



DC1501/02/04/18/39

SILICON SCHOTTKY X-BAND WAVEGUIDE 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%)	500mW
CW burn out	300mW

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

TYPE NUMBER	DC1501			DC1502		DC1504		DC1518	DC1539	
	E	F	G	E	F	E	F		F	G
Frequency	X Band	X Band	X Band	X Band	X Band	X Band	X Band	X Band	X Band	X Band
Forward Voltage (Vf) @ 100µA	350mV	350mV	350mV	350mV	350mV	350mV	350mV	350mV	350mV	350mV
Reverse voltage (Vr) min. @ 10µA	2V	2V	2V	2V	2V	2V	2V	2V	2V	2V
Rs (10mA to 20mA) in Ohms	20	20	20	20	20	20	20	20	20	20
Cj @ 0V (fF)	80	80	80	80	80	80	80	80	80	80
Outline	51	51	51	17	17	23A	23A	16	102	102

TYPICAL RF CHARACTERISTICS Tamb 25°C

TYPE NUMBER	DC1501			DC1502		DC1504		DC1518	DC1539	
	E	F	G	E	F	E	F		F	G
Test Freq. (GHz)	9.375	9.375	9.375	9.375	9.375	9.375	9.375	9.375	9.375	9.375
LO Drive level (μW)	700	700	700	700	700	700	700	700	700	700
IF Impedance at 150μA (Ohms)	450	450	450	450	450	450	450	450	450	450
Max. Overall noise figure O.N.F. (dB)	7.5	7.0	6.5	7.5	7.0	7.5	7.0	7.5	7.0	6.5
Conversion loss (dB)	6.0	5.5	5.0	6.0	5.5	6.0	5.5	6.0	5.5	5.0