

DC1505/07

SILICON SCHOTTKY S-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
- S 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	DC1505		DC1507		
	F	G	F	G	H
Frequency	X Band	X Band	X Band	X Band	X Band
Forward Voltage (V_f) @ 100 μA	350mV	350mV	350mV	350mV	350mV
Reverse voltage (V_r) min. @ 10 μA	2V	2V	2V	2V	2V
R_s (10mA to 20mA) in Ohms	10	10	20	20	20
C_j @ 0V (fF)	200	200	100	100	100
Outline	23A	23A	17	17	17

TYPICAL RF CHARACTERISTICS Tamb 25°C

TYPE NUMBER	DC1505		DC1507		
	F	G	F	G	H
Test Freq. (GHz)	9.375	9.375	9.375	9.375	9.375
LO Drive level (μW)	500	500	500	500	500
IF Impedance at 150μA (Ohms)	400	400	350	350	350
Max. Overall noise figure O.N.F. (dB)	7.0	6.5	7.0	6.5	6.0
Conversion loss (dB)	5.5	5.0	5.5	5.0	4.5