Forward Power Loss Characteristics

International
IR Rectifier

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<http://www.irf.com/> Data and specifications subject to change without notice. 3/99

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