

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

5EQ100
8A, 100V

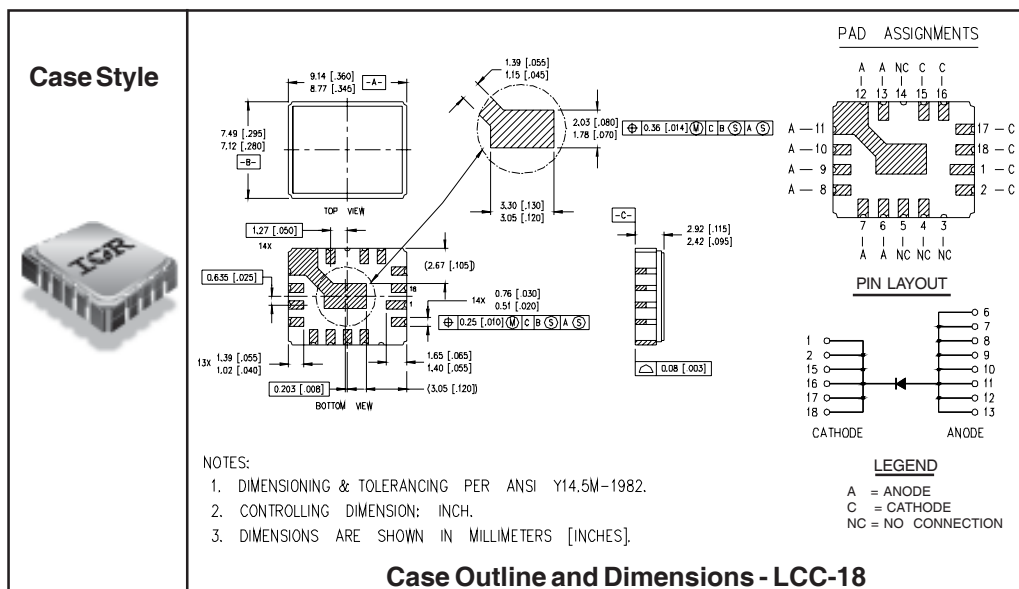
Major Ratings and Characteristics

Characteristics	5EQ100	Units
$I_{F(AV)}$	8.0	A
V_{RRM}	100	V
I_{FSM} @ $t_p = 8.3ms$ half-sine	80	A
V_F @ 8.0Apk, $T_J = 125^\circ C$	0.67	V
T_J, T_{stg} Operating and storage	-55 to 150	$^\circ C$

Description/Features

The 5EQ100 Schottky rectifier has been expressly designed to meet the rigorous requirements of HiRel environments. It is packaged in the hermetic isolated LCC-18 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 MIL-PRF-19500 quality conformance testing is available on source controlled drawings to TX, TXV and S levels.

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



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	Limits	Units	Conditions
I _{F(AV)} Max. Average Forward Current See Fig. 5	8.0	A	50% duty cycle @ T _C = 100°C, rectangular waveform
I _{FSM} Max. Peak One Cycle Non - Repetitive Surge Current	80	A	@ t _p = 8.3 ms half-sine

Electrical Specifications

Parameters	Limits	Units	Conditions
V _{FM} Max. Forward Voltage Drop See Fig. 1 ①	0.82	V	@ 8.0A T _J = -55°C
	1.07	V	@ 16A
	0.8	V	@ 8.0A T _J = 25°C
	1.0	V	@ 16A
	0.67	V	@ 8.0A T _J = 125°C
	0.82	V	@ 16A
I _{RM} Max. Reverse Leakage Current See Fig. 2 ①	0.5	mA	T _J = 25°C
	15	mA	T _J = 125°C
C _T Max. Junction Capacitance	600	pF	V _R = 5V _{DC} (1MHz, 25°C)
L _S Typical Series Inductance	4.3	nH	Measured from center of cathode pad to center of anode pad

Thermal-Mechanical Specifications

Parameters	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	6.0	°C/W	DC operation See Fig. 4
wt Weight (Typical)	0.42	g	
Die Size	125X125	mils	
Case Style	LCC-18		

① Pulse Width < 500μs, Duty Cycle < 2%

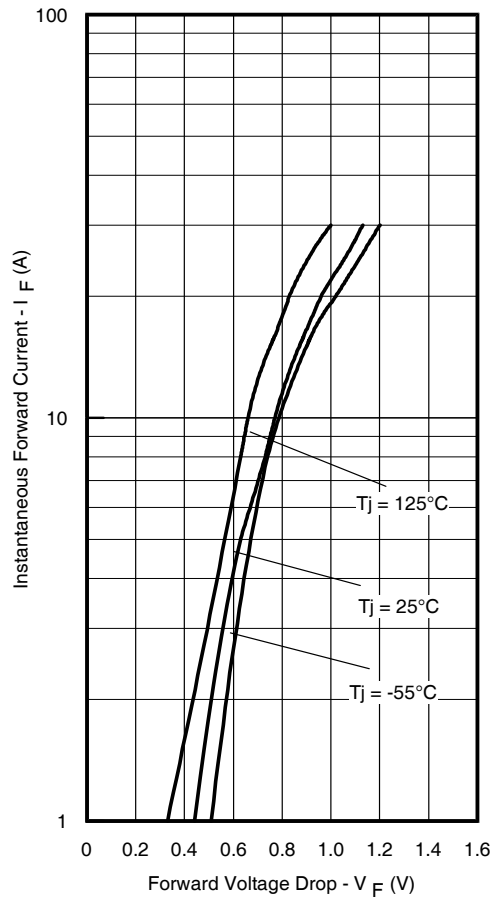


Fig. 1 - Typical Forward Voltage Drop Characteristics

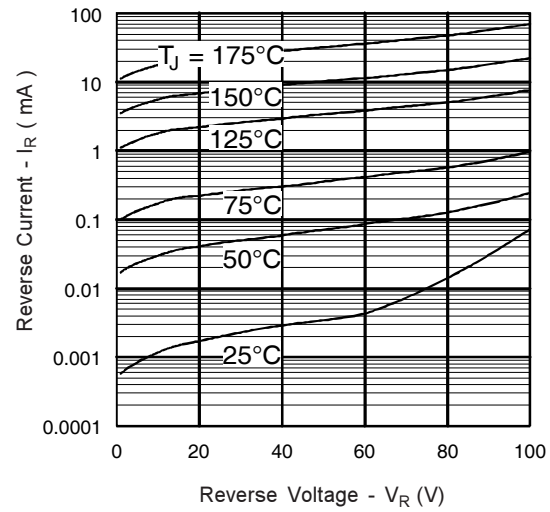


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

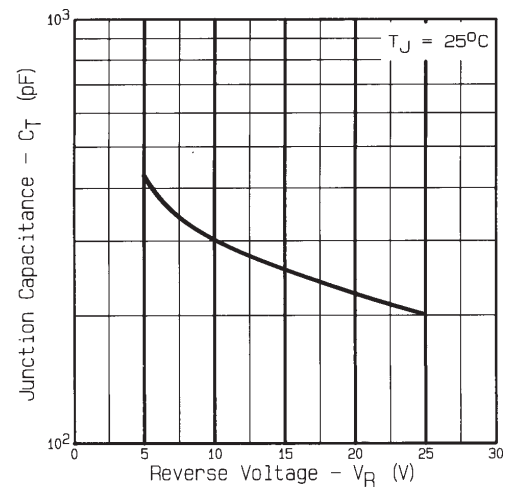


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

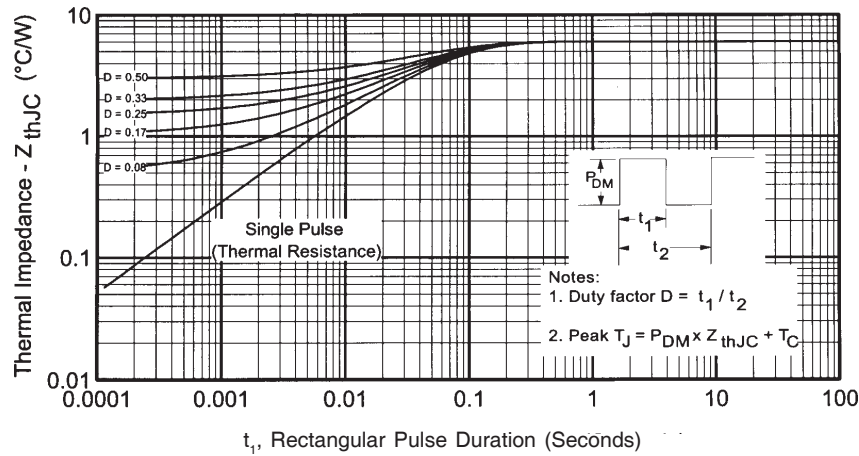
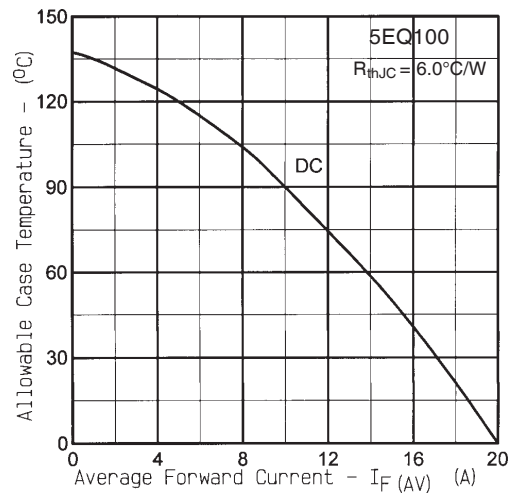
Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

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

International
IR Rectifier

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Data and specifications subject to change without notice. 04/15

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