

## 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

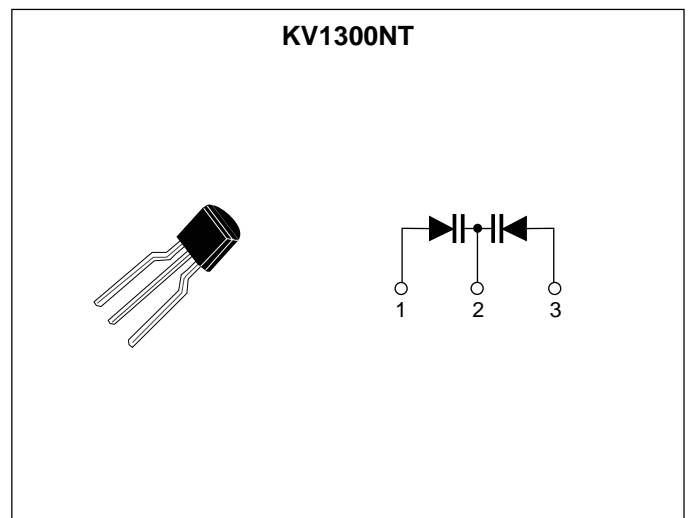
(Unit: pF)

C		RANK				
		1	2	3	4	5
C <sub>2</sub>	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      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:  $T_A = 25\text{ °C}$

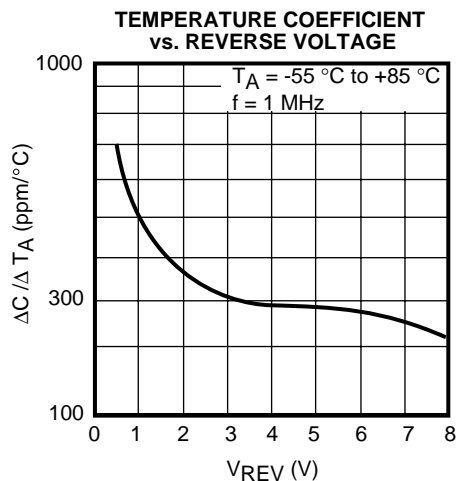
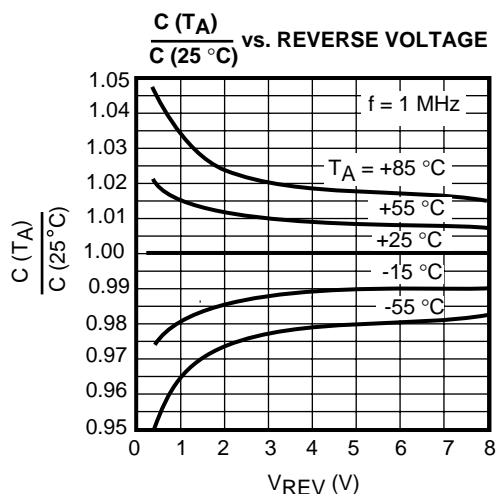
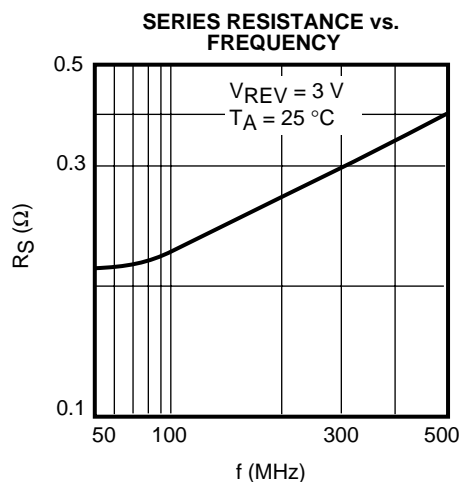
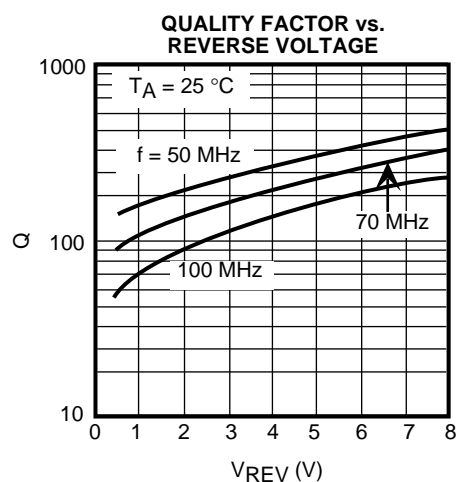
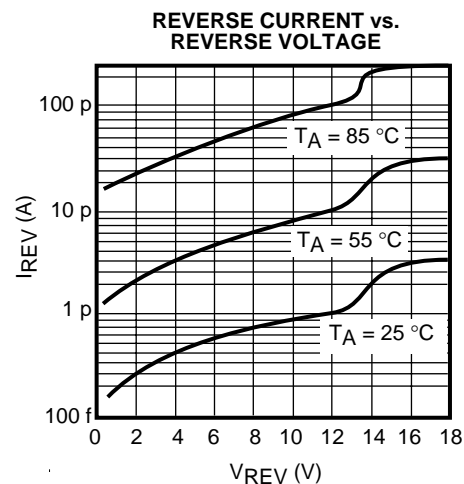
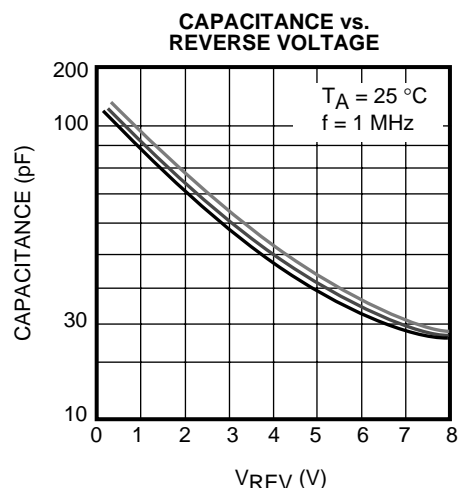
SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_{REV}$	Reverse Voltage	$I_{REV} = 10\ \mu\text{A}$	17			V
$I_{REV}$	Reverse Current	$V_{REV} = 15.0\ \text{V}$			10	nA
$C_2$	Diode Capacitance 2	$V_{REV} = 2.0\ \text{V}, f = 1\ \text{MHz}$	69.13	74.37	79.61	pF
$C_3$	Diode Capacitance 3	$V_{REV} = 3.0\ \text{V}, f = 1\ \text{MHz}$	57.71		64.63	pF
$C_6$	Diode Capacitance 6	$V_{REV} = 6.0\ \text{V}, f = 1\ \text{MHz}$	33.56		39.18	pF
$C_8$	Diode Capacitance 8	$V_{REV} = 8.0\ \text{V}, f = 1\ \text{MHz}$	23.38		27.29	pF
$R_s$	Series Resistance	$V_{REV} = 3.0\ \text{V}, f = 100\ \text{MHz}$		0.3	0.5	$\Omega$
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,  $\pm 5\ \text{mVrms}$ ).

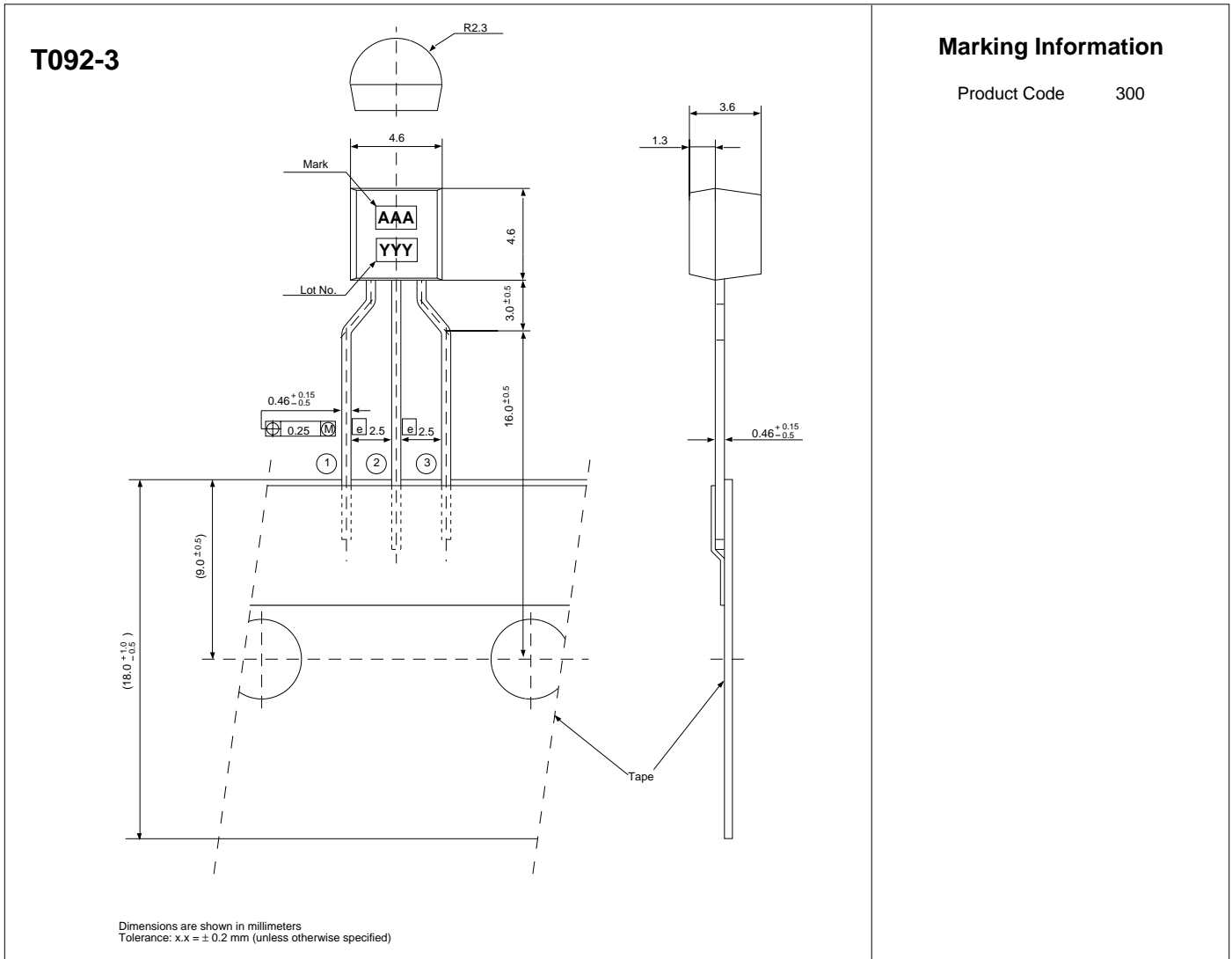
Note 2: Series Resistance measured with HP 4191A or equivalent instruments.

Note 3: The tolerance of two adjacent parts on a reel is within 3% at C2, C3, C6, and C8.

## TYPICAL PERFORMANCE CHARACTERISTICS



## PACKAGE OUTLINE



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