

Silicon Diode

1N4942

200V / 1A

DATASHEET

OEM – Unitrode

Source: Unitrode Databook 1989-1990

RECTIFIERS

Military Approved, 1 Amp,
Fast Recovery

JAN, JANTX, & JANTXV 1N4942
 JAN, JANTX, & JANTXV 1N4944
 JAN, JANTX, & JANTXV 1N4946

FEATURES

- Qualified to MIL-S-19500/359
- Surge Rating: 15A
- PIV: to 600V
- Controlled Avalanche

DESCRIPTION

These fast recovery rectifiers are suitable for use as power devices for many applications. Devices are available as JAN, JANTX or JANTXV.

ABSOLUTE MAXIMUM RATINGS

| Maximum Reverse Voltage | Type |
|-------------------------|-----------------------------|
| 200V | JAN, JANTX, & JANTXV 1N4942 |
| 400V | JAN, JANTX, & JANTXV 1N4944 |
| 600V | JAN, JANTX, & JANTXV 1N4946 |

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

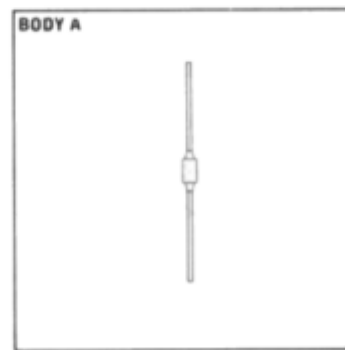
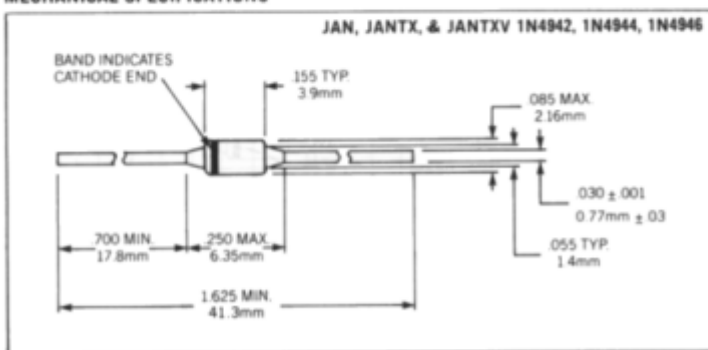
Surge Current (8.3ms) 15A

Operating Temperature Range -65°C to $+175^\circ\text{C}$

Storage Temperature Range -65°C to $+175^\circ\text{C}$

Thermal Resistance See Lead Temperature Derating Curve

MECHANICAL SPECIFICATIONS



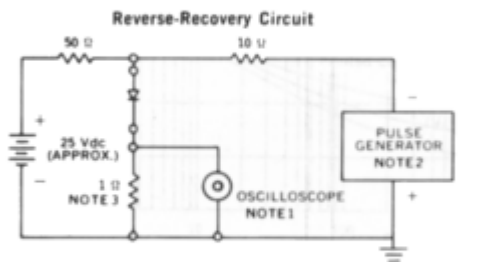
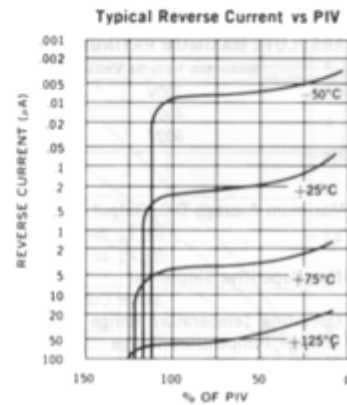
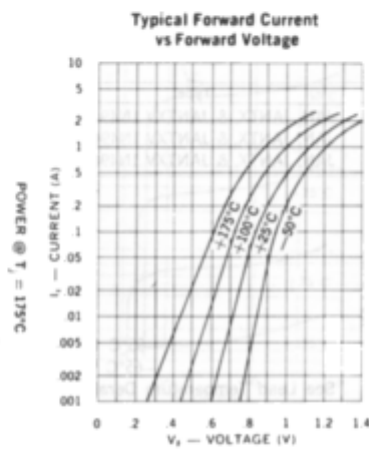
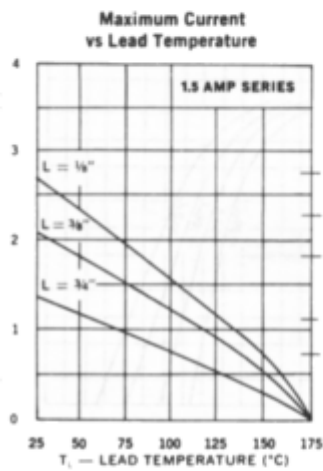
THESE DEVICES ALSO AVAILABLE IN SURFACE MOUNT PACKAGE. SEE SECTION 11.

JAN, JANTX, & JANTXV 1N4942, 1N4944, 1N4946

ELECTRICAL SPECIFICATIONS (at 25°C unless noted)

| Type | Peak Inverse Voltage | Minimum Reverse Breakdown Voltage @ 50 μ A | Forward Voltage | | Maximum Reverse Current | | Maximum Reverse Recovery Time* | Capacitance @ V _r = 12V f = 1MHz |
|---------------------|----------------------|--|-----------------|--------|-------------------------|-------------|--------------------------------|---|
| | | | Min. | Max. | 25°C | 150°C | | |
| J, JTX, JTXV 1N4942 | 200V | 220V | 0.6V | 1.3Vdc | 1.0 μ A | 200 μ A | 150ns | 45pf |
| J, JTX, JTXV 1N4944 | 400V | 440V | @ 1 Adc | | | | 150ns | 35pf |
| J, JTX, JTXV 1N4946 | 600V | 660V | | | | | 250ns | 25pf |

*Measured in circuit I_f = 1/2A, I_r = 1.0A, I_{RRC} = 1/4A



- NOTES:**
1. Oscilloscope: Rise time < 3ns; input impedance = 50 Ω .
 2. Pulse Generator: Rise time < 8ns; source impedance 10 Ω .
 3. Current viewing resistor, non-inductive, coaxial recommended.

