



# DC1590/93/95

## SILICON SCHOTTKY X-BAND WAVEGUIDE INTEGRAL LIMITER MIXER DIODES

**DESCRIPTION**

This general purpose diode available in the microstrip package is suitable for applications requiring high performance mixers.

These diodes can be supplied in matched pairs by the addition of the letter M to the type number or with reverse polarity by the addition of the letter R to the type number.

**FEATURES**

- Low drive LO level
- Excellent *I*f noise
- Low conversion loss
- X band operation

**APPLICATIONS**

Silicon Schottky mixer diodes are finding increasing applications in instrumentation, military, civil and marine radar and communications systems.

**LIMITING CONDITIONS**

Storage conditions	-55°C to +150°C
Operating temperature	-55°C to +150°C
Pulse burn out (Duty cycle 0.01%)	? mW
CW burn out	? mW

**TYPICAL DC CHARACTERISTICS** Tamb 25°C

TYPE NUMBER	DC1590		DC1593	DC1595
	/1	/2		
Frequency	X Band	X Band	X Band	X Band
Forward Voltage of Schottky @ 100µA	200mV	200mV	200mV	200mV
Forward Voltage of NIP @ 100µA	700mV	700mV	700mV	700mV
Rs (10mA to 20mA) in Ohms	20	20	20	20
C <sub>1</sub> @ 0V (1F)	150	150	150	150
Outline	23B	23B	51	17

TYPICAL RF CHARACTERISTICS Tamb 25°C

TYPE NUMBER	DC1590		DC1593	DC1595
	/1	/2		
Test Freq. (GHz)	9.375	9.375	9.375	9.375
LO Drive level ( $\mu$ W)	700	700	700	700
IF Impedance at 150 $\mu$ A (Ohms)	400	400	400	400
Max. Overall noise figure O.N.F. (dB)	9.0	9.0	9.0	9.0
Conversion loss (dB)	7.5	7.5	7.5	7.5