International
IOR Rectifier

PD-91855C

SCHOTTKY RECTIFIER

HIGH EFFICIENCY SERIES

15LJQ100
JANS1N6844U3
JANTX1N6844U3
JANTXV1N6844U3

15Amp, 100V

REF: MIL-PRF-19500/679

Major Ratings and Characteristics

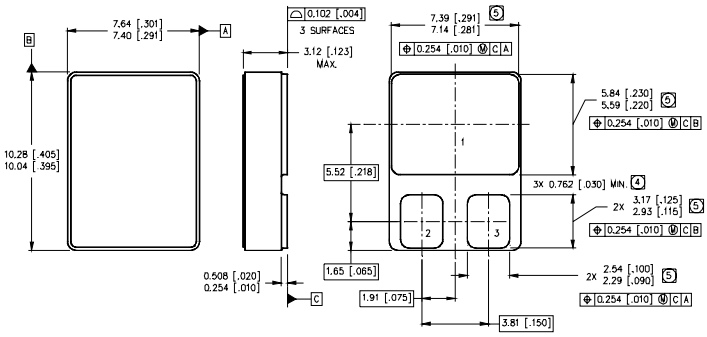
Characteristics	Limits	Units
$I_{F(AV)}$ Rectangular Waveform	15	A
V_{RRM}	100	V
I_{FSM} @tp = 8.3ms half-sine	250	A
V_F @15Apk, T_J=125°C	0.72	V
T_J, T_{stg} Operating and Storage	-65 to 150	°C

Description/Features

The1N6844U3 Schottky rectifier has been expressly designed to meet the rigorous requirements of high reliabilty 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 S, TX and TXV levels.

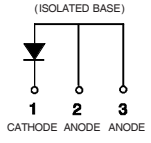
- Hermetically Sealed
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long Term Reliability
- Surface Mount
- Lightweight
- ESD Rating: Class NS per MIL-STD-750, Method 1020

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.



Case Outline and Dimensions - SMD-0.5

Voltage Ratings

	Part number	1N6844U3
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 = 125°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	0.70	V	@ 5.0A	T_J = 25°C
		0.90	V	@ 15A	
		1.0	V	@ 20A	
		0.58	V	@ 5.0A	T_J =1 25°C
		0.72	V	@ 15A	
		0.85	V	@ 5.0A	T_J = -55°C
I_{RM}	Max. Reverse Leakage Current See Fig. 2 ①	50	µA	T_J = 25°C	V_R = rated V_R
		10	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	-65 to 150	°C	
T_{stg}	Max. Storage Temperature Range	-65 to 150	°C	
R_{thJC}	Max. Thermal Resistance, Junction to Case	2.0	°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%

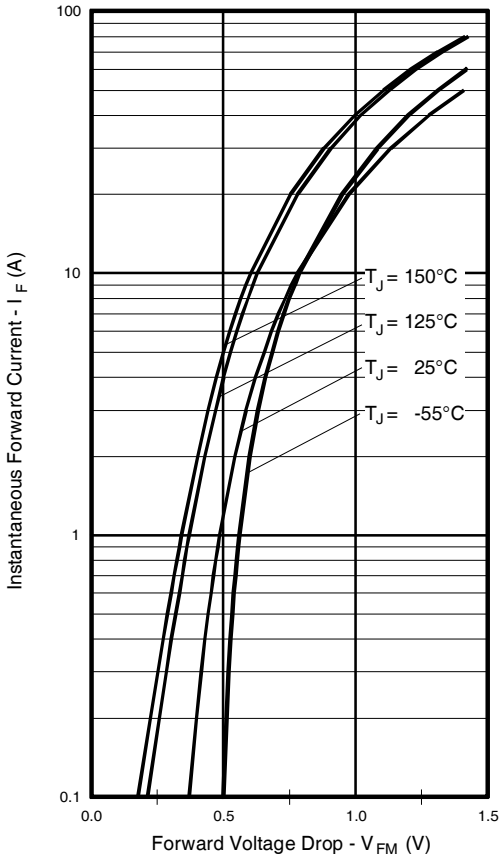


Fig. 1 - Max. Forward Voltage Drop Characteristics

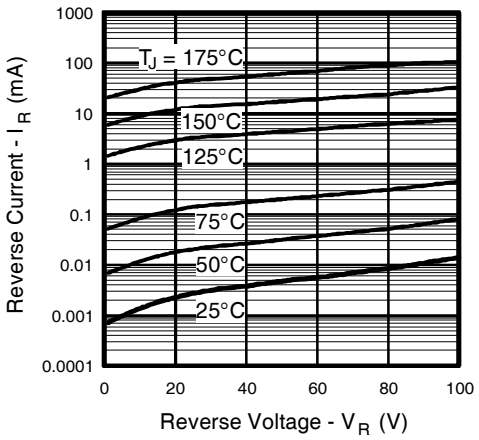


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

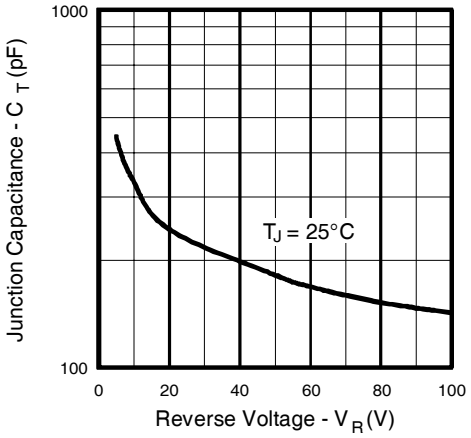


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

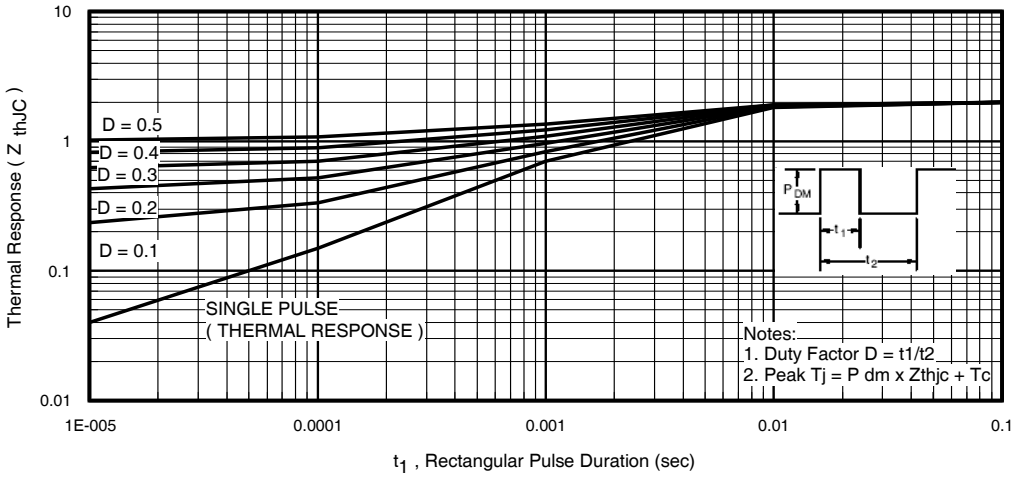


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

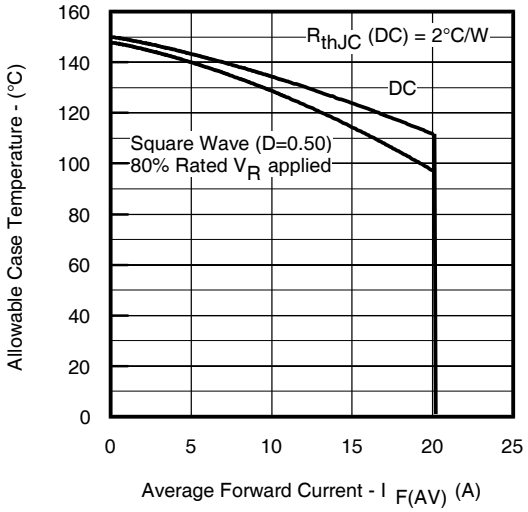


Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current

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