

# Silicon Diode

## **1N5188**

400V / 3A

# DATASHEET

OEM – Unitrode

Source: Unitrode Databook 1989-1990

# 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<sub>A</sub> = 25°C ..... 3.0A  
 @ T<sub>A</sub> = 150°C ..... 0.7A

Non-Repetitive Sinusoidal

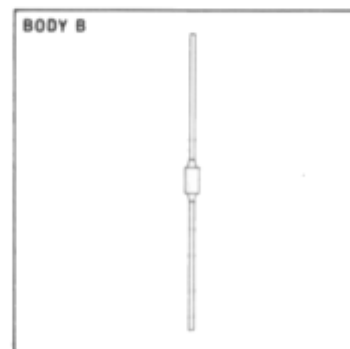
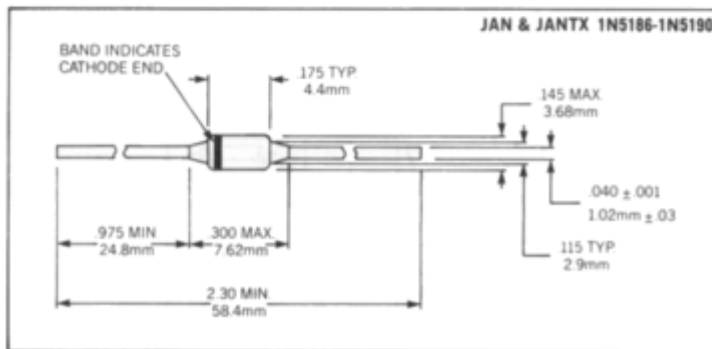
Surge Current (8.3ms) ..... 80A

Operating Temperature Range ..... -65°C to +175°C

Storage Temperature Range ..... -65°C to +200°C

Thermal Resistance ..... See Lead Temperature Derating Curve

**MECHANICAL SPECIFICATIONS**



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

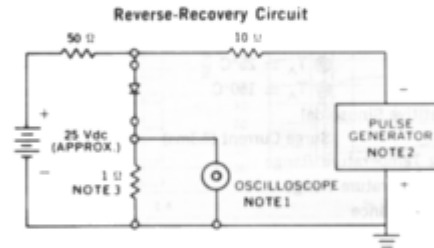
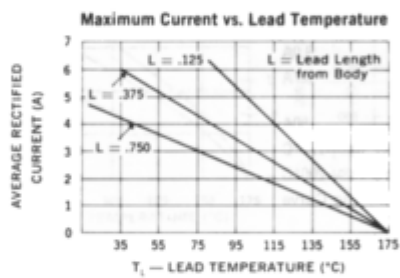
JAN, JANTX 1N5186-1N5190

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

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

Type	Reverse Recovery Time*	Capacitance @ $V_R = 0V$ $f = 1MHz$	Capacitance @ $V_R = 4V$ $f = 1MHz$
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  $I_R = 1.0A$ ,  $t_{RR} = 0.25A$



- 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.

