VARIABLE CAPACITANCE DIODE

FEATURES

- **Excellent Linearity (CV Curve)**
- **Large Capacitance Ratio (A = 2.10 minimum) with Low Series Resistance**
- **Two Diodes in a 3 Lead Through-Hole Discrete Package**
- **Very Small Capacitance Deviation at Tape/Reel**

APPLICATIONS

- **FM Radio**
- **Voltage Controlled Oscillator**

DESCRIPTION

The KV1300NT variable capacitance diode was specially developed for use as FM tuning elements in car radios, radio cassettes, and other consumer radios. Single package construction includes an antenna and oscillating tuning element.

The KV1300NT is available in a TO92-3 package.

CLASSIFICATION

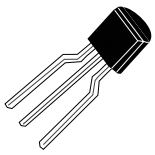
(Unit: pF)

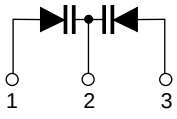
C \ RANK		1	2	3	4	5
C_2	MIN	69.13	71.08	73.09	75.15	77.27
	MAX	71.23	73.24	75.30	77.43	79.61

ORDERING INFORMATION
KV1300NT

Note: The KV1300NT is supplied on folded paper tape (25 pieces per fold) 1500 pcs per box.

KV1300NT





ABSOLUTE MAXIMUM RATINGS

Reverse Voltage 18V
Forward Current ..... 50 mA
Power Dissipation ..... 100 mW
Storage Temperature Range ..... -55 to +150 °C
Operating Temperature Range ..... -55 to +85 °C

ELECTRICAL CHARACTERISTICS

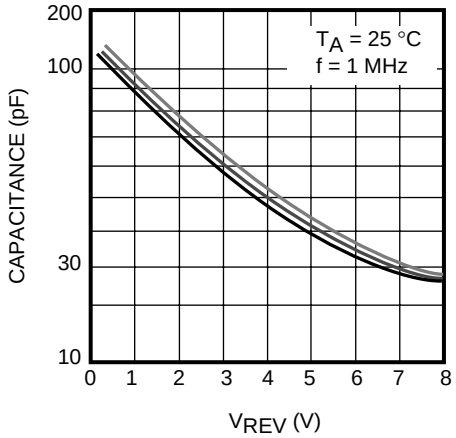
Test conditions: T_A = 25 °C

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_{REV}	Reverse Voltage	I_{REV} = 10 μA	17			V
I_{REV}	Reverse Current	V_{REV} = 15.0 V			10	nA
C_2	Diode Capacitance 2	V_{REV} = 2.0 V, f = 1 MHz	69.13	74.37	79.61	pF
C_3	Diode Capacitance 3	V_{REV} = 3.0 V, f = 1 MHz	57.71		64.63	pF
C_6	Diode Capacitance 6	V_{REV} = 6.0 V, f = 1 MHz	33.56		39.18	pF
C_8	Diode Capacitance 8	V_{REV} = 8.0 V, f = 1 MHz	23.38		27.29	pF
R_S	Series Resistance	V_{REV} = 3.0 V, f = 100 MHz		0.3	0.5	Ω
A	Capacitance Ratio	C_3 / C_8	2.10	2.35	2.60	

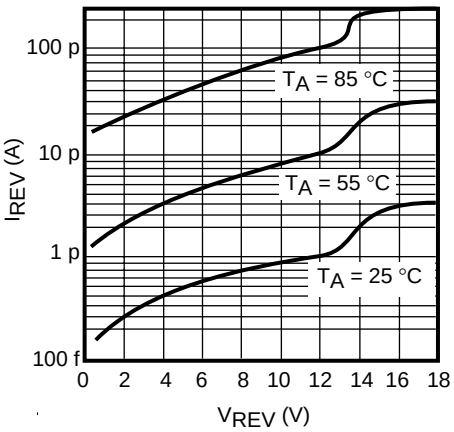
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms, ± 5 mVrms).
Note 2: Series Resistance measured with HP 4191A or equivalent instruments.
Note 3: The tolerance of two adjacent parts on a reel is within 3% at C2, C3, C6, and C8.

TYPICAL PERFORMANCE CHARACTERISTICS

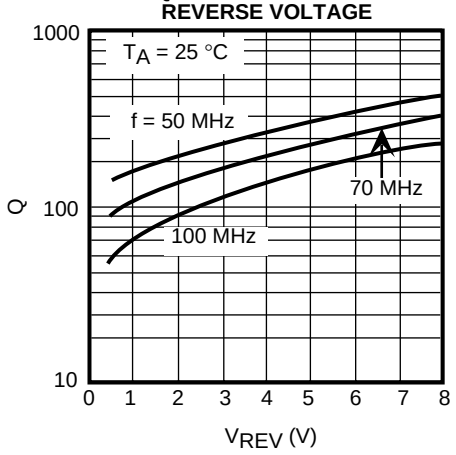
CAPACITANCE vs. REVERSE VOLTAGE



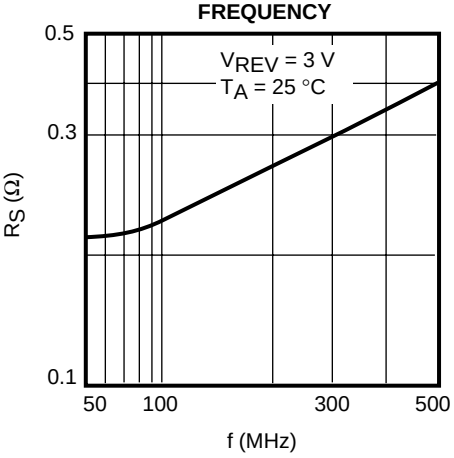
REVERSE CURRENT vs. REVERSE VOLTAGE



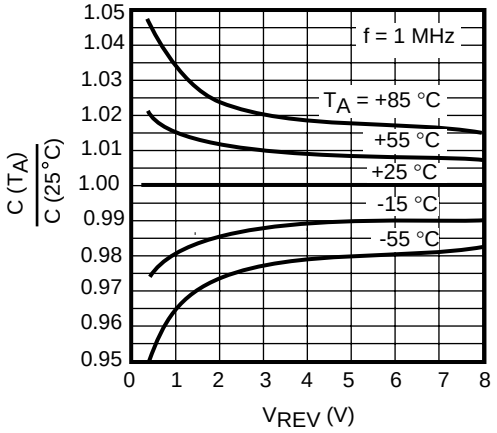
QUALITY FACTOR vs. REVERSE VOLTAGE



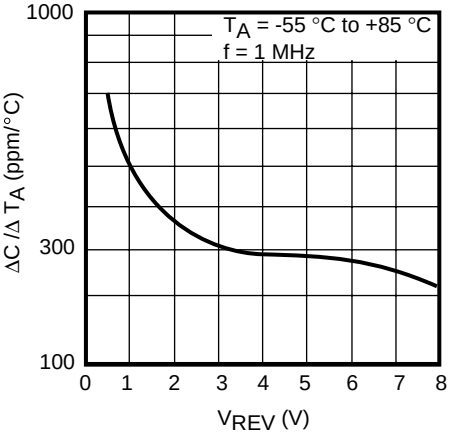
SERIES RESISTANCE vs. FREQUENCY



$\frac{C\ (T_A)}{C\ (25\ °C)}$ vs. REVERSE VOLTAGE

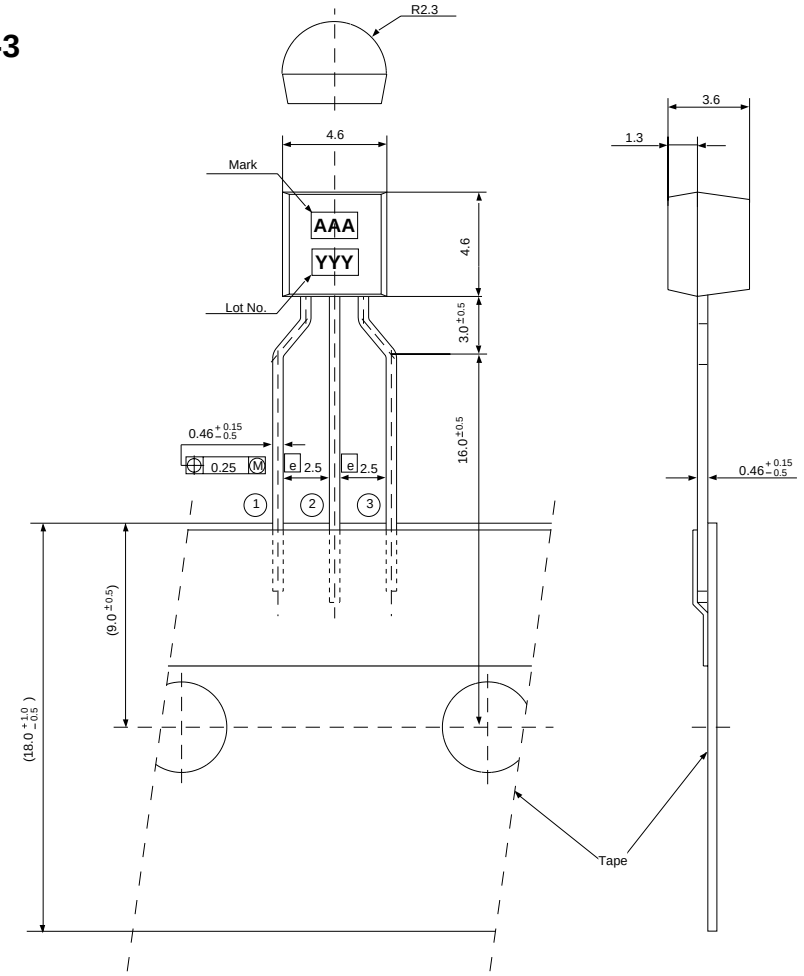


TEMPERATURE COEFFICIENT vs. REVERSE VOLTAGE



PACKAGE OUTLINE

T092-3



Dimensions are shown in millimeters
Tolerance: x.x = ± 0.2 mm (unless otherwise specified)

Marking Information

Product Code 300

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