GaAs Schottky Diodes

Low R_S Series Pair

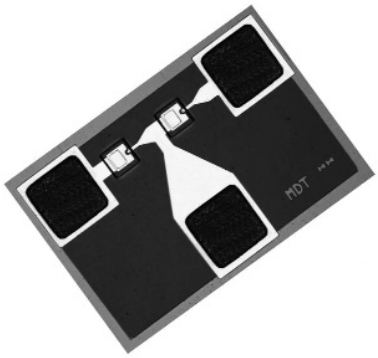
MS8350 – P2819

Dimensions

Size: 28 x 19 mils

Thickness: 5 mils

Bond Pad Size: 5 x 5 mils



Features

- Capacitance (65 fF Typ.)
- Low Series Resistance (3 Ω Typ.)
- Cut-Off Frequency > 500 GHz
- Large Gold Bond Pads

Specifications @ 25°C (Per Junction)

- V_F (1 mA): 650–750 mV
- ΔV_F (1 mA): 10 mV Max.
- R_S (10 mA): 7 Ω Max.
- I_R (3 V): 10 μA Max.
- C_T (0 V): 80 fF Max.

Maximum Ratings

Insertion Temperature	250°C for 10 Seconds
Incident Power	+20 dBm @ 25°C
Forward Current	15 mA @ 25°C
Reverse Voltage	3 V
Operating Temperature	-55°C to +125°C
Storage Temperature	-65°C to +150°C

Description

The MS8350 is a GaAs flip chip series pair Schottky device designed for use as balanced mixer elements at microwave and millimeter wave frequencies. Their high cut-off frequency insures good performance at frequencies to 100 GHz. Applications include, transceivers, digital radios and automotive radar detectors.

These flip chip devices incorporate Microsemi's expertise in GaAs material processing, silicon nitride protective coatings and high temperature metalization. They have large, 5 x 5 mil, bond pads for ease of insertion. The MS8350 is priced for high volume commercial and industrial applications

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Microsemi
Microwave Products
75 Technology Drive, Lowell, MA. 01851, 978-442-5600, Fax: 978-937-3748

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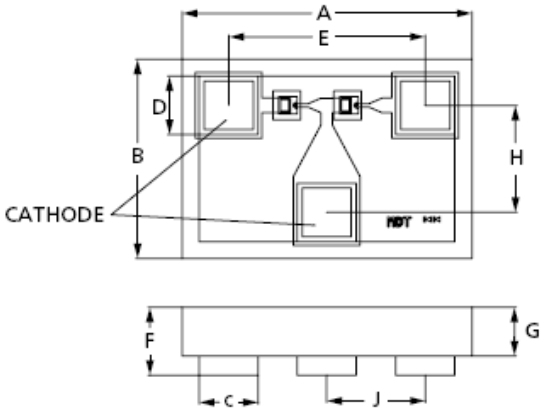

DIM	INCHES		MM	
	MIN.	MAX.	MIN.	MAX.
A	0.0275	0.0285	0.698	0.724
B	0.0185	0.0195	0.470	0.495
C	0.0046	0.0056	0.117	0.142
D	0.0046	0.0056	0.117	0.142
E	0.0195	0.0205	0.495	0.521
F	0.0050	0.0060	0.127	0.152
G	0.0045	0.0055	0.114	0.140
H	0.0105	0.0115	0.267	0.292
J	0.0095	0.0105	0.241	0.267

Spice Model Parameters (Per Junction)

I_S	R_S	N	TT	C_{J0}	C_P	M	EG	V_J	BV	IBV
A	Ω		Sec	pF	pF		eV	V	V	A
3.2×10^{-13}	3	1	0	0.045	0.02	0.50	1.42	0.85	4	1×10^{-5}