PD-20349E

International Rectifier

SCHOTTKY RECTIFIER

HIGH EFFICIENCY SERIES

5EQ100 8A, 100V

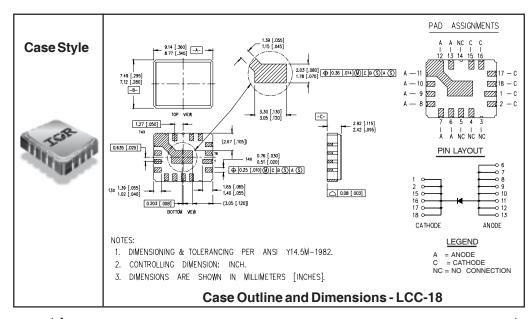
Major Ratings and Characteristics

Characteristics	5EQ100	Units
I _{F(AV)}	8.0	Α
V _{RRM}	100	V
I _{FSM} @ tp = 8.3ms half-sine	80	Α
V _F @ 8.0Apk, T _J =125°C	0.67	V
T _J , T _{stg} Operating and storage	-55 to 150	°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 resonent 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
- Suface Mount
- Lightweight
- ESD Rating: Class NS per MIL-STD-750, Method 1020



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Voltage Ratings

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

Absolute Maximum Ratings

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

Electrical Specifications

	Parameters	Limits	Units	(Conditions
V _{FM}	Max. Forward Voltage Drop	0.82	V	@ 8.0A	T _J =-55°C
	See Fig. 1①	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	0.5	mA	T _J = 25°C	V _R = rated V _R
	See Fig. 2 ①	15	mA	T _J = 125°C	
CT	Max. Junction Capacitance	600	рF	V _R = 5V _{DC} (1MHz, 25°C)	
Ls	Typical Series Inductance	4.3	nH	Measured from center of cathode pad to center of	
				anode pad	

Thermal-Mechanical Specifications

	Parameters	Limits	Units	Conditions
TJ	Max.Junction Temperature Range	-55 to 150	°C	
T _{stg}	Max. Storage Temperature Range	-55 to 150	°C	
R _{thJC}	Max. Thermal Resistance, Junction	6.0	°C/W	DC operation See Fig. 4
	to Case			
wt	Weight (Typical)	0.42	g	
	Die Size	125X125	mils	
	Case Style	LCC-1	18	

 \odot Pulse Width < 500 $\mu s,$ Duty Cycle < 2%

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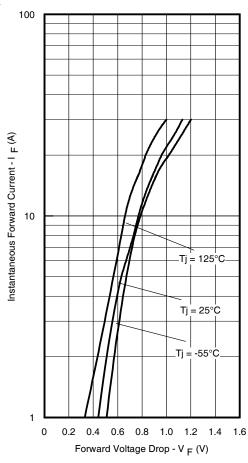


Fig. 1 - Typical Forward Voltage Drop Characteristics

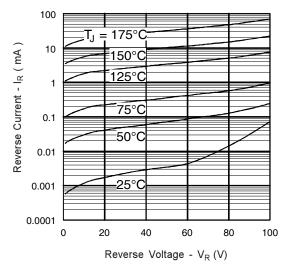


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

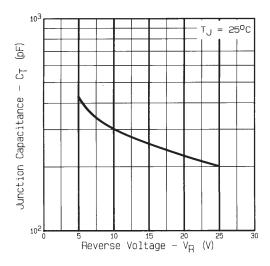


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

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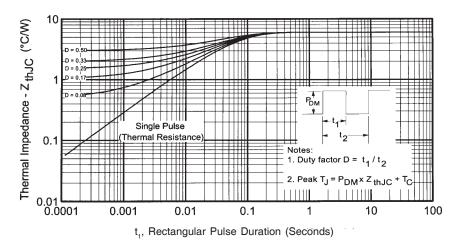


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

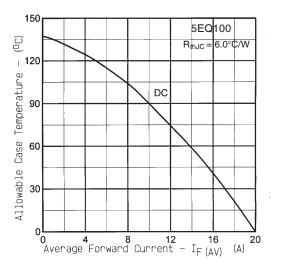


Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current

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IR WORLD HEADQUARTERS: 101 N. Sepulveda Blvd, El Segundo, California 90245, USA Tel: (310) 252-7105
IR LEOMINSTER: 205 Crawford St., Leominster, Massachusetts 01453, USA Tel: (978) 534-5776
TAC Fax: (310) 252-7903

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