

Varactor Diodes

MTV4090 Series



Chip



H20



CS37



CS75



CS85



DESCRIPTION

The Aeroflex / Metelics MTV4090 Series Tuning Varactors are silicon abrupt junction devices. They offer the highest Q and lowest resistance available in 90 volt tuning devices.

A unique silicon passivation process assures greater stability, reliability, and low leakage currents at higher temperatures.

Features

- Low Series Resistance
- High Q
- Extensive Selection of Capacitance Values

Maximum Ratings

Rating	Limits	Units
Operating Temperature	-55 to +150	°C
Storage Temperature	-65 to +200	°C
Device Dissipation	250	mW
ESD & MSL Ratings	Class 0 (Human Body Model) & MSL1	

Applications

The MTV4090 Series Tuning Varactors are used for both narrow and wide band tuning through X-band. These devices are used in circuits requiring a high Q voltage variable capacitance such as tunable filters and amplifiers, voltage controlled oscillators, frequency synthesizers, and continuous phase shifters. They are also useful as frequency and phase modulators in communications applications.



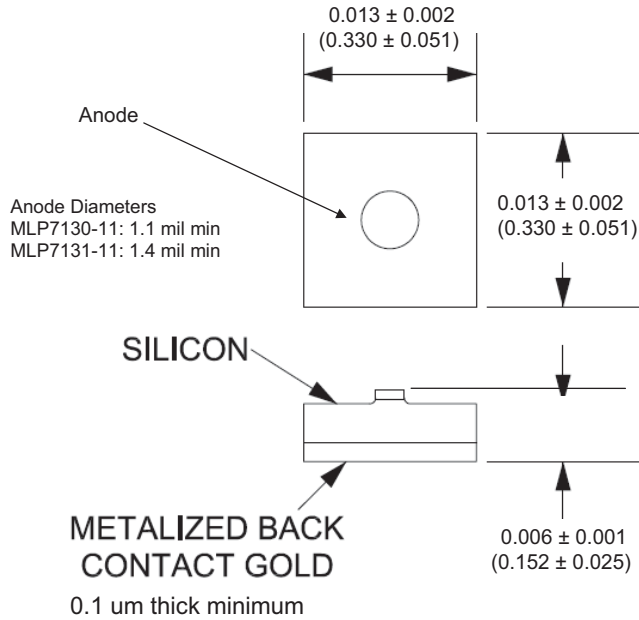
Electrical Characteristics $T_{CASE} = +25\text{ }^{\circ}\text{C}$

Part Number	Reverse Voltage VB $I_R = 10\ \mu\text{A}$	Total Capacitance* CT $V_R = 4\ \text{V}, f = 1\ \text{MHz}$	Capacitance Ratio CR CT0 / CT90	Quality Factor Q $V_R = 4\ \text{V}, f = 50\ \text{MHz}$
	Minimum	Typical	Minimum	Minimum
MTV4090-01	90	0.8	8	100
MTV4090-02	90	1	8	100
MTV4090-03	90	1.2	8	900
MTV4090-04	90	1.4	8	900
MTV4090-05	90	1.6	8	850
MTV4090-06	90	1.8	8	850
MTV4090-07	90	2.2	8	850
MTV4090-08	90	2.7	8	850
MTV4090-09	90	3.3	8	800
MTV4090-10	90	3.6	8	800
MTV4090-11	90	3.9	8	800
MTV4090-12	90	4.7	8	800
MTV4090-13	90	5.6	8	800
MTV4090-14	90	6.8	8	750
MTV4090-15	90	8.2	8	750
MTV4090-16	90	10	8	750

* C_T value given in chip form and will vary depending upon the desired packaging type.

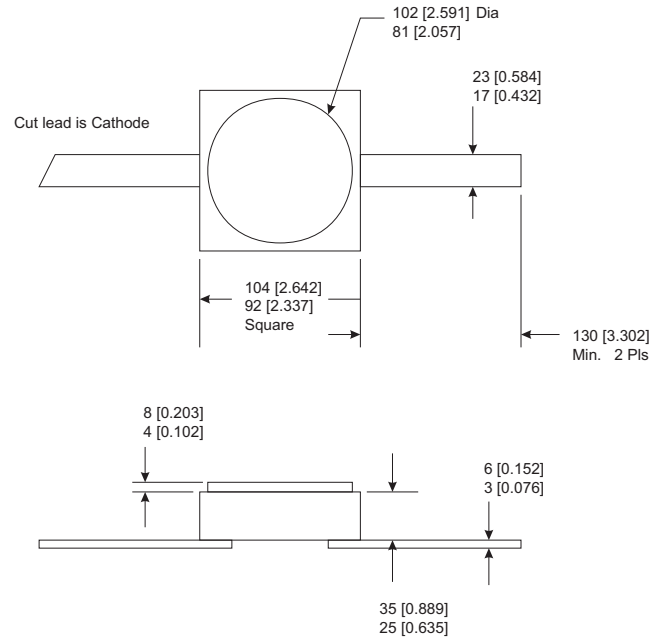
Outline Drawings

CS11 (c11)

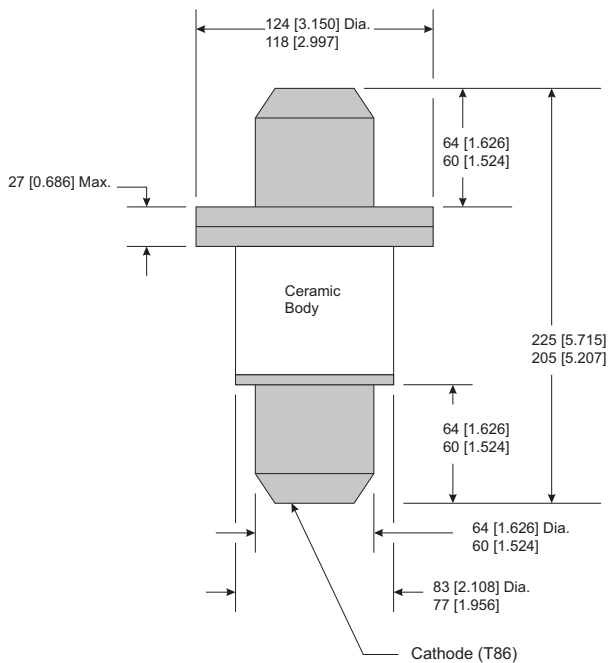


Dimensions are in inches (mm)

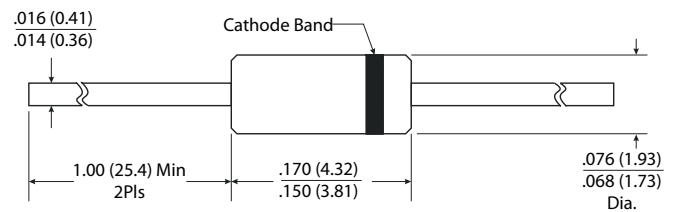
CS20 (H20)



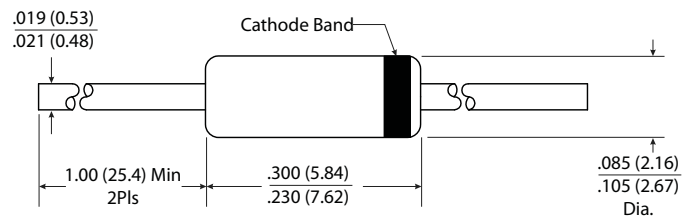
CS37 (T86)



CS75 (A15)



CS85



Note: Dimensions are in inches (mm)

Ordering Information

Example Part: MTV4090-01-XX, replace –XX with desired case style suffix	
-11	CS11 (C11), Silicon Die
-20	H20, Surface Mount, Ceramic Package
-37	CS37 (T86), Pill Package, Ceramic Body
-75	CS75 (A15), Glass Axial Leaded (Hermetic)
-85	CS85, Glass Axial Leaded

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