

### *Dimensions*

Size: 26 x 13 mils

Thickness: 5 mils

Bond Pad Size: 5 x 8 mils

### *Features*

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

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

- $V_F$  (1 mA): 650–750 mV
- $\Delta V_F$  (1 mA): 10 mV Max.
- $R_S$  (10 mA): 7  $\Omega$  Max.
- $I_R$  (3 V): 10  $\mu$ A Max.
- $C_T$  (0 V): 80 fF Max.

### *Maximum Ratings*

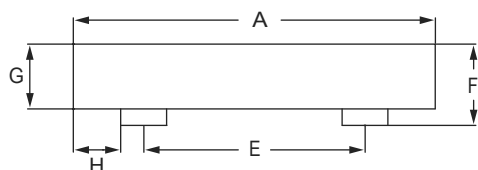
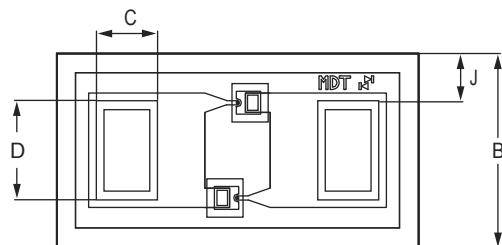
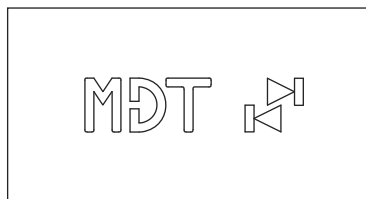
|                       |                      |
|-----------------------|----------------------|
| Insertion Temperature | 250°C for 10 Seconds |
| Incident Power        | +20 dBm @ 25°C       |
| Forward Current       | 15 mA @ 25°C         |
| Reverse Voltage       | 3 V                  |
| Operating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



### *Description*

The MS8250 is a GaAs flip chip anti-parallel pair Schottky device designed for use as harmonic 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 8 mil, bond pads for ease of insertion. The MS8250 is priced for high volume commercial and industrial applications.

**P2613**


| DIM | INCHES |        | MM     |        |
|-----|--------|--------|--------|--------|
|     | MIN.   | MAX.   | MIN.   | MAX.   |
| A   | 0.0255 | 0.0265 | 0.6480 | 0.6730 |
| B   | 0.0125 | 0.0135 | 0.3180 | 0.3430 |
| C   | 0.0046 | 0.0056 | 0.1170 | 0.1420 |
| D   | 0.0075 | 0.0085 | 0.1910 | 0.2160 |
| E   | 0.0170 | 0.0180 | 0.4320 | 0.4570 |
| F   | 0.0050 | 0.0060 | 0.1270 | 0.1520 |
| G   | 0.0045 | 0.0055 | 0.1140 | 0.1400 |
| H   | 0.0016 | 0.0020 | 0.0406 | 0.0508 |
| J   | 0.0023 | 0.0027 | 0.0584 | 0.0686 |

### 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                  |
| $3.2 \times 10^{-13}$ | 3        | 1 | 0   | 0.45     | 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 MS8250 is supplied with a RoHS complaint Gold finish.