RoHS Compliant

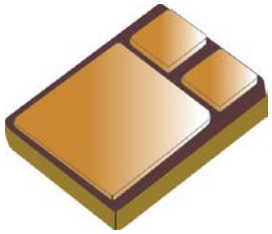
60 Volts, 10 Amp Dual Schottky Common Cathode Center Tap Rectifier

Qualified per MIL-PRF-19500/680

Qualified Levels:
JAN, JANTX, and JANTXV

DESCRIPTION

This low-profile 1N6842U3 Schottky rectifier device is military qualified up to a JANTXV level for high-reliability applications.



U3 (SMD-0.5) Package

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

FEATURES

- Surface mount equivalent of JEDEC registered 1N6842
- Low profile ceramic SMD
- Hermetically sealed package
- Ultrasonic aluminum wire bonds
- Low capacitance
- JAN, JANTX, JANTXV qualifications available per MIL-PRF-19500/680
- RoHS compliant by design

APPLICATIONS / BENEFITS

- High surge rating
- Low reverse leakage current
- Low forward voltage
- Seam welded package

MAXIMUM RATINGS @ T_C = +25 °C unless otherwise noted

Parameters/Test Conditions	Symbol	Value	Unit
Junction and Storage Temperature	T_J and T_{STG}	-65 to +150	°C
Thermal Resistance Junction-to-Case (on each leg)	$R_{\Theta JC}$	2.8	°C/W
Working Peak Reverse Voltage	V_{RWM}	60	V
Average Rectified Output Current @ T_C = +100 °C per leg (1)	I_O	10	A
Surge Peak Forward Current @ tp = 8.3 ms half-sine wave	I_{FSM}	200	A

Note: 1. Derate linearly at 200 mA/°C from T_C = +100 °C to +150 °C.

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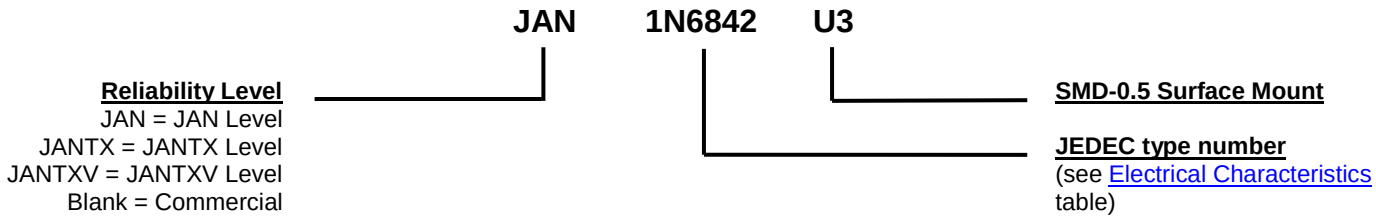
MECHANICAL and PACKAGING

- 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: Approximately 0.9 grams
- See Package Dimensions on last page.

PART NOMENCLATURE



SYMBOLS & DEFINITIONS

Symbol	Definition
C	Capacitance: The capacitance in pF at a frequency of 1 MHz and specified voltage.
f	frequency
I_F	Forward Current: The dc current flowing from the external circuit into the anode terminal.
I_{FSM}	Surge Peak Forward Current: The forward current including all nonrepetitive transient currents but excluding all repetitive transients (ref JESD282-B)
I_R	Reverse Current: The dc current flowing from the external circuit into the cathode terminal at the specified voltage V_R.
V_F	Forward Voltage: A positive dc anode-cathode voltage the device will exhibit at a specified forward current.
V_R	Reverse Voltage: A positive dc cathode-anode voltage below the breakdown region.
V_{RWM}	Working Peak Reverse Voltage: The peak voltage excluding all transient voltages (ref JESD282-B). Also sometimes known historically as PIV.

ELECTRICAL CHARACTERISTICS @ T_A = +25 °C unless otherwise noted

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
CHARACTERISTICS per Leg				
Forward Voltage* I_F = 3 A, 300 µs Pulse I_F = 10 A, 300 µs Pulse I_F = 15 A, 300 µs Pulse I_F = 10 A, T_A = +100 °C, 300 µs Pulse I_F = 15 A, T_A = +100 °C, 300 µs Pulse	V_F		 0.62 0.78 0.90 0.70 0.80	V
Reverse Current V_R = 60 V V_R = 60 V, T_A = +100 °C	I_R		50 10	µA mA
Junction Capacitance V_R = 5 V f = 1 MHz, V_{SIG} = 50 mV (p-p) (max)	C		400	pF

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

GRAPHS

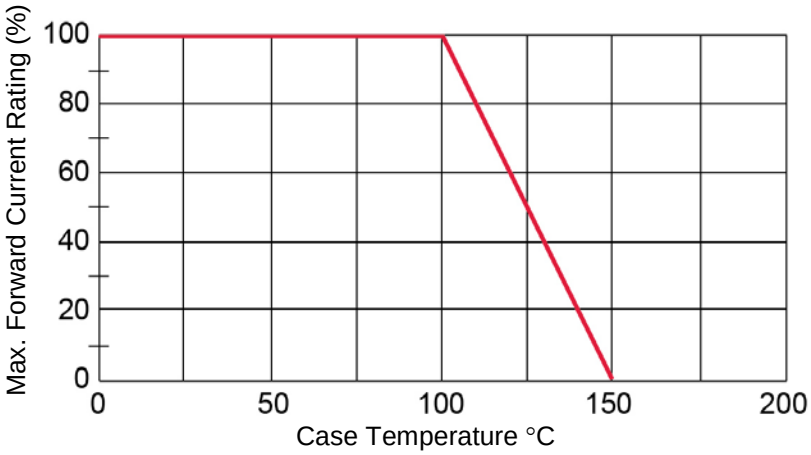


FIGURE 1
Derating Curve

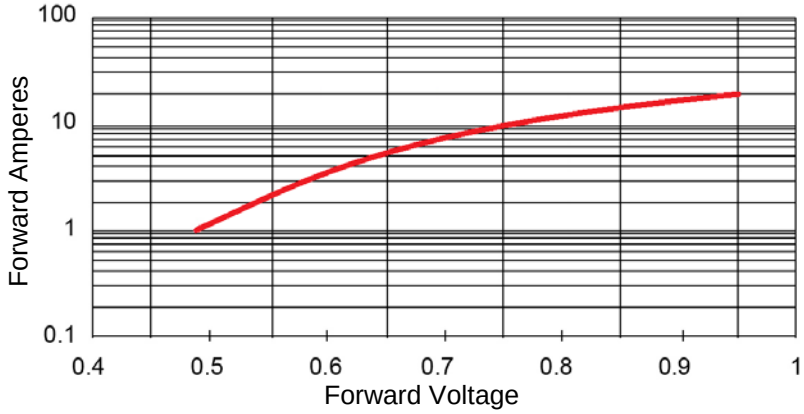
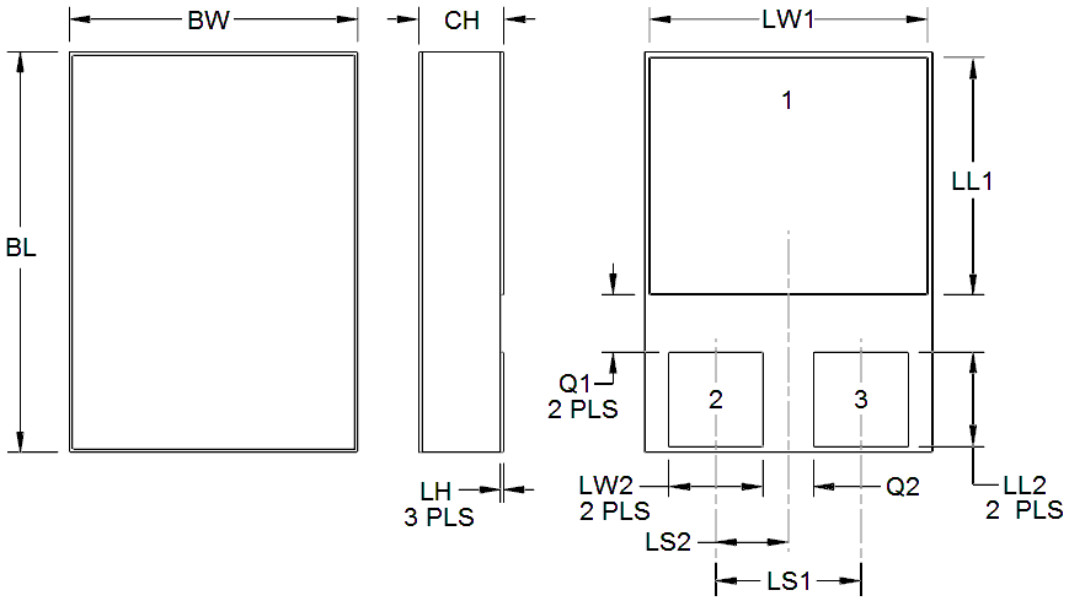


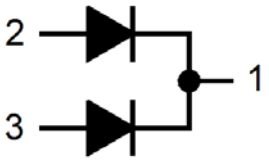
FIGURE 2
Typical Forward Voltage versus Forward Current

PACKAGE DIMENSIONS



NOTES:
1. Dimensions are in inches.
2. Millimeters are given for information only.
3. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology.

Symbol	DIMENSIONS			
	INCH		MILLIMETERS	
	Min	Max	Min	Max
BL	0.395	0.405	10.03	10.29
BW	0.291	0.301	7.39	7.65
CH	0.108	0.124	2.74	3.15
LH	0.010	0.020	0.25	0.51
LL1	0.220	0.230	5.59	5.84
LL2	0.115	0.125	2.92	3.18
LS1	0.150 BSC		3.81 BSC	
LS2	0.075 BSC		1.91 BSC	
LW1	0.281	0.291	7.14	7.39
LW2	0.090	0.100	2.29	2.54
Q1	0.030		0.76	
Q2	0.030		0.76	
Term 1	Common Cathode			
Term 2	Anode (See Schematic)			
Term 3	Anode (See Schematic)			



Schematic

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