PD -91855A

International
IOR Rectifier

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

15LJQ100

15A, 100V

Major Ratings and Characteristics

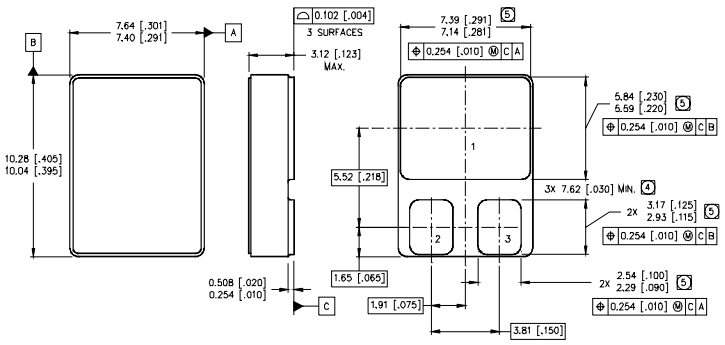
Characteristics	15LJQ100	Units
$II_{F(AV)}$ Rectangular waveform	15	A
V_{RRM}	100	V
I_{FSM} @ tp = 8.3ms half-sine	250	A
V_F @ 15Apk, T_J =125°C	0.72	V
T_J, T_{stg} Operating and storage	-55 to 150	°C

Description/Features

The 15LJQ100 Schottky rectifier has been expressly designed to meet the rigorous requirements of hi-rel environments. It is packaged in the hermetic surface mount SMD-0.5 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.

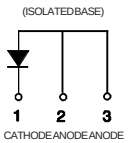
- Hermetically Sealed
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long Term Reliability
- Surface Mount
- Lightweight

CASE STYLE



NOTES:

1. DIMENSIONING & TOLERANCING PER ASME Y14.5M–1994.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSIONS ARE SHOWN IN MILLIMETERS [INCHES].
4. DIMENSION INCLUDES METALLIZATION FLASH.
5. DIMENSION DOES NOT INCLUDE METALLIZATION FLASH.



IR Case Style SMD-0.5

03/01/02

Voltage Ratings

	Part number	15LJQ100
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	15	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 half-sine

Electrical Specifications

	Parameters	Limits	Units	Conditions	
V_{FM}	Max. Forward Voltage Drop See Fig. 1①	0.65	V	@ 5A	T_J = 25°C
		0.91	V	@ 15A	
		1.2	V	@ 30A	
		0.53	V	@ 5A	T_J =1 25°C
		0.72	V	@ 15A	
		0.88	V	@ 30A	
I_{RM}	Max. Reverse Leakage Current See Fig. 2 ①	0.5	mA	T_J = 25°C	V_R = rated V_R
		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	4.8	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	2.25	°C/W	DC operation See Fig. 4
wt	Weight (Typical)	1.0	g	
	Die Size	125X125	mils	
	Case Style	SMD-0.5		

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

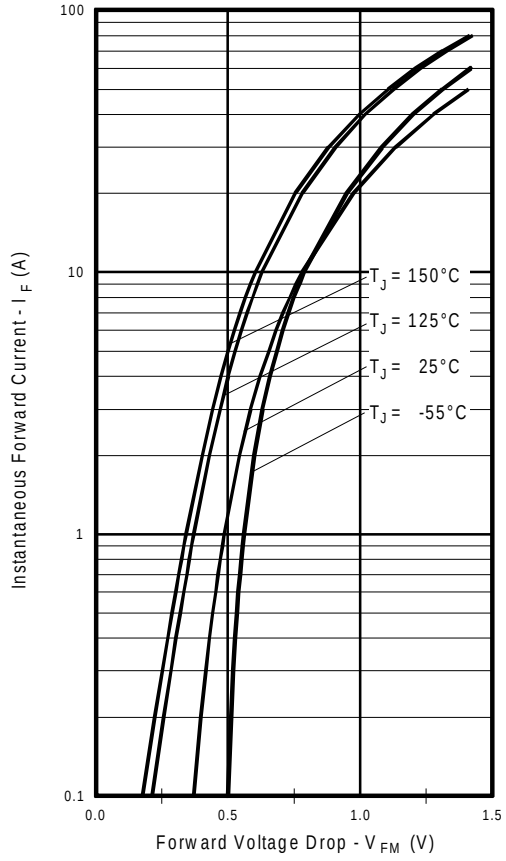


Fig. 1 - Max. Forward Voltage Drop Characteristics

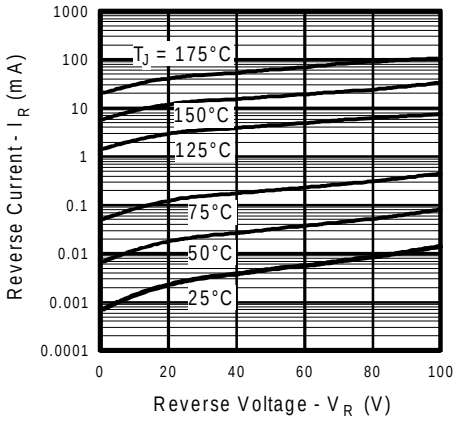


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

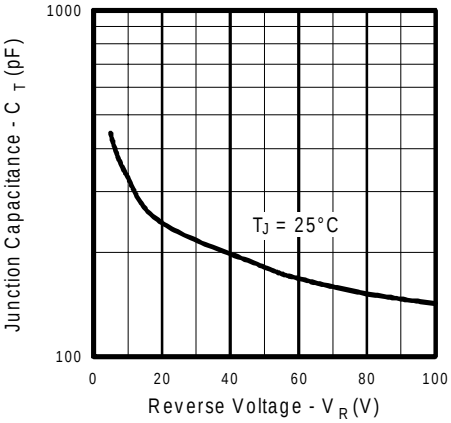


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

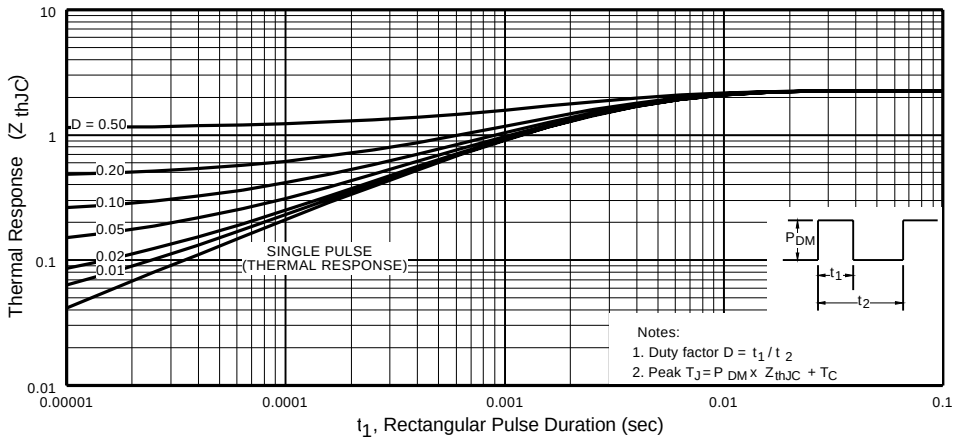


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

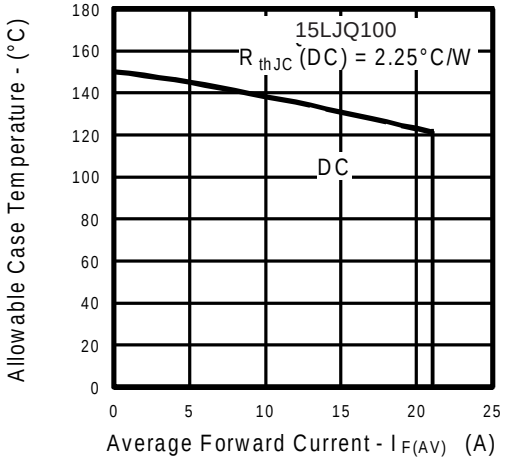


Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current

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