

Silicon Schottky barrier mixer diodes



## SILICON SCHOTTKY BARRIER MIXER DIODES

### Description

Silicon Schottky barrier mixer diodes are available in the following configurations:

- packaged
- chip

Low barrier diodes are required for applications where the Local Oscillator (LO) drive level is between -10 dBm and +10 dBm. Medium barrier diodes are required for applications where the LO drive level is between -5 dBm and +15 dBm. The use of a passivated planar construction contributes to high reliability.

### Electrical characteristics packaged diodes

Characteristics at 25°C		Frequency range $F_{oper}$	SSB Noise figure $NF_{SSB}$	VSWR (ratio)		IF Impedance $Z_{IF}$		Test pulse energy	Breakdown voltage $V_{BR}$	Total capacitance $C_{TO}$
Test conditions		N/A	(1)	N/A		f = 30 MHz $P_{LO} = 1 \text{ mW}$		Pulse = 3 ns	$I_R = 10 \mu A$	F = 1 MHz $V_R = 0 \text{ V}$
Type	Case (2)	GHz	dB	ratio		$\Omega$		Ergs	V	pF
			max	typ.	max	min.	max	max	typ.	typ.
DH301	F51	1 - 6	6.5	1.5	2	200	400	5	3	0.40
DH302	F51	1 - 6	6.0	1.5	2	200	400	5	3	0.40
DH303	F51	1 - 6	5.5	1.5	2	200	400	5	3	0.40
DH312	F51	6 - 12	7.0	1.5	2	200	400	5	3	0.25
DH313	F51	6 - 12	6.5	1.5	2	200	400	5	3	0.25
DH314	F51	6 - 12	6.0	1.5	2	200	400	5	3	0.25
DH315	F51	6 - 12	5.5	1.5	2	200	400	5	3	0.25
DH322	F51	12 - 18	7.5	1.5	2	200	400	5	3	0.17
DH323	F51	12 - 18	7.0	1.5	2	200	400	5	3	0.17
DH324	F51	12 - 18	6.5	1.5	2	200	400	5	3	0.17
DH325	F51	12 - 18	6.0	1.5	2	200	400	5	3	0.17

RF Power max: 250 mW CW

#### Temperature ranges:

Operating junction ( $T_j$ ) : -55° C to +150° C

Storage : -65° C to +175° C

(1) Noise figure measurement conditions:

$P_{LO} = 1 \text{ mW}$

$f_{IF} = 30 \text{ MHz}$

$NF_{IF} = 1.5 \text{ dB}$

noise tube: 15.6 dB

dc load = 10  $\Omega$

test frequencies: 3.0, 9.3 or 15.0 GHz

(2) Custom cases available on request