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# Ka Band Point Contact Detector Diodes

Point Contact Diodes: 1N Series

#### Description

IN series of Point Contact Detector diodes is designed for applications through Ka-Band. These diodes employ epitaxial silicon optimized for high tangential signal sensitivity (TSS), and are suitable for use in waveguide, coaxial and stripline applications. Being point contact diodes, they are efficient detectors not requiring the use of bias. Devices in this series are available in glass or cartridge packaging.

#### Applications

This 1N series of Point Contact Detectors is suitable for use in waveguide, coaxial and stripline applications

#### Features

- Broadband Operations
- · Bias Not Required

#### Packaging

10000.0

5000.0

2000.0

1000.0

500.0

200.0

100.0

50.0

20.0

10.0

5.0

2.0

1.0

0.50

0.20

0.10

VOLTAGE OUTPUT (mV)  $R_{I} = 1M\Omega$ 

 $R_{i} = 100 K\Omega$ 

= 10KΩ

 $R_{I} = 1 \overline{K\Omega}$ 

 $R_{\rm I} = 100\Omega$ 

-30 -25 -20 -15 -10 -5 0

POWER INPUT

(dBm)

100

 $R_1 = 1\Omega$ 

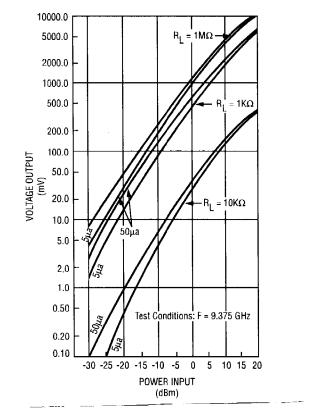
Test Conditions:

F = 9.375 GHz

DC Bias = 0

5 10 15 20

Glass or Cartridge



### **Typical Performance**



**Quality Semi-Conductors** 

### Point Contact Diodes: 1N Series

Rectification Efficiency MIN	Tangential Signal Sensitivity (-dBm)	Video Resistance MAX (K Ohms)	Operating Frequency (MHz)	Case Style	Part Number
65%			100	CS85	1N830
65% @ 5 vdc	. <sup>1</sup>	-	100	CS85	1N830A
-	49	22	3000	CS100	1N32
-	47	17	3000	CS100	1N32A
-	40	18	9375	CS85	1N833
*	45	18	9375	CS85	1N833A
-	51	3.1	9000	CS100	1N1611
-	53	3.1	9000	CS100	1N1611A
<b>.</b> .	53	3.1	9000	CS100	1N1611E
	50	10	9375	CS101	1N3778

### **Electrical Characteristics**

## **Maximum Ratings**

Operating Temperature	-55°C to + 150°C
Storage Temperature	-65°C to + 200°C

