

# RECTIFIERS

## Military Approved, 3 Amp, Fast Recovery

1N5186-1N5190  
JAN & JANTX

**FEATURES**

- Continuous Rating: 3A
- Qualified to MIL-S-19500/424
- PIV : to 600V
- Recovery Time: 150ns
- Miniature Size
- Controlled Avalanche

**DESCRIPTION**

These miniature fast recovery rectifiers permit operation at full power at frequencies as high as 100kHz sine wave. They are qualified to military specification and available as JAN, JANTX

**ABSOLUTE MAXIMUM RATINGS**

| Peak Inverse Voltage | Type               |
|----------------------|--------------------|
| 100V                 | JAN & JANTX 1N5186 |
| 200V                 | JAN & JANTX 1N5187 |
| 400V                 | JAN & JANTX 1N5188 |
| 600V                 | JAN & JANTX 1N5190 |

Maximum Average D.C. Output Current

@  $T_A = 25^{\circ}\text{C}$  ..... 3.0A  
 @  $T_A = 150^{\circ}\text{C}$  ..... 0.7A

Non-Repetitive Sinusoidal

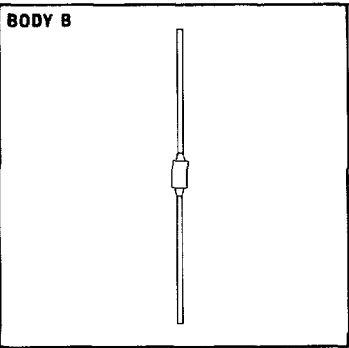
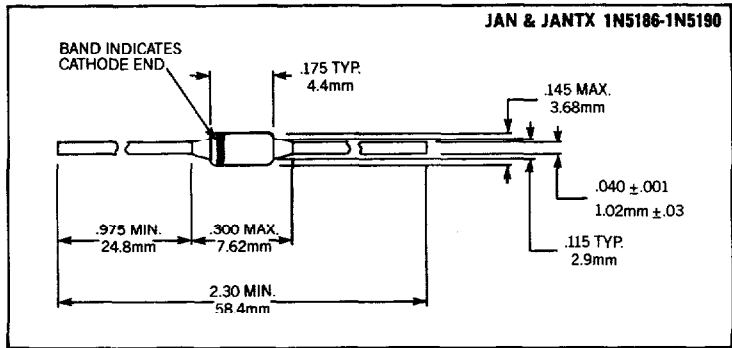
Surge Current (8.3ms) ..... 80A

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 ..... See Lead Temperature Derating Curve

**MECHANICAL SPECIFICATIONS**



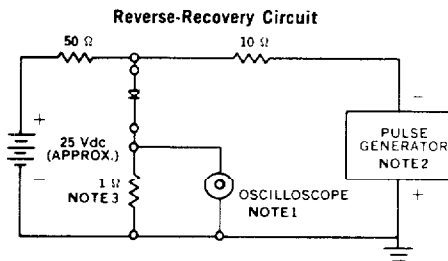
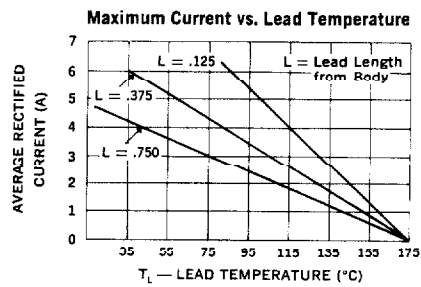
THESE DEVICES ALSO AVAILABLE IN SURFACE MOUNT PACKAGE. SEE SECTION 10

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

| Type          | Peak Inverse Voltage | Minimum Reverse Breakdown Voltage @ 100 $\mu$ A | Peak Forward Voltage        |      | Maximum Reverse D.C. Current @ PIV |             |
|---------------|----------------------|-------------------------------------------------|-----------------------------|------|------------------------------------|-------------|
|               |                      |                                                 | Min.                        | Max. | 25°C                               | 100°C       |
| J, JTX 1N5186 | 100V                 | 120V                                            | 0.9V<br>@ 9A(pk)<br>(8.3ms) | 1.5V | 2 $\mu$ A                          | 100 $\mu$ A |
| J, JTX 1N5187 | 200V                 | 240V                                            |                             |      |                                    |             |
| J, JTX 1N5188 | 400V                 | 480V                                            |                             |      |                                    |             |
| J, JTX 1N5190 | 600V                 | 660V                                            |                             |      |                                    |             |

| Type          | Reverse Recovery Time* | Capacitance @ $V_R = 0V$<br>$f = 1MHz$ | Capacitance @ $V_R = 4V$<br>$f = 1MHz$ |
|---------------|------------------------|----------------------------------------|----------------------------------------|
| J, JTX 1N5186 | 150ns                  | 300pf                                  | 200pf                                  |
| J, JTX 1N5187 | 200ns                  | 300pf                                  | 170pf                                  |
| J, JTX 1N5188 | 250ns                  | 230pf                                  | 120pf                                  |
| J, JTX 1N5190 | 400ns                  | 180pf                                  | 90pf                                   |

\*Recovery time measured from  $I_F = 0.5A$  to  $I_R = 1.0A$ ,  $I_{REC} = 0.25A$



## NOTES:

- Oscilloscope: Rise time  $\leq 3ns$ ; input impedance  $= 50\Omega$ .
- Pulse Generator: Rise time  $\leq 8ns$ ; source impedance  $10\Omega$ .
- Current viewing resistor, non-inductive, coaxial recommended.

