

# DC2020/23, DC2171H/72H & DC2600 Series

## MICROSTRIP PIN DIODES

### DESCRIPTION

DC2020/DC2600 Series are a range of broadband microstrip PIN diodes. Both switching modules and passive limiters are available. In the passive limiters the chip and encapsulation parasitics are incorporated in the composite filter designs to provide low insertion loss over a broad frequency band. Some types include a d.c. return path and/or a d.c. block.

### FEATURES

- Low Resistance
- Low Capacitance
- High Breakdown voltage
- Frequency range up to 18GHz
- Mesa and Planar versions available

### APPLICATIONS

Suitable for use as active switching modules and passive limiters for such applications as protection for sensitive receiver front-ends, including video detectors, superheterodyne mixers and transistor amplifiers.

### LIMITING CONDITIONS

Storage conditions	-55°C to +150°C
Operating temperature	-55°C to +150°C
Power dissipation	250mW

### TYPICAL DC CHARACTERISTICS $T_{amb} 25^{\circ}C$

#### Switches

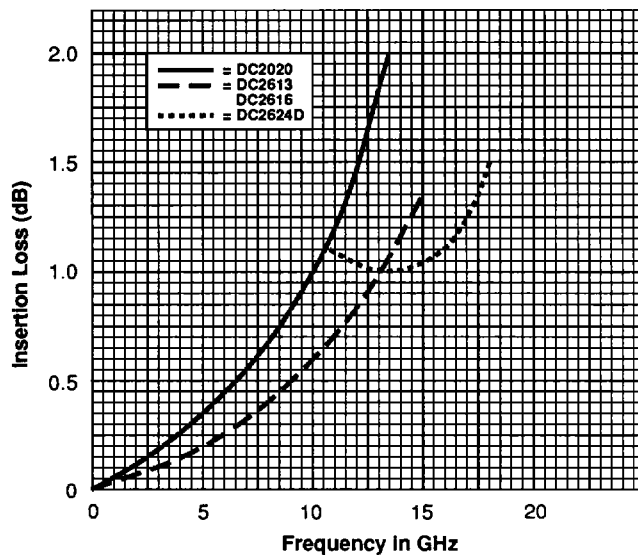
TYPE NUMBER	Outline No.	$V_R$ min.	Frequency range	Insertion loss at -20V, $f = 12GHz$	Isolation loss at 20mA $f = 9.5GHz$	Power Handling		Switching Speed Typ.
		(Volts)				peak	mean	
		(Volts)	(GHz)	(dB)	(dB)	(W)	(W)	(ns)
DC2610A	30	50	1 - 12	0.6	20	100	10	6
DC2611	31A	50	1 - 12	0.6	20	100	10	6
DC2612A	30	20	1 - 12	0.6	20	10	1	3
DC2613	31	20	1 - 12	0.6	20	100	1	3
DC2614	31	100	1 - 12	0.5	20	100	25	40
DC2615*	31	100	1 - 12	0.5	20	100	25	40
DC2616*	31	20	1 - 12	0.6	20	10	1	3
DC2618A	30	100	1 - 12	0.5	20	100	25	40
DC2619A*	30	100	1 - 12	0.5	20	100	25	40
DC2652A*	30	20	1 - 12	0.6	20	10	1	3

Polarity: Cathode is the base unless marked \*, where the anode is the base.

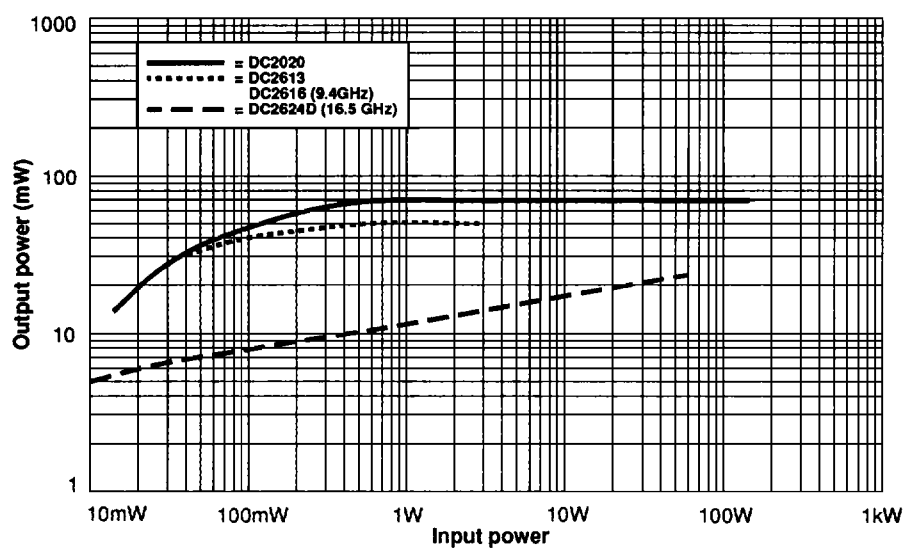
**TYPICAL DC CHARACTERISTICS**  $T_{amb} 25^{\circ}\text{C}$   
**Passive Limiters**

TYPE NUMBER	Outline No.	Frequency range	Insertion loss	Leakage Power max.	Power Handling		Requirement for Rectified current
					peak	mean	
		(GHz)	(dB)	mW @ W	(W)	(W)	
<b>DC2020</b>	30	1 - 12	1.9	100 @ 100	100	1	a
<b>DC2023</b>	31	1 - 12	1.9	100 @ 100	100	1	a
<b>DC2620</b>	30	1 - 12	1.0	100 @ 5	5	1	a
<b>DC2622</b>	31	1 - 12	1.0	100 @ 5	5	1	a
<b>DC2623</b>	31	1 - 12	1.0	100 @ 5	5	1	a
<b>DC2624D</b>	76	12 - 18	1.6	100 @ 50	50	5	b
<b>DC2628</b>	30	1 - 12	1.0	100 @ 5	5	1	a
<b>DC2171H</b>	90A	0.01 - 1	0.5	300 @ 10	100	10	b
<b>DC2172H</b>	90A	0.01 - 0.8	0.2	1000 @ 30	300	30	b

Note: a) Requires external D.C. return for correct operation.  
b) External D.C. return not required.



Typical variation of Insertion loss with frequency.



Typical variation of output power with input power.