

Tuning Varactors: MTV 4030 Series

30-Volt Abrupt Tuning Varactors

Description

The **MicroMetrics** MTV 4030 series Tuning Varactors are silicon abrupt junction devices. They offer the highest Q and lowest resistance available in 30 volt tuning diodes.

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

Applications

The MTV 4030 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.

Standard capacitance tolerance is $\pm 10\%$. Diodes can be optimized for custom electrical or mechanical specifications upon request.

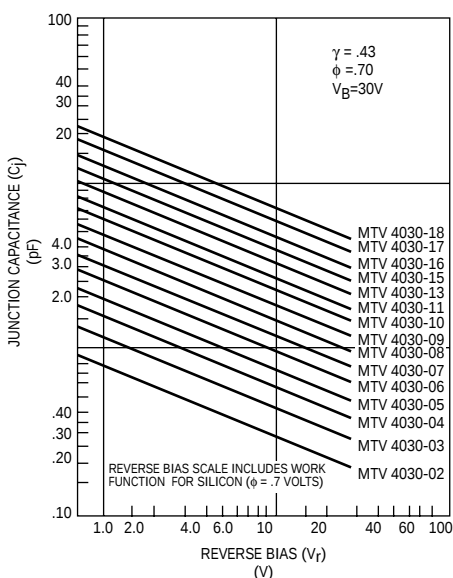
Features

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

Packaging

- Available in a Wide Range of Case Styles as well as Chip Form

Typical Performance



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Electrical Characteristics

Total Capacitance, C_t^1 at -4V, 1 MHz (pF)	Capacitance Ratio C_{t0}/C_{t30} MIN	Quality Factor, Q^2 at -4V, 50 MHz MIN	Part Number
0.4	5.0	5000	MTV4030-01
0.6	5.0	5000	MTV4030-02
0.8	5.0	4800	MTV4030-03
1.0	5.0	4800	MTV4030-04
1.2	5.0	4600	MTV4030-05
1.4	5.0	4400	MTV4030-06
1.6	5.0	4400	MTV4030-07
1.8	5.0	4200	MTV4030-08
2.2	5.0	4000	MTV4030-09
2.7	5.0	3800	MTV4030-10
3.3	5.0	3600	MTV4030-11
3.6	5.0	3400	MTV4030-12
3.9	5.0	3400	MTV4030-13
4.7	5.0	3200	MTV4030-14
5.6	5.0	3000	MTV4030-15
6.8	5.0	2800	MTV4030-16
8.2	5.0	2600	MTV4030-17
10.0	5.0	2400	MTV4030-18
12.0	5.0	2200	MTV4030-19
15.0	5.0	2000	MTV4030-20
18.0	5.0	1800	MTV4030-21
22.0	5.0	1600	MTV4030-22
27.0	5.0	1400	MTV4030-23
33.0	5.0	1400	MTV4030-24
39.0	5.0	1200	MTV4030-25
47.0	5.0	1000	MTV4030-26

Notes:

1. Capacitance tolerance is $\pm 10\%$ except for $\pm 20\%$ for suffix number 01, 02, and 03.
2. Q specified $V_r = 4V$, 50 MHz equivalent from 1 GHz or 100 MHz measurement.

Maximum Ratings

Parameter	Symbol	Value	Units
Operating Temperature	T_{op}	-55 to + 150	$^{\circ}C$
Storage Temperature Range	T_{stg}	-65 to + 200	$^{\circ}C$
Reverse Voltage	V_r	30	Volts
Device Dissipation at $T_A = 25^{\circ}C$		250	mW

