MPV1965 & MPV2100

VARACTOR DIODES

Surface Mount MMSM® Varactors

RoHS Compliant e4

DESCRIPTION

The MPV series of surface mount Varactor diodes utilizes a unique new monolithic fabrication technology. This technology employs package / device integration accomplished at the wafer fabrication level. Since the cathode and anode interconnections utilize precision photolithographic techniques rather than wire bonds, parasitic package inductance is minimized and tightly controlled.

The package parasitics provide smooth non-resonant functionality through 8 GHz. These devices are available in tape and reel format as well as in expanded sawed wafers on Mylar film frames for low cost automatic insertion.

This series of diodes meets RoHS requirements per EU Directive 2002/95/EC. Consult the factory for details.

KEY FEATURES

- Tape and Reeled for Automatic Assembly
- Low Series Inductance (<0.2nH typical)
- Low Parasitic Capacitance (0.06 pf typical)
- Meets All Commercial Qualification Requirements
- 0204 Outline
- RoHS Compliant [1]

APPLICATIONS

MPV1965 is an ideal choice for low voltage and battery powered microwave VCOs, VCXO's, voltage variable filters, and analog phase shifters.

MPV2100 is an ideal choice for wide bandwidth, low noise linear VCOs through 8 GHz. It is also ideal for microwave voltage variable filters and analog phase shifters.

APPLICATIONS/BENEFITS

- Low voltage VCOs
- Wide bandwidth VCOs
- VCXO's
- Linear VCOs
- Low noise VCOs
- Tunable Filter
- Tiny surface mount footprintUltra tight parametric distribution

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

Rating	Symbol	Value	Unit
Maximum Working Voltage – MPV1965	V_R	15	V
Maximum Working Voltage – MPV2100	V_R	22	V
Storage Temperature	T_{STG}	-55 to +125	°C
Operating Temperature	T_{OP}	-55 to +125	°C



IMPORTANT: For the most current data, consult our website: ***www.MICROSEMI.com***

Specifications 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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MMSM Varactors for Low Voltage VCOs

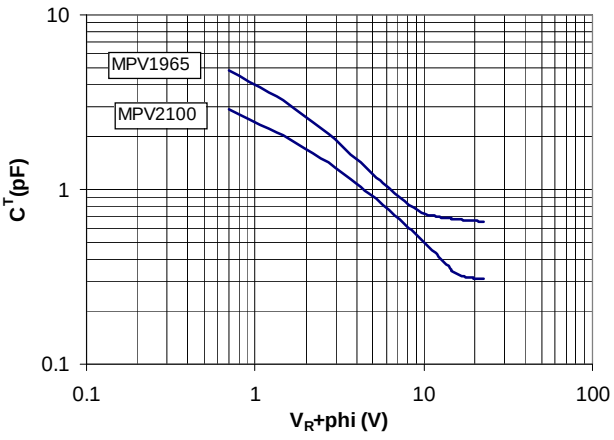
ELECTRICAL PARAMETERS @ 25°C (unless otherwise specified)					
MODEL NUMBER	**V_B (V)** I_R = 10uA (Min)	**C_T (pF)[1]** V_R = 1V (Min – Max)	**Ratio** $C_{T(-1V)}$ / $C_{T(-3V)}$ (Min – Max)	**Ratio** $C_{T(-1V)}$ / $C_{T(-6V)}$ (Min – Max)	**Q [2]** V_R=4V (Min)
MPV1965	15	2.6 – 3.8	1.4 – 2.2	2.6 – 3.6	1500

MMSM Varactors for Wide Bandwidth VCOs

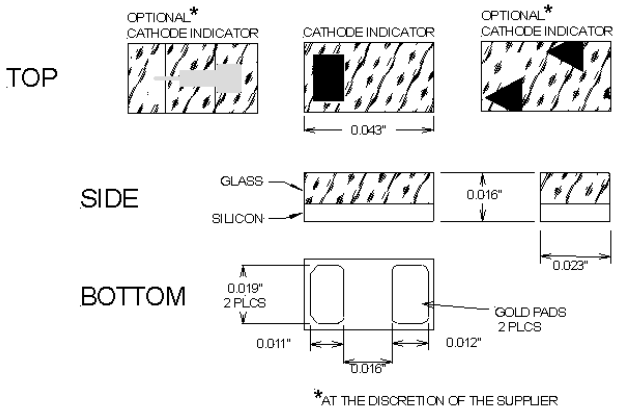
ELECTRICAL PARAMETERS @ 25°C (unless otherwise specified)					
MODEL NUMBER	**V_B (V)** I_R = 10uA (Min)	**C_T (pF)[1]** V_R = 4V (Min – Max)	**C_T (pF)[1]** V_R = 20V (Min – Max)	**Ratio** $C_{T(0V)}$ / $C_{T(-20V)}$ (Typ.)	**Q [2]** V_R=4V (Min)
MPV2100	22	0.9 – 1.5	0.2 – 0.5	10	1500

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

TYPICAL CT VS VOLTAGE



PACKAGE STYLE 206



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