

### Dimensions

Size: 26 x 13 mils  
 Thickness: 5 mils  
 Bond Pad Size: 5 x 8 mils

### Features

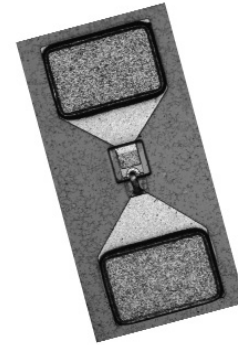
- Capacitance (45 fF Typ.)
- Low Series Resistance (7 Ω Typ.)
- Cut-off Frequency > 500 GHz
- Large Gold Bond Pads

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

- V<sub>F</sub> (1 mA): 600–800 mV
- R<sub>S</sub> (10 mA): 9 Ω Max.
- I<sub>R</sub> (3 V): 10 μA Max.
- C<sub>T</sub> (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 MS8151-P2613 is a GaAs flip chip Schottky diode designed for use as mixer and detector 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.

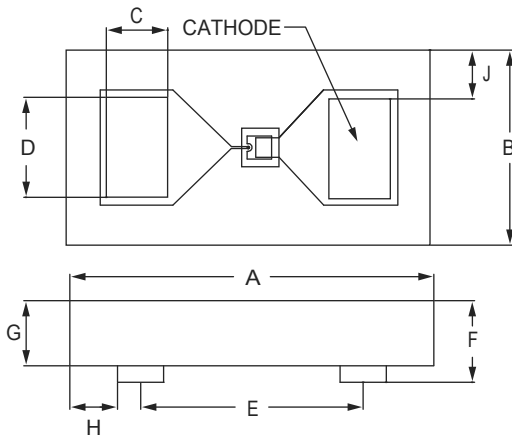
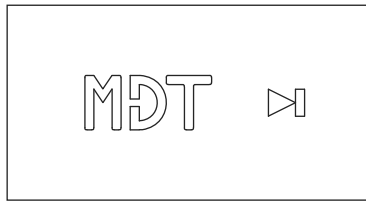
These flip chip devices incorporate Microsemi's expertise in GaAs material processing, silicon nitride protective coatings and high temperature metalization. They have large, 5 x 8 mil, bond pads for ease of insertion. The MS8150-P2613 is priced for high volume commercial and industrial applications.

**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 MS8151 is supplied with a RoHS complaint Gold finish.

**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 <sub>S</sub>          | R <sub>S</sub> | N | TT  | C <sub>J0</sub> | C <sub>P</sub> | M    | EG   | V <sub>J</sub> | BV | IBV                  |
|-------------------------|----------------|---|-----|-----------------|----------------|------|------|----------------|----|----------------------|
| A                       | Ω              |   | Sec | pF              | pF             |      | eV   | V              | V  | A                    |
| 3.2 x 10 <sup>-13</sup> | 7              | 1 | 0   | 0.025           | 0.02           | 0.50 | 1.42 | 0.85           | 4  | 1 x 10 <sup>-5</sup> |