PD - 2.349B

International
IOR Rectifier

PRELIMINARY

5EQ100

SCHOTTKY RECTIFIER

8 Amp

Major Ratings and Characteristics

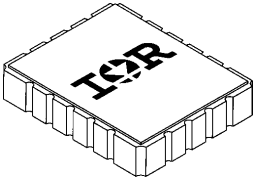
Characteristics	5EQ100	Units
$I_{F(AV)}$ Rectangular waveform	8	A
V_{RRM}	100	V
I_{FSM} @ tp = 8.3ms sine	250	A
V_F @ 8Apk, T_J = 125°C	0.65	V
T_J, T_{stg} Operating and storage	-55 to 150	°C

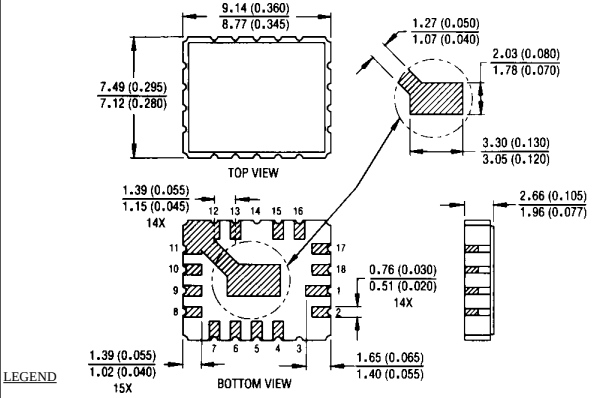
Desciption/Features

The 5EQ100 Schottky rectifier has been expressly designed to meet the rigorous requirements of hi-rel environments. It is packaged in the hermetic surface mount LCC ceramic package and has extremely low reverse leakage at high temperature. Full MIL-PRF-19500 quality conformance testing is available on source controlled drawings to JANTX, JANTXV, or JANS 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
- Small Footprint
- Lightweight

CASE STYLE





IR Case Style Leadless Chip Carrier (LCC)
Dimensions in millimeters and (inches)

Voltage Ratings

	Part number	5EQ100
V_R	Max. DC Reverse Voltage (V)	100
V_{RWM}	Max. Working Peak Reverse Voltage (V)	

Absolute Maximum Ratings

	Parameters	5EQ100	Units	Conditions
$I_{F(AV)}$	Max. Average Forward Current See Fig. 4	8	A	50% duty cycle @ T_C = 100°C, rectangular waveform
I_{FSM}	Max. Peak One Cycle Non - Repetitive Surge Current	250	A	@ t_p = 8.3 ms sine

Electrical Specifications

	Parameters	5EQ100	Units	Conditions	
V_{FM}	Max. Forward Voltage Drop	0.80	V	@ 8A	T_J = 25°C
	See Fig. 1 ①	1.00	V	@ 16A	
		0.65	V	@ 8A	T_J = 125°C
		0.70	V	@ 16A	
I_{RM}	Max. Reverse Leakage Current	0.50	mA	T_J = 25°C	V_R = rated V_R
	See Fig. 2 ①	15	mA	T_J = 125°C	
C_T	Max. Junction Capacitance	600	pF	V_R = 5V_{DC}, (test signal range 100KHz to 1MHz) 25°C	
L_S	Typical Series Inductance	4.3	nH	Measured lead to lead 5mm from package body	

Thermal-Mechanical Specifications

	Parameters	5EQ100	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	6.0	°C/W	DC operation See Fig. 5
wt	Weight (Typical)	0.42	g	
	Die Description (Square)	0.125	inches	
	Case Style	LCC		

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

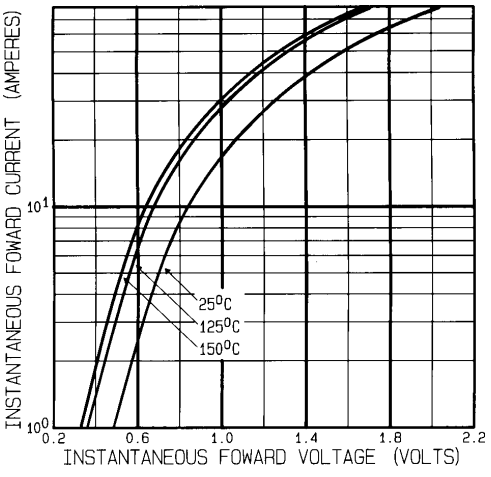


Fig. 1 - Max. Forward Voltage Drop Characteristics

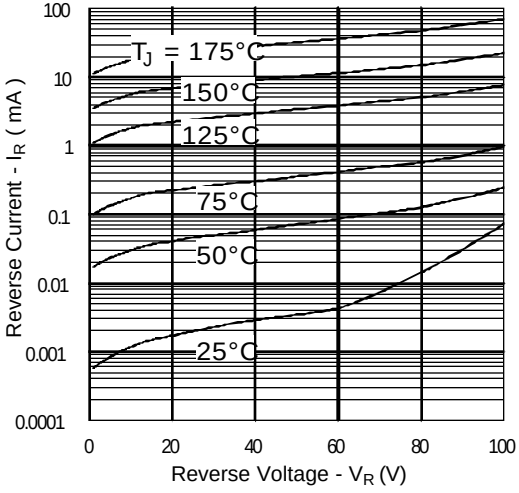


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

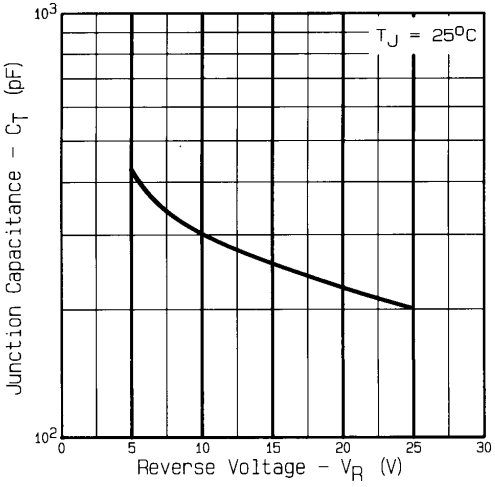


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

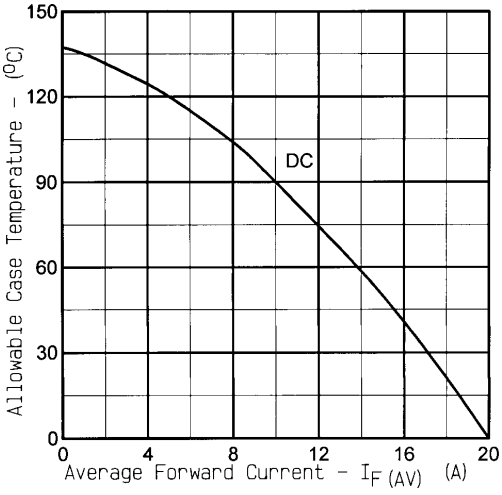


Fig. 4 - Max. Allowable Case Temperature Vs. Average Forward Current

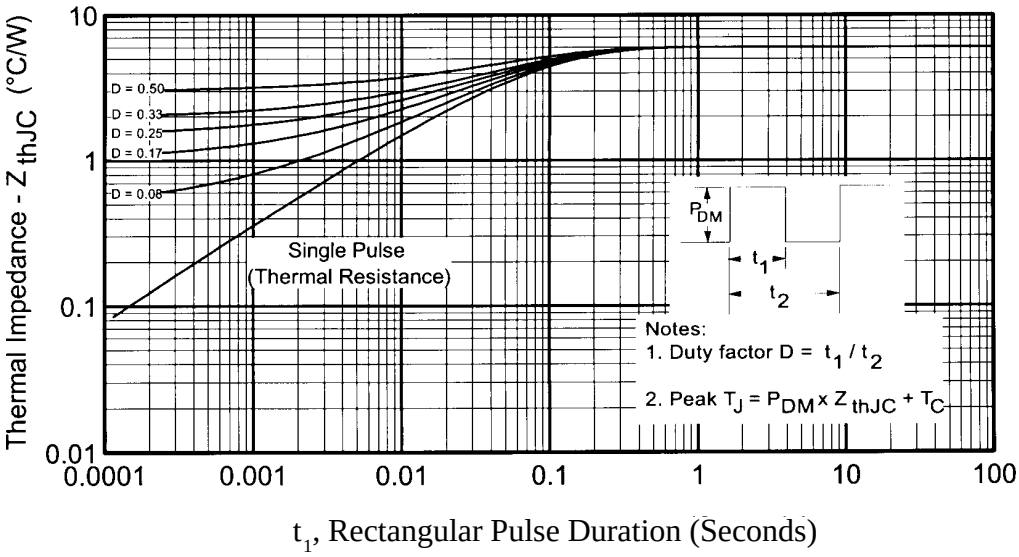


Fig.5 - Max. Thermal Impedance Z_{thJC} characteristics (Per Leg)

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