

# Silicon Diode

## **1N5617**

400V / 1A

# DATASHEET

OEM – Unitrode

Source: Unitrode Databook 1989-1990

# RECTIFIERS

Military Approved, Fast Recovery, 1 Amp

1N5615, 1N5617, 1N5619  
JAN, JANTX & JANTXV

**FEATURES**

- Qualified to MIL-S-19500/429
- PIV: to 600V
- Controlled Avalanche

**DESCRIPTION**

This series of military approved rectifiers is useful in many military applications where fast recovery and medium power are required. The 100% screening requirements in the "TX" version combined with the unique Unitrode construction assures the highest degree of reliability.

**ABSOLUTE MAXIMUM RATINGS**

Peak Inverse Voltage	Type
200V	JAN, JANTX, JANTXV 1N5615
400V	JAN, JANTX, JANTXV 1N5617
600V	JAN, JANTX, JANTXV 1N5619

Maximum Average D.C. Output Current

@  $T_A = 55^\circ\text{C}$  1.0A  
 @  $T_A = 100^\circ\text{C}$  0.75A

Non-Repetitive Sinusoidal

Surge Current (8.3ms) 25A

Operating Temperature Range

$-65^\circ\text{C}$  to  $+175^\circ\text{C}$

Storage Temperature Range

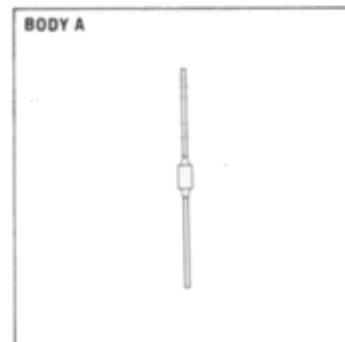
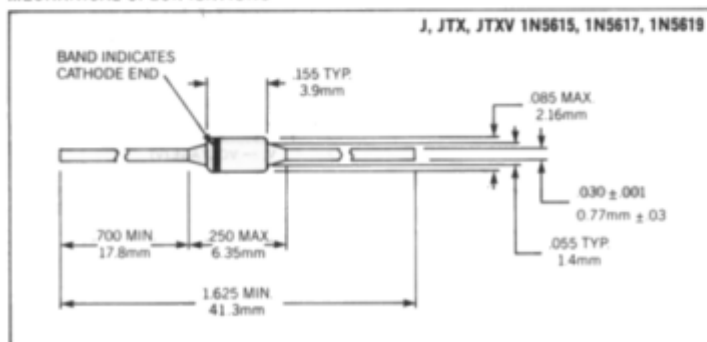
$-65^\circ\text{C}$  to  $+200^\circ\text{C}$

Thermal Resistance  $\theta_{JA}$

$38^\circ\text{C/W}$

See Lead Temperature Derating Curve

**MECHANICAL SPECIFICATIONS**



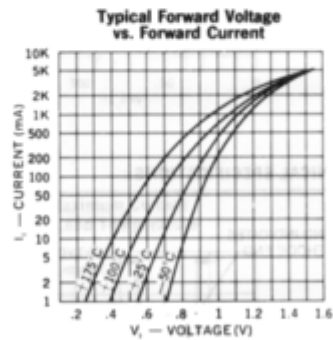
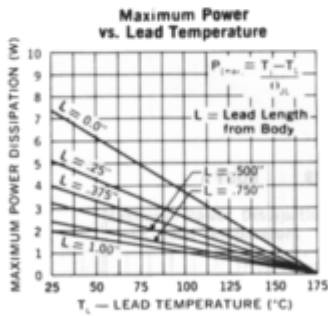
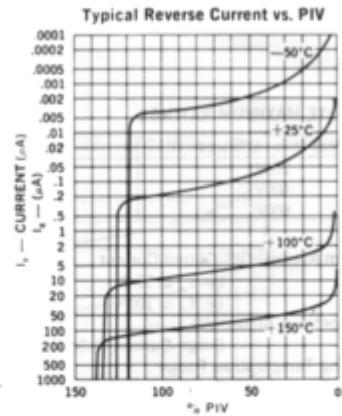
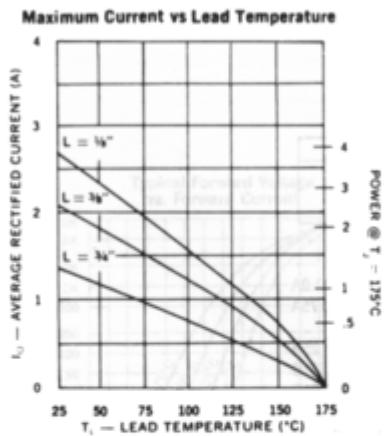
THESE DEVICES ALSO AVAILABLE IN SURFACE MOUNT PACKAGE. SEE SECTION 11.

JAN, JANTX, JANTXV 1N5615, 1N5617, 1N5619

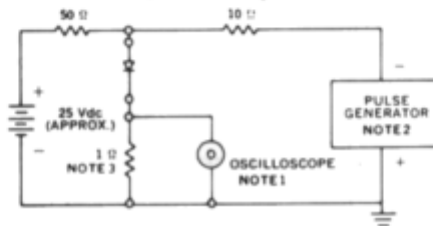
**ELECTRICAL SPECIFICATIONS (at 25°C unless noted)**

Type	PIV	Minimum Reverse Breakdown Voltage @ 50µA	Forward Voltage		Maximum Reverse Current		Maximum Reverse Recovery Time*	Capacitance @ $V_r = 12V$ $f = 1MHz$
			Min.	Max.	25°C	100°C		
J, JTX, JTXV 1N5615	200V	220V	0.8V	1.6V (pk)	0.5µA	25µA	150ns	45pf
J, JTX, JTXV 1N5617	400V	440V	@ 3.0 Adc tp = 300µs				150ns	35pf
J, JTX, JTXV 1N5619	600V	660V					250ns	25pf

\*Measured in Circuit  $I_F = 1/2A$ ,  $I_R = 1A$ ,  $t_{RRC} = 1/4A$



**Reverse-Recovery Circuit**



- NOTES:**
- Oscilloscope: Rise time < 3ns; input impedance = 50Ω.
  - Pulse Generator: Rise time < 8ns; source impedance 100Ω.
  - Current viewing resistor, non-inductive, coaxial recommended.