

Flip Chip GaAs Schottky: Series Pair – Low Capacitance Design

Dimensions

Size: 28 x 19 mils

Thickness: 5 mils

Bond Pad Size: 5 x 5 mils

Features

- Capacitance (45 fF Typ.)
- Low Series Resistance (7 Ω Typ.)
- Cut-Off Frequency > 500 GHz
- Large Gold Bond Pads

Specifications @ 25°C (Per Junction)

- V_F (1 mA): 600–800 mV
- ΔV_F (1 mA): 10 mV Max.
- R_S (10 mA): 9 Ω Max.
- I_R (3 V): 10 μA Max.
- C_T (0 V): 60 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

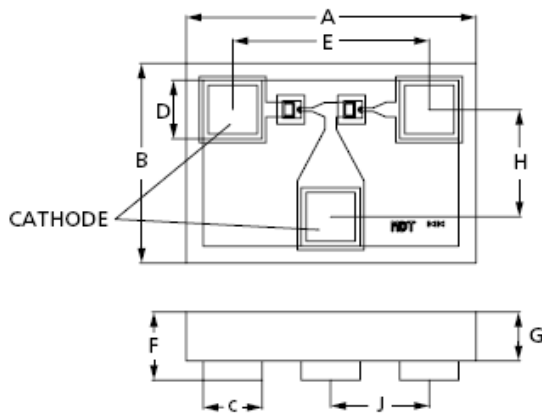


Description

The MS8351 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 metallization. They have large, 5 x 5 mil, bond pads for ease of insertion. The MS8351 is priced for high volume commercial and industrial applications.

P2819



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}	7	1	0	0.025	0.02	0.50	1.42	0.85	4	1×10^{-5}

IMPORTANT: For the most current data, consult our website: www.MICROSEMI.com
 Specifications are subject to change. Consult factory for the latest information.



These devices are ESD sensitive and must be handled using ESD precautions.

¹ The MS8351 Series of products are supplied with a RoHS compliant Gold finish.