VARIABLE CAPACITANCE DIODE

FEATURES

- **Excellent Linearity (CV Curve)**
- **Large Capacitance Ratio (A = 3.70 minimum) with Low Series Resistance**
- **Two Diodes in a 3 Lead Through-Hole Discrete Package (TO92-3)**
- **Very Small Capacitance Deviation at Tape/Reel**

APPLICATIONS

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

DESCRIPTION

The KV1330NT variable capacitance diode was specially made to be used as tuning elements in car radios, radio cassettes, stereos, and other consumer radios. The KV1330NT is suitable for wide band tuning from 76 to 108 MHz.

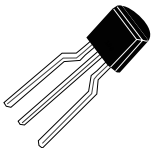
If the KV1330NT is used only for FM reception, it is possible to operate it at 4.5 V so it is very useful in lowering the power demands of the set.

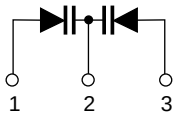
CLASSIFICATION

(Unit: pF)

C \ RANK		1	2	3	4
C_2	MIN	69.14	71.09	73.09	75.15
	MAX	71.23	73.24	75.31	77.43

KV1330NT





ORDERING INFORMATION
KV1330NT

Note: The KV1330NT is supplied on folded paper tape (25 pieces per fold) 1500 pcs per box.

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

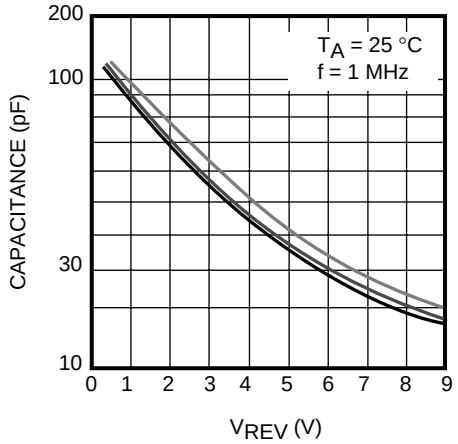
Test conditions: T_A = 25 °C

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_{REV}	Reverse Voltage	I_{REV} = 10 µA	16			V
I_{REV}	Reverse Current	V_{REV} = 10.0 V			100	nA
C_2	Diode Capacitance 2	V_{REV} = 2.0 V, f = 1 MHz	69.14		77.43	pF
C_4	Diode Capacitance 4	V_{REV} = 4.0 V, f = 1 MHz	43.09		56.24	pF
C_6	Diode Capacitance 6	V_{REV} = 6.0 V, f = 1 MHz	25.05		34.57	pF
C_9	Diode Capacitance 9	V_{REV} = 9.0 V, f = 1 MHz	15.44		20.10	pF
R_S	Series Resistance	V_{REV} = 2.0 V, f = 70 MHz			0.5	Ω
A	Capacitance Ratio	C_2 / C_9	3.70		5.00	

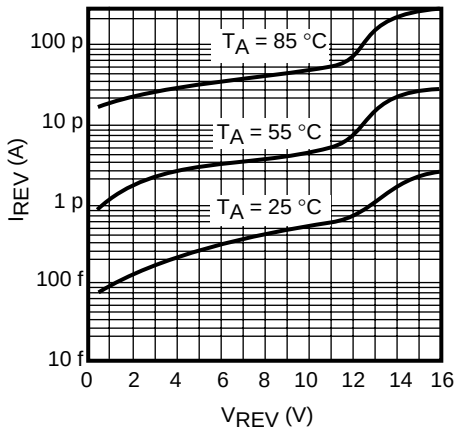
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms, ± 5 mVrms).
Note 2: Series Resistance measured with HP 4191A or equivalent instruments.
Note 3: The tolerance of two adjacent parts on a reel is within 3% at C2, C3, C6, and C9.

TYPICAL PERFORMANCE CHARACTERISTICS

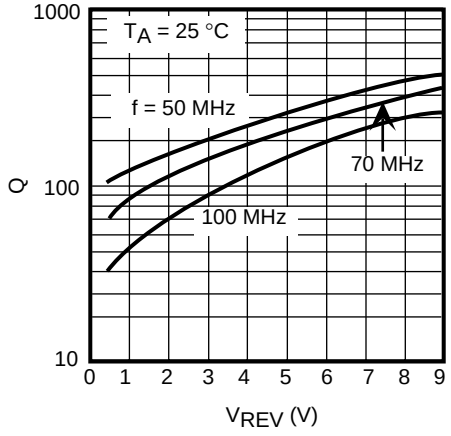
CAPACITANCE vs. REVERSE VOLTAGE



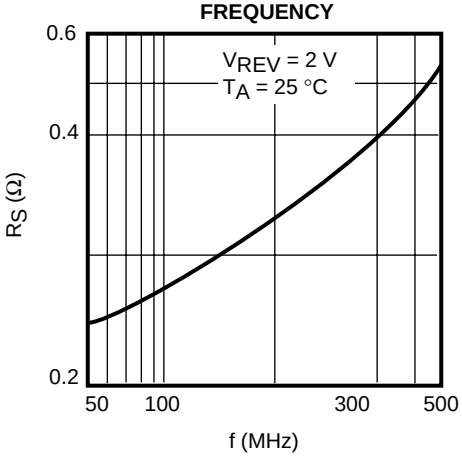
REVERSE CURRENT vs. REVERSE VOLTAGE



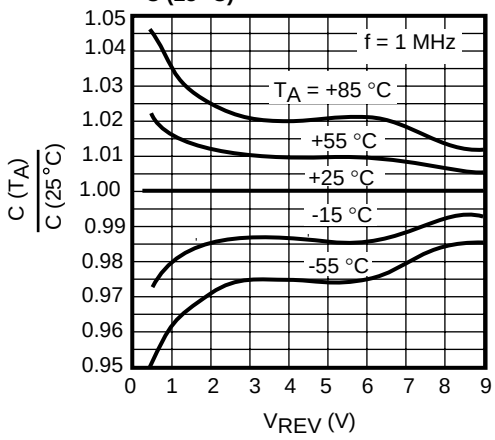
QUALITY FACTOR vs. REVERSE VOLTAGE



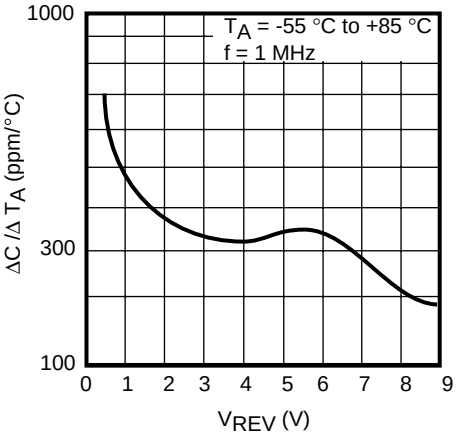
SERIES RESISTANCE vs. FREQUENCY



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

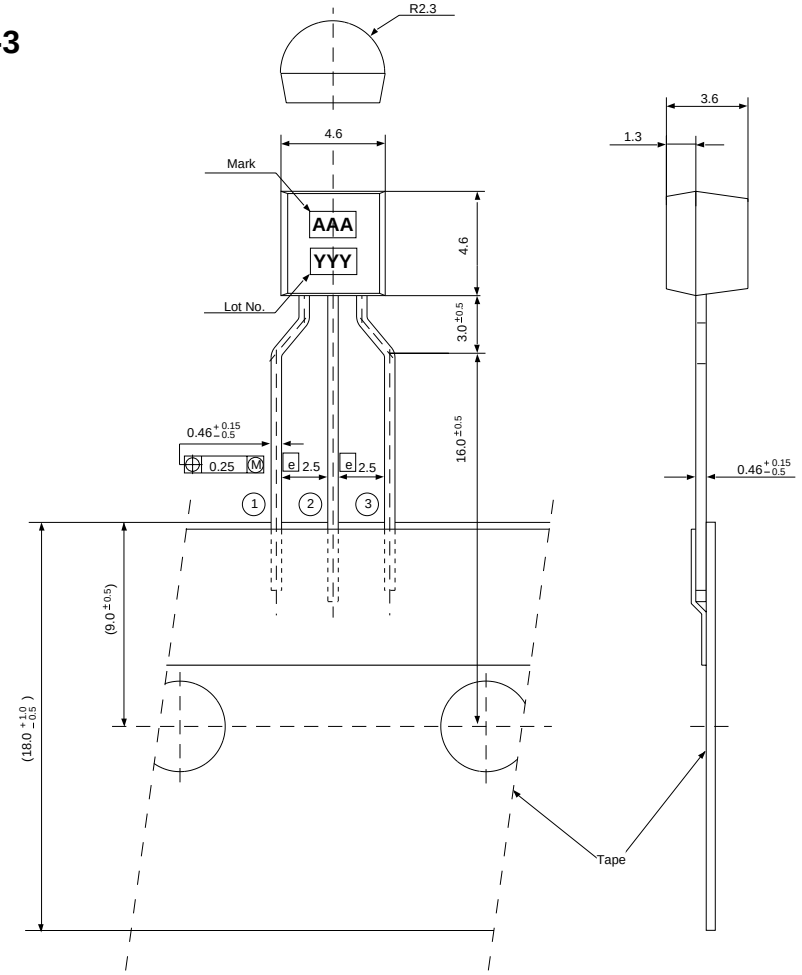


TEMPERATURE COEFFICIENT vs. REVERSE VOLTAGE



PACKAGE OUTLINE

T092-3



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

Marking Information

Product Code	330

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