

## 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  $\Omega$  Typ.)
- Cut-Off Frequency > 500 GHz
- Large Gold Bond Pads

### *Specifications @ 25°C (Per Junction)*

- $V_F$  (1 mA): 600–800 mV
- $\Delta V_F$  (1 mA): 10 mV Max.
- $R_S$  (10 mA): 9  $\Omega$  Max.
- $I_R$  (3 V): 10  $\mu$ A 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

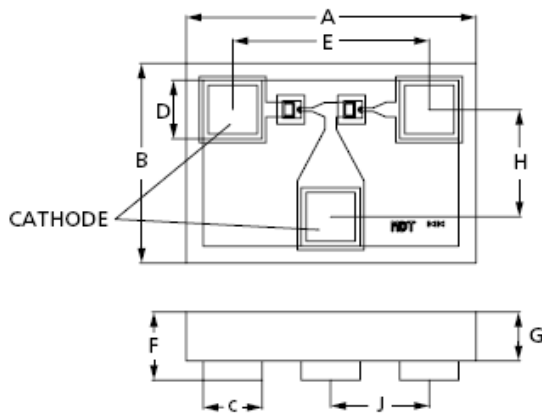


### *Description*

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	$\Omega$		Sec	pF	pF		eV	V	V	A
$3.2 \times 10^{-13}$	7	1	0	0.025	0.02	0.50	1.42	0.85	4	$1 \times 10^{-5}$

**IMPORTANT:** For the most current data, consult our website: [www.MICROSEMI.com](http://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.

<sup>1</sup> The MS8351 Series of products are supplied with a RoHS compliant Gold finish.