



SILICON SCHOTTKY POWER RECTIFIER 40 A, 100 V

Qualified per MIL-PRF-19500/679

Qualified Levels:
JAN, JANTX, and
JANTXV

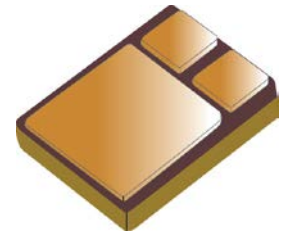
DESCRIPTION

This low-profile 1N6844U3 Schottky rectifier device is military qualified up to a JANTXV level for high-reliability applications. Microsemi also offers numerous other products to meet higher and lower power voltage regulation applications.

Important: For the latest information, visit our website <http://www.microsemi.com>.

FEATURES

- Surface mount equivalent of JEDEC registered 1N6844.
- Low profile ceramic SMD.
- JAN, JANTX, JANTXV qualifications available per MIL-PRF-19500/679.
- RoHS compliant versions available (commercial grade only).



**U3 (SMD-0.5)
Package**

APPLICATIONS / BENEFITS

- High surge rating.
- Low reverse leakage current.
- Low forward voltage.
- Seam welded package.
- Low capacitance.
- Ultrasonic aluminum wire bonds.

MAXIMUM RATINGS @ $T_C = +25^\circ\text{C}$ unless otherwise noted

Parameters/Test Conditions	Symbol	Value	Unit
Junction and Storage Temperature	T_J and T_{STG}	-65 to +150	$^\circ\text{C}$
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	40	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case (1.6 $^\circ\text{C/W}$ maximum)	$R_{\theta JC}$	2.0	$^\circ\text{C/W}$
Working Peak Reverse Voltage	V_{RWM}	100	V
Junction Capacitance	C_J	600	pF
Average DC Output Current @ $T_C = +125^\circ\text{C}$	I_O	15	A
Non-Repetitive Sinusoidal Surge Current @ $t_p = 8.3$ ms	I_{FSM}	250	A

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MECHANICAL and PACKAGING

- CASE: Ceramic and gold over nickel plated steel.
- TERMINALS: Gold over nickel plated tungsten/copper.
- MARKING: Part number, date code, A = anode.
- POLARITY: See [schematic](#) on last page.
- WEIGHT: 0.9 grams.
- See [Package Dimensions](#) on last page.

PART NOMENCLATURE

JAN 1N6844 U3 (e3)

Reliability Level

JAN = JAN Level
 JANTX = JANTX Level
 JANTXV = JANTXV Level
 Blank = Commercial

JEDEC type number

(see [Electrical Characteristics](#) table)

RoHS Compliance

e3 = RoHS Compliant (available on commercial grade only)
 Blank = non-RoHS Compliant

SMD-0.5 Surface Mount
SYMBOLS & DEFINITIONS

Symbol	Definition
C_J	Junction Capacitance: The junction capacitance in pF at a specified frequency (typically 1MHz) and specified voltage.
I_F	Forward Current: The forward current dc value, no alternating component.
I_R	Reverse Current: The maximum reverse (leakage) current that will flow at the specified voltage and temperature.
T_J	Junction Temperature: The temperature of a semiconductor junction.
V_F	Forward Voltage: The forward voltage the device will exhibit at a specified current (typically shown as maximum value).
V_R	Reverse Voltage: The reverse voltage dc value, no alternating component.

ELECTRICAL CHARACTERISTICS @ $T_A = +25^\circ\text{C}$ unless otherwise noted

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS				
Forward Voltage* $I_F = 5\text{ A}$ $I_F = 15\text{ A}$ $I_F = 20\text{ A}$ $I_F = 5\text{ A}, T_C = -55^\circ\text{C}$ $I_F = 5\text{ A}, T_C = +125^\circ\text{C}$ $I_F = 15\text{ A}, T_C = +125^\circ\text{C}$	V_F		0.70 0.90 1.00 0.85 0.58 0.72	V
Reverse Current $V_R = 100\text{ V}$ $V_R = 100\text{ V}, T_C = +125^\circ\text{C}$	I_R		0.100 15.00	mA
Junction Capacitance $V_R = 5\text{ V}$ $f = 1\text{ MHz}$ $V_{SIG} = 50\text{ mV (p-p)}$	C_J		600	pF

* Pulse test: Pulse width 300 μsec , duty cycle 2%.

GRAPHS

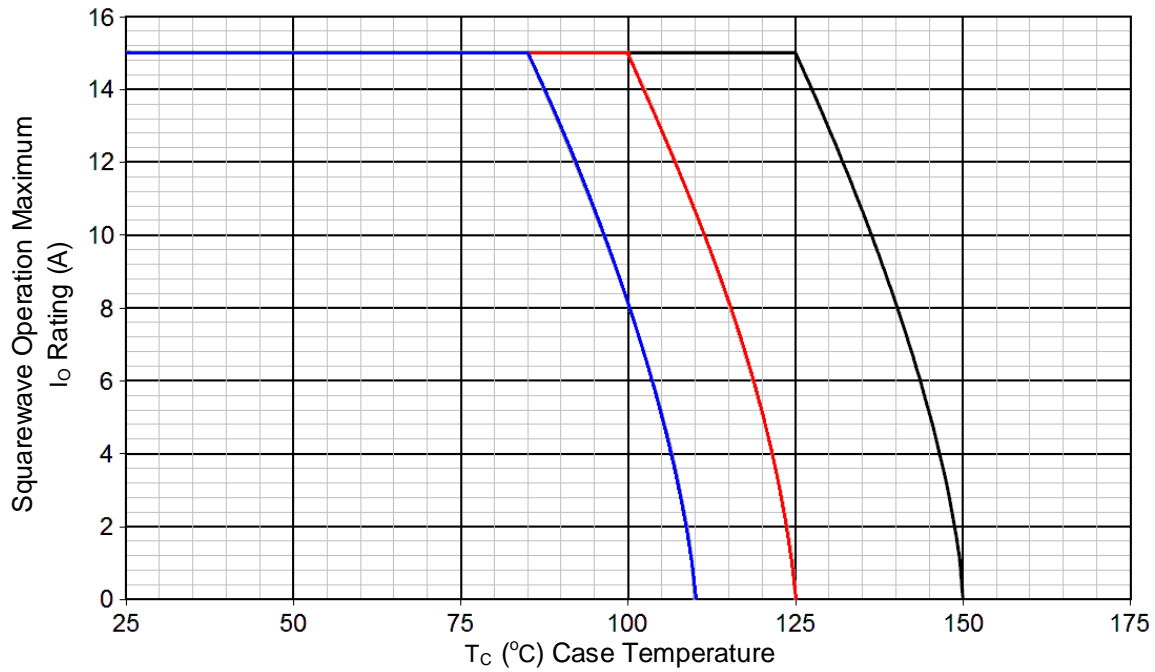


FIGURE 1
Temperature-Current Derating

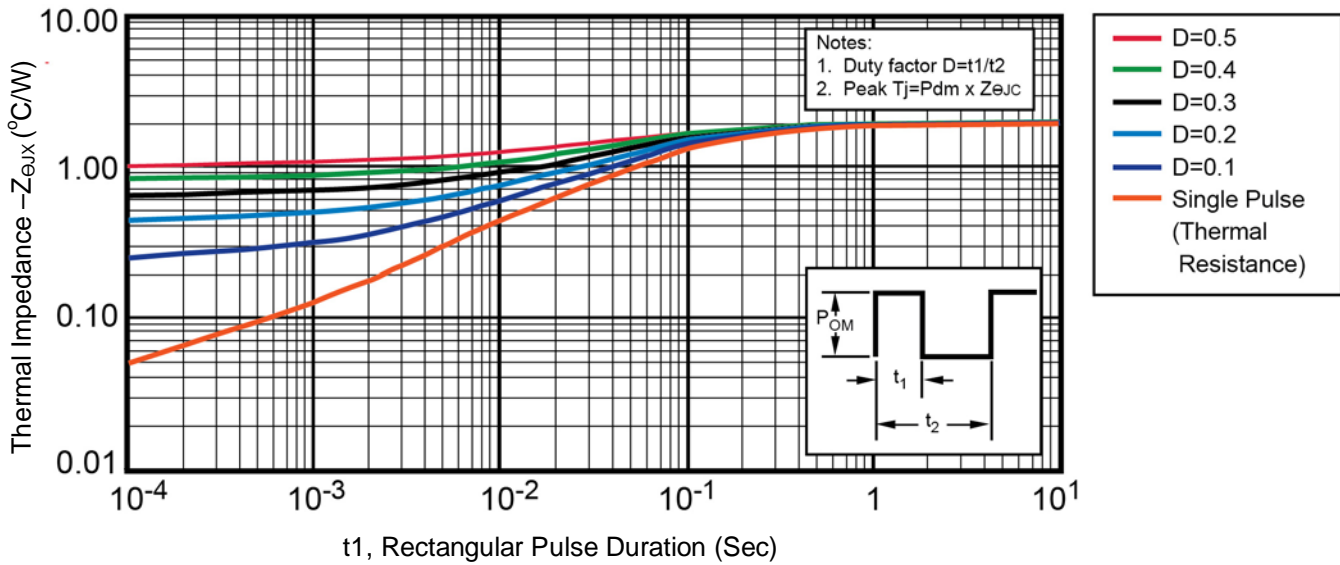


FIGURE 2
Thermal Impedance

