

### 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

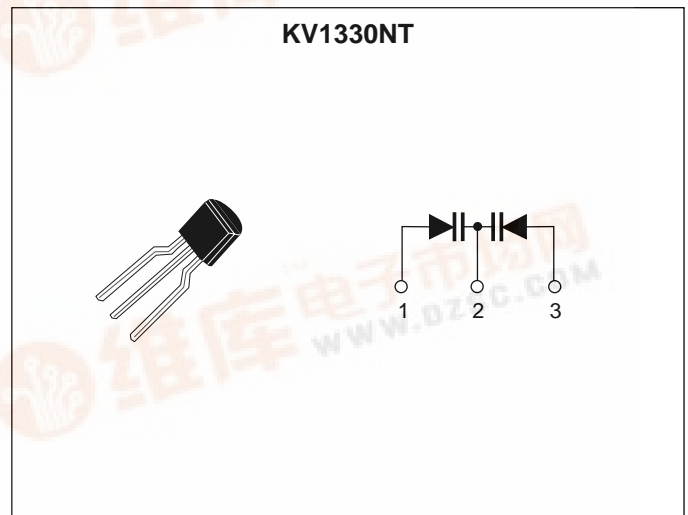
(Unit: pF)

C	RANK	1	2	3	4
	C <sub>2</sub>	MIN	69.14	71.09	73.09
MAX		71.23	73.24	75.31	77.43

#### ORDERING INFORMATION

KV1330NT

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



# KV1330NT

## ABSOLUTE MAXIMUM RATINGS

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

## ELECTRICAL CHARACTERISTICS

Test conditions:  $T_A = 25\text{ °C}$

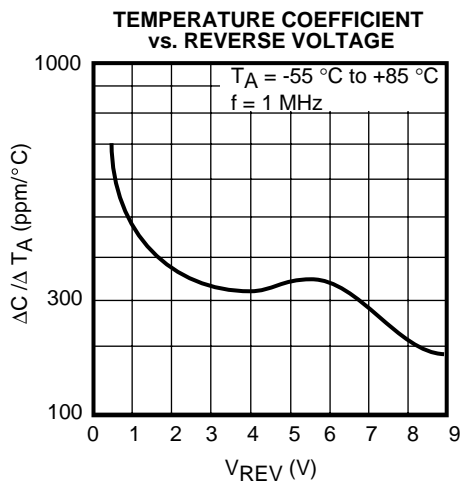
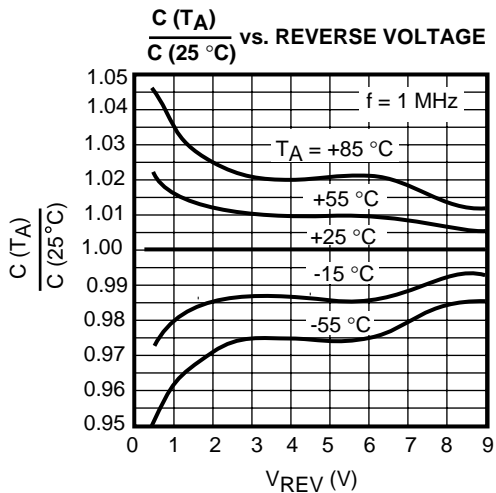
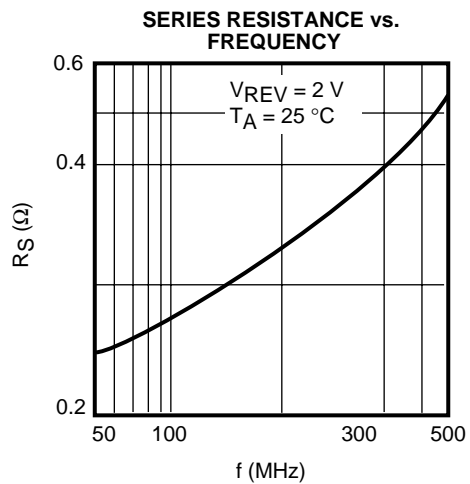
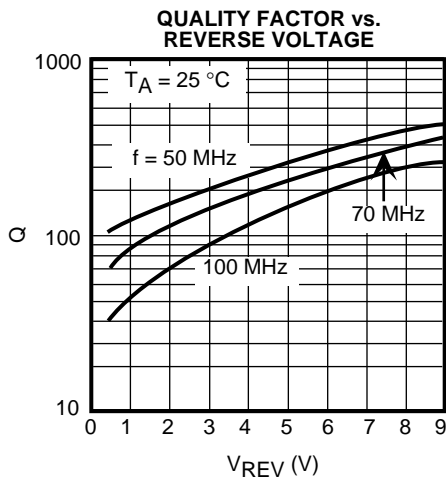
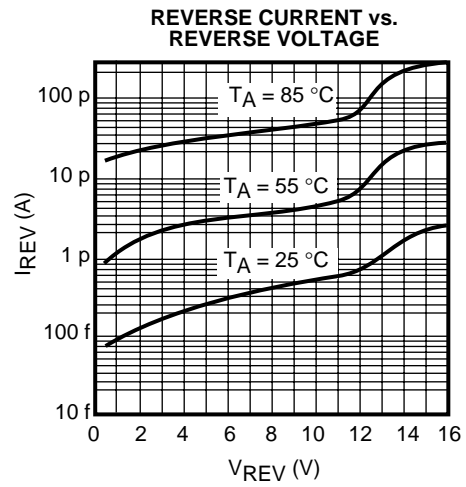
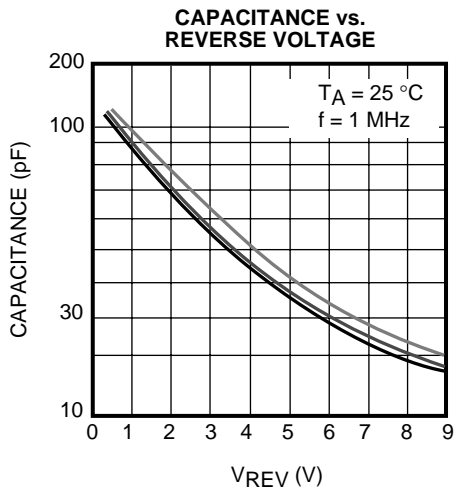
SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_{REV}$	Reverse Voltage	$I_{REV} = 10\ \mu\text{A}$	16			V
$I_{REV}$	Reverse Current	$V_{REV} = 10.0\ \text{V}$			100	nA
$C_2$	Diode Capacitance 2	$V_{REV} = 2.0\ \text{V}, f = 1\ \text{MHz}$	69.14		77.43	pF
$C_4$	Diode Capacitance 4	$V_{REV} = 4.0\ \text{V}, f = 1\ \text{MHz}$	43.09		56.24	pF
$C_6$	Diode Capacitance 6	$V_{REV} = 6.0\ \text{V}, f = 1\ \text{MHz}$	25.05		34.57	pF
$C_9$	Diode Capacitance 9	$V_{REV} = 9.0\ \text{V}, f = 1\ \text{MHz}$	15.44		20.10	pF
$R_s$	Series Resistance	$V_{REV} = 2.0\ \text{V}, f = 70\ \text{MHz}$			0.5	$\Omega$
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,  $\pm 5\ \text{mVrms}$ ).

Note 2: Series Resistance measured with HP 4191A or equivalent instruments.

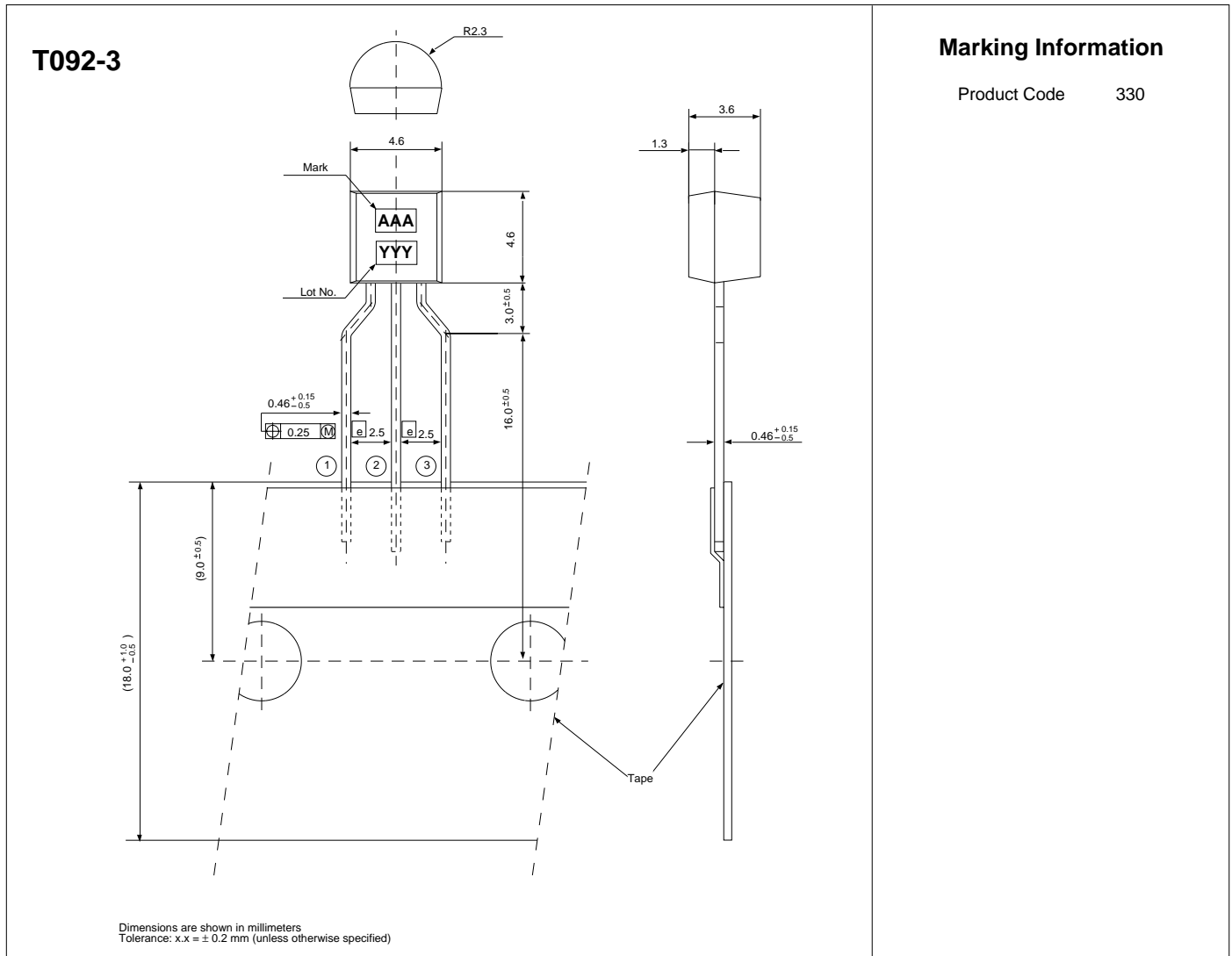
Note 3: The tolerance of two adjacent parts on a reel is within 3% at C2, C3, C6, and C9.

TYPICAL PERFORMANCE CHARACTERISTICS



# KV1330NT

## PACKAGE OUTLINE



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