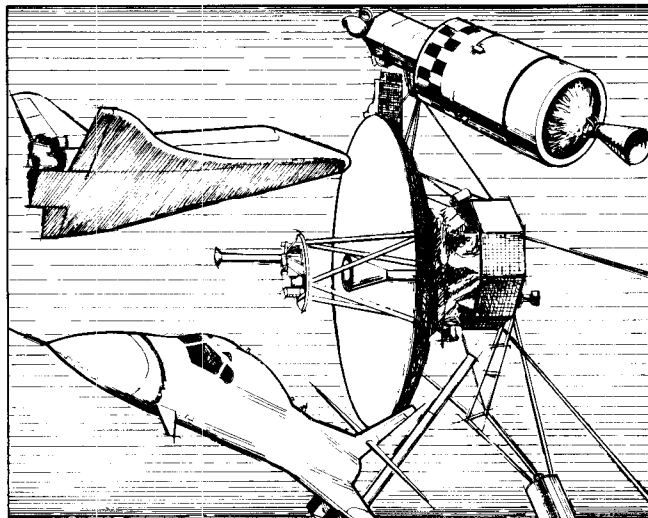


## Features

LARGE DYNAMIC RANGE  
LOW HARMONIC DISTORTION  
HIGH SERIES ISOLATION



## Description/Applications

The JAN Series 1N5719 is a planar passivated silicon PIN diode designed for use in RF switching circuits. These devices are well suited for variable attenuator, AGC, modulator, limiter, and phase shifter applications that require the high reliability of a JAN/JANTX device.

## Maximum Ratings at $T_{CASE} = 25^{\circ}C$

Operating and Storage Temperature

Range .....  $-65^{\circ}C$  to  $+150^{\circ}C$

*Operation of these devices within the recommended temperature limits will assure a device Mean Time to Failure (MTTF) of approximately  $1 \times 10^7$  hours.*

Reverse Voltage (Working) ..... 100 V dc

Reverse Voltage (non-rep) ..... 150 V pk

Power Dissipation [At  $25^{\circ}C$ ] ..... 250 mW

Derate at  $2.0 \text{ mW}/^{\circ}C$  above  $T_{CASE} = 25^{\circ}C$ ; assumes an infinite heat sink.

## Electrical Specifications at $T_A = 25^{\circ}C$

(Per Table I, Group A Testing of MIL-S-19500/443)

Specification	Symbol	Min.	Max.	Units	Test Conditions
Breakdown Voltage	$V_{BR}$	150		V	$I_R = 10 \mu A$
Forward Voltage	$V_F$		1.0	V	$I_F = 100 \text{ mA}$
Reverse Current	$I_R$		250	nA	$V_R = 100 \text{ V}$
Reverse Current	$I_R$		15	$\mu A$	$V_R = 100 \text{ V}, T_A = 150^{\circ}C$
Capacitance	$C_{VR}$		.30	pF	$V_R = 100 \text{ V}, f = 1 \text{ MHz}$
Series Resistance	$R_S$		1.25	$\Omega$	$I_F = 100 \text{ mA}, f = 100 \text{ MHz}$
Effective Carrier Lifetime	$\tau$	100		ns	$I_F = 50 \text{ mA}, I_R = 250 \text{ mA}$

**JAN 1N5719:** Samples of each lot are subjected to Group A inspection for parameters listed in Table I, and to Group B and Group C tests listed below. All tests are to the conditions and limits specified by MIL-S-19500/443.

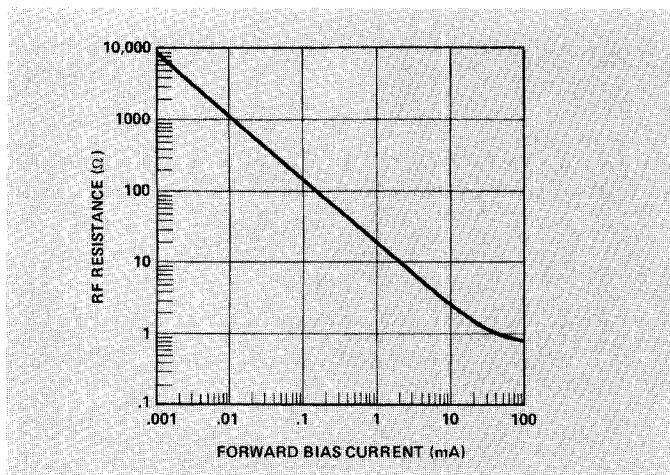
**JANTX 1N5719:** Devices undergo 100% screening tests as listed below to the conditions and limits specified by MIL-S-19500/443. A sample of the JANTX lot is then subjected to Group A, Group B, and Group C tests as for the JAN 1N5719 above.

Group B Sample Acceptance Tests **	Method MIL-STD-750	Group C Sample Acceptance Tests **	Method MIL-STD-750
Physical Dimensions	2066	Barometric Pressure	1001
Solderability	2026	Reverse Current	4016
Temperature Cycling	1051F	Salt Atmosphere	1041
Thermal Shock (Strain)	1056A	Resistance to Solvents	*
Terminal Strength: Tension	2036A	Temperature Cycling	1051F
Hermetic Seal	1071E	Low Temperature Operation ( $-65^{\circ}\text{C}$ )	
Moisture Resistance	1021	Forward Voltage	4011
Mechanical Shock	2016	Breakdown Voltage	4021
Vibration, Variable Frequency	2056	TX Screening (100%)	
Constant Acceleration	2006	High Temp Storage ( $150^{\circ}\text{C}$ , 48 hrs.)	1032
Terminal Strength: Lead Fatigue	2036E	Temperature Cycling	1051F
Salt Atmosphere	1041	Constant Acceleration	2006
Temperature Storage ( $T_A = 150^{\circ}\text{C}$ , $t = 1\text{ k hrs.}$ )	1031	Fine Leak	1071 G or H
Operating Life ( $I_O = 70\text{ mAdc}$ , $V_R = 120\text{ V [pk]}$ , $f = 60\text{ Hz}$ , $T_A = 25^{\circ}\text{C}$ , $t = 1\text{ k hrs.}$ )	1026	Gross Leak	1071E
		Burn-in ( $I_O = 70\text{ mAdc}$ , $V_R = 120\text{ V [pk]}$ , $T_A = 25^{\circ}\text{C}$ , $f = 60\text{ Hz}$ , $t = 96\text{ hrs.}$ )	
		Evaluation of Drift ( $I_R$ , $V_F$ )	

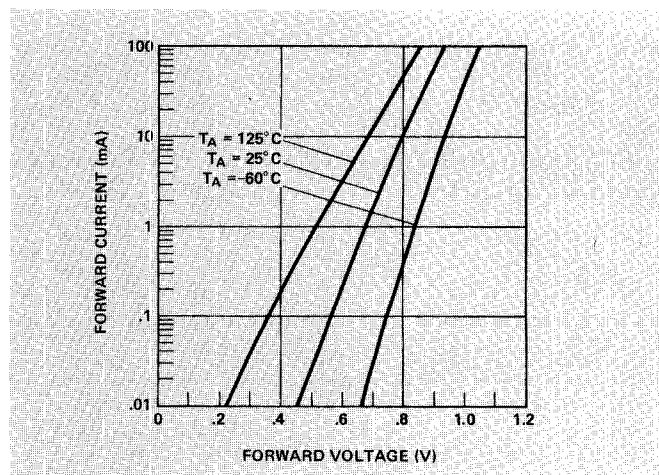
\*MIL-STD-202, Method 215

\*\*Subgroup endpoints and measurements per MIL-S-19500/443.

## Typical Parameters



Typical RF Resistance vs. Forward Bias Current.



Typical Forward Current vs. Forward Voltage.