KV2111 – KV2161

VARACTOR DIODES
Microwave Hyperabrupt Junction

RoHS Compliant e4 RoHS

DESCRIPTION

The KV2100 series of microwave hyperabrupt varactor diodes offers octave tuning through 8 GHz. High reliability passivated construction, insures excellent VCO settling time and post tuning drift characteristics. As with their UHF counterparts, straight-line tuning can be achieved over a mid voltage bias range. They are available in a wide range of package styles and configurations including matched sets with tighter tolerances. As is the case with all microwave applications, chip devices (style 00) are recommended for best wide bandwidth and highest frequency performance. When ordering specify the desired case style by adding its number as a suffix to the basic model number. Some limitations apply. Consult factory for details.

KEY FEATURES

- Available as packaged devices or as chips for hybrid applications
- Octave Tuning Range
- Ultrahigh Q
- Available With 5% C_T Tolerance

APPLICATIONS

Ultrahigh Q and excellent large signal handling capabilities, along with a greater than 4 to 1 capacitance ratio, is obtained by tuning from 4 to 20 volts of reverse bias.

These products are ideal for linear, wide deviation tuning of VCXO/TCXO'S and frequency modulators results when these diodes are tuned over a 3 to 8 volt bias range.

APPLICATIONS/BENEFITS

- HV-VHF VCXO & TCXO Applications
- Frequency Modulators

ABSOLUTE MAXIMUM RATINGS AT 25º C (UNLESS OTHERWISE SPECIFIED)

Rating	Symbol	Value	Unit
Maximum Working Voltage	V_R	22	V
Storage Temperature	T_{STG}	-65 to +150	ºC
Operating Temperature	T_{OP}	-55 to +150	ºC

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] Unless otherwise specified, these products are supplied with Gold terminations suitable for RoHS compliant assembly.

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MICROWAVE HYPERABRUPT VARACTORS

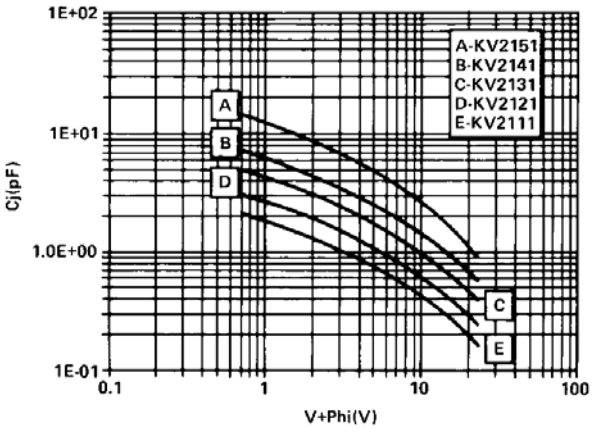
ELECTRICAL PARAMETERS @ 25°C (unless otherwise specified)

MODEL NUMBER	C_J (pF) f = 1 MHz Min / Typ / Max			Capacitance Ratio Typ.	Quality Factor [1] Min
	V_R = 0V (typ)	V_R = 4V	V_R = 20V	C(-4V) / C(-20V)	Q @ -4V f = 50MHz
KV2111-00	2.1	0.70 / 0.80 / 0.90	0.15 / 0.20 / 0.25	4.0	1200
KV2121-00	3.1	1.15 / 1.3 / 1.45	0.25 / 0.30 / 0.35	4.3	1000
KV2131-00	4.9	1.6 / 1.8 / 2.0	0.35 / 0.42 / 0.50	4.3	850
KV2141-00	7.2	2.5 / 2.8 / 3.1	0.50 / 0.60 / 0.70	4.7	700
KV2151-00	14.0	4.3 / 4.8 / 5.3	0.80 / 0.95 / 1.10	5.0	600
KV2161-00	26.0	8.6 / 9.6 / 10.6	1.7 / 1.9 / 2.3	5.1	400

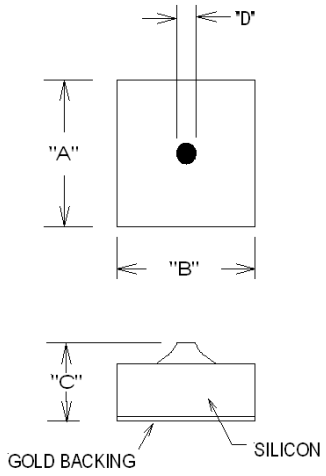
Notes

1) Q is determined at V_R= 4V, f=50 MHz by $1/2\pi fRsCj$

CJ VS VOLTAGE



PACKAGE STYLE 00



Dimension	Nominal
A	0.015”
B	0.015”
C	0.007”
D	Depends on Part# Consult Factory for Details

Microsemi offers a wide selection of package options depending on your circuit application. Please consult the factory for assistance.

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