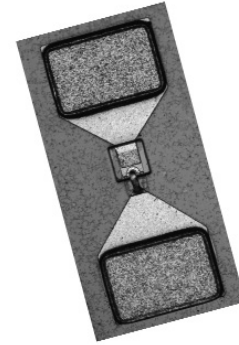


Dimensions

Size: 27.5 x 15 x 5 mils

Features

- High Q GaAs Material
- 1.0 and 1.25 Constant Gamma Varactors
- Low Parasitic Capacitance (0.02 pF)
- Large Gold Bond Pads (3.5 x 8.4 mils)
- Silicon Nitride Protective Coating



Maximum Ratings

| | |
|-----------------------|-----------------|
| Reverse Voltage | 18 V |
| Power Dissipation | 50 mW @ 25°C |
| Operating Temperature | -65°C to +150°C |
| Storage Temperature | -65°C to +150°C |

Description

Microsemi's Flip Chip GaAs Varactors are designed for use as tuning elements in VCOs, modulators and tunable filters at microwave and millimeter wave frequencies.

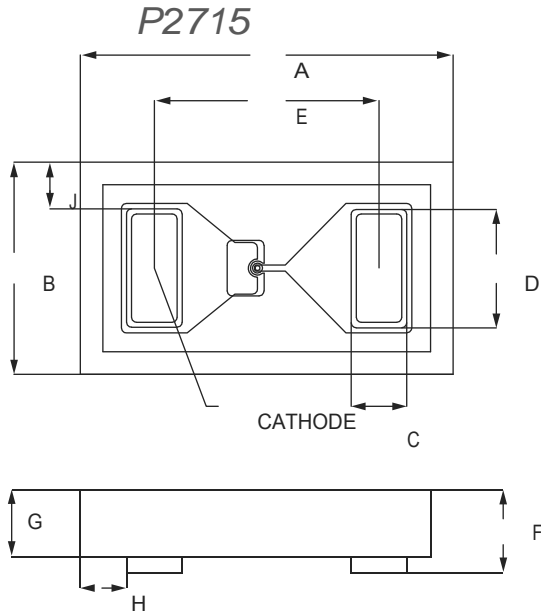
These Flip Chip Varactors incorporate our expertise in GaAs material processing, silicon nitride protective coating and high temperature metallization. This flip chip design maintains the high frequency performance of a beam lead structure in a more rugged configuration.

Specifications @ 25°C

| Part Number | Gamma ±10% | C _T @ 4 V (pF) | C _T @2 V / C _T @12 V | Min. Q @ 4 V 50 MHz | Min. Breakdown Voltage | Max. Reverse Current |
|---------------|------------|---------------------------|--|---------------------|------------------------|----------------------|
| MV39001-P2715 | 1.00 | 0.4–0.6 | 3.3–4.1 | 4000 | 18 V @ 10 μA | 100 nA @ 14.4 V |
| MV39002-P2715 | 1.25 | 0.25–0.4 | 4.3–5.3 | 4000 | 18 V @ 10 μA | 100 nA @ 14.4 V |
| MV39003-P2715 | 1.25 | 0.4–0.6 | 4.5–5.6 | 3500 | 18 V @ 10 μA | 100 nA @ 14.4 V |

SPICE Model Parameters

| I _S (A) | R _S (Ω) | N | C _P (pF) | C _{JO} (pF) | | | m | | | E _G (eV) | V _J (V) | B _V (V) | I _{BV} (A) |
|--------------------|--------------------|-----|---------------------|----------------------|---------|---------|---------|---------|---------|---------------------|--------------------|--------------------|---------------------|
| | | | | MV39001 | MV39002 | MV39003 | MV39001 | MV39002 | MV39003 | | | | |
| 1E-14 A | 0 | 1.0 | 0.02 | 2.0 | 1.8 | 2.8 | 1.0 | 1.25 | 1.25 | 1.42 | 1.2 | 18 | 1E-5 A |



| DIM | INCHES | | MM | |
|-----|--------|--------|-------|-------|
| | MIN. | MAX. | MIN. | MAX. |
| A | 0.0270 | 0.0280 | 0.686 | 0.711 |
| B | 0.0145 | 0.0155 | 0.368 | 0.393 |
| C | 0.0030 | 0.0040 | 0.076 | 0.102 |
| D | 0.0079 | 0.0089 | 0.201 | 0.226 |
| E | 0.0170 | 0.0180 | 0.432 | 0.457 |
| F | 0.0060 | 0.0070 | 0.152 | 0.178 |
| G | 0.0047 | 0.0057 | 0.119 | 0.145 |
| H | 0.0035 | 0.0045 | 0.089 | 0.114 |
| J | 0.0035 | 0.0045 | 0.089 | 0.114 |

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 MV39000 Series of products are supplied with a RoHS compliant Gold finish.