

## VARIABLE CAPACITANCE DIODE

### FEATURES

- Very Low Operating Voltage
- Excellent Linearity (CV Curve)
- Large Capacitance Ratio (A = 2.20 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 KV1310NT variable capacitance diode was specially developed for use as tuning elements in car radios, radio cassettes, and other consumer radios.

The KV1310NT minimizes cross modulation; thus allowing good signal-to-noise ratio in the overall design.

The KV1310NT is available in a TO92-3 package.

### CLASSIFICATION

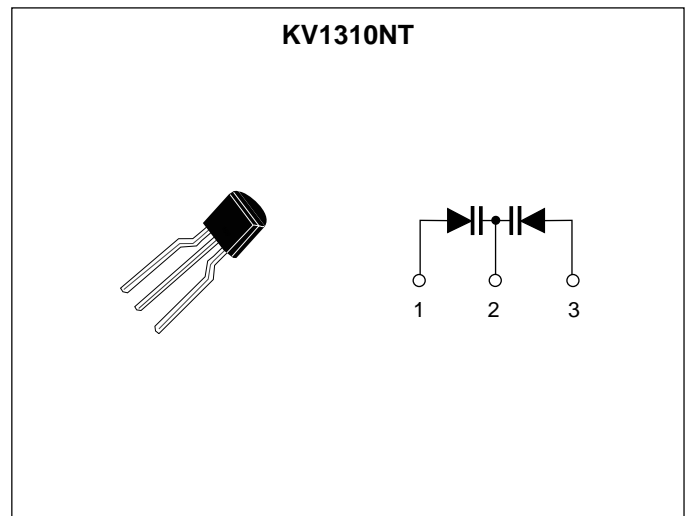
(Unit: pF)

C		RANK			
		1	2	3	4
C <sub>2</sub>	MIN	41.33	42.49	43.69	44.92
	MAX	42.59	43.79	45.02	46.29

### ORDERING INFORMATION

KV1310NT

Note: The KV1310NT is supplied on folded paper tape (25 pieces per fold) 1500 pcs per box.



# KV1310NT

## 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:  $T_A = 25\text{ °C}$

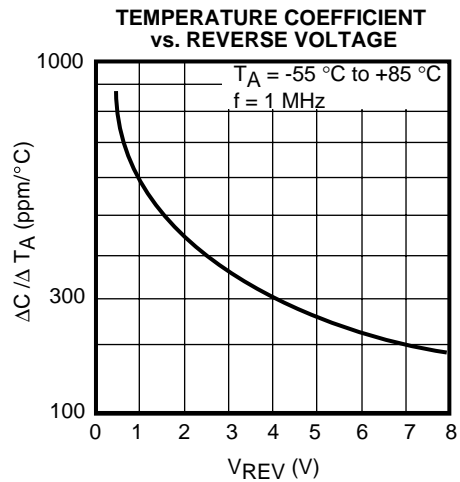
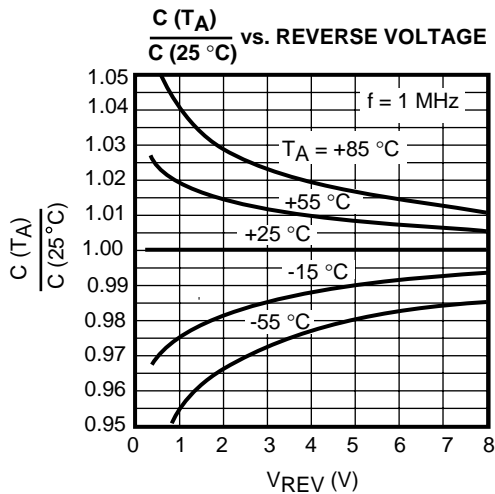
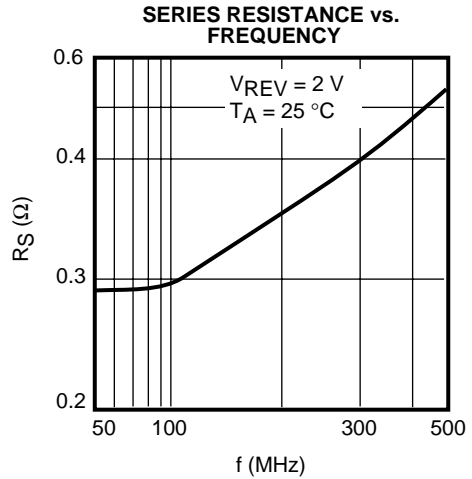
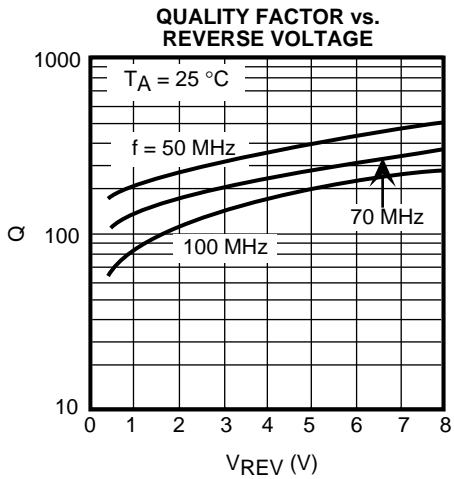
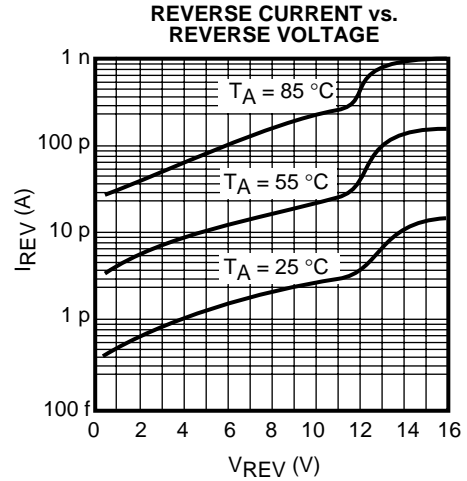
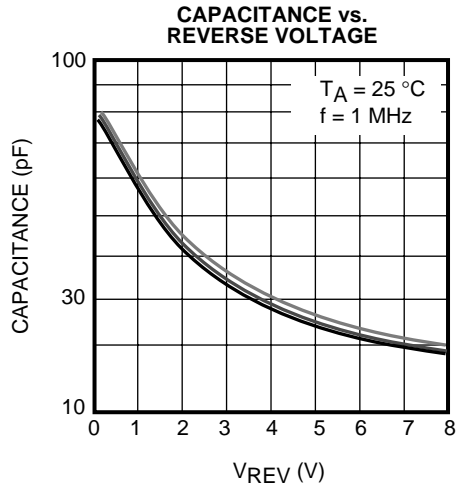
SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_{REV}$	Reverse Voltage	$I_{REV} = 10\ \mu\text{A}$	16			V
$I_{REV}$	Reverse Current	$V_{REV} = 10.0\ \text{V}$			100	nA
$C_2$	Diode Capacitance 2	$V_{REV} = 2.0\ \text{V}, f = 1\ \text{MHz}$	41.33		46.29	pF
$C_4$	Diode Capacitance 4	$V_{REV} = 4.0\ \text{V}, f = 1\ \text{MHz}$	26.49		35.06	pF
$C_6$	Diode Capacitance 6	$V_{REV} = 6.0\ \text{V}, f = 1\ \text{MHz}$	19.24		25.46	pF
$C_8$	Diode Capacitance 8	$V_{REV} = 8.0\ \text{V}, f = 1\ \text{MHz}$	16.05		21.25	pF
$R_s$	Series Resistance	$V_{REV} = 2.0\ \text{V}, f = 70\ \text{MHz}$			0.5	$\Omega$
A	Capacitance Ratio	$C_2 / C_8$	2.20		2.42	

Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms,  $\pm 5\ \text{mVrms}$ ).

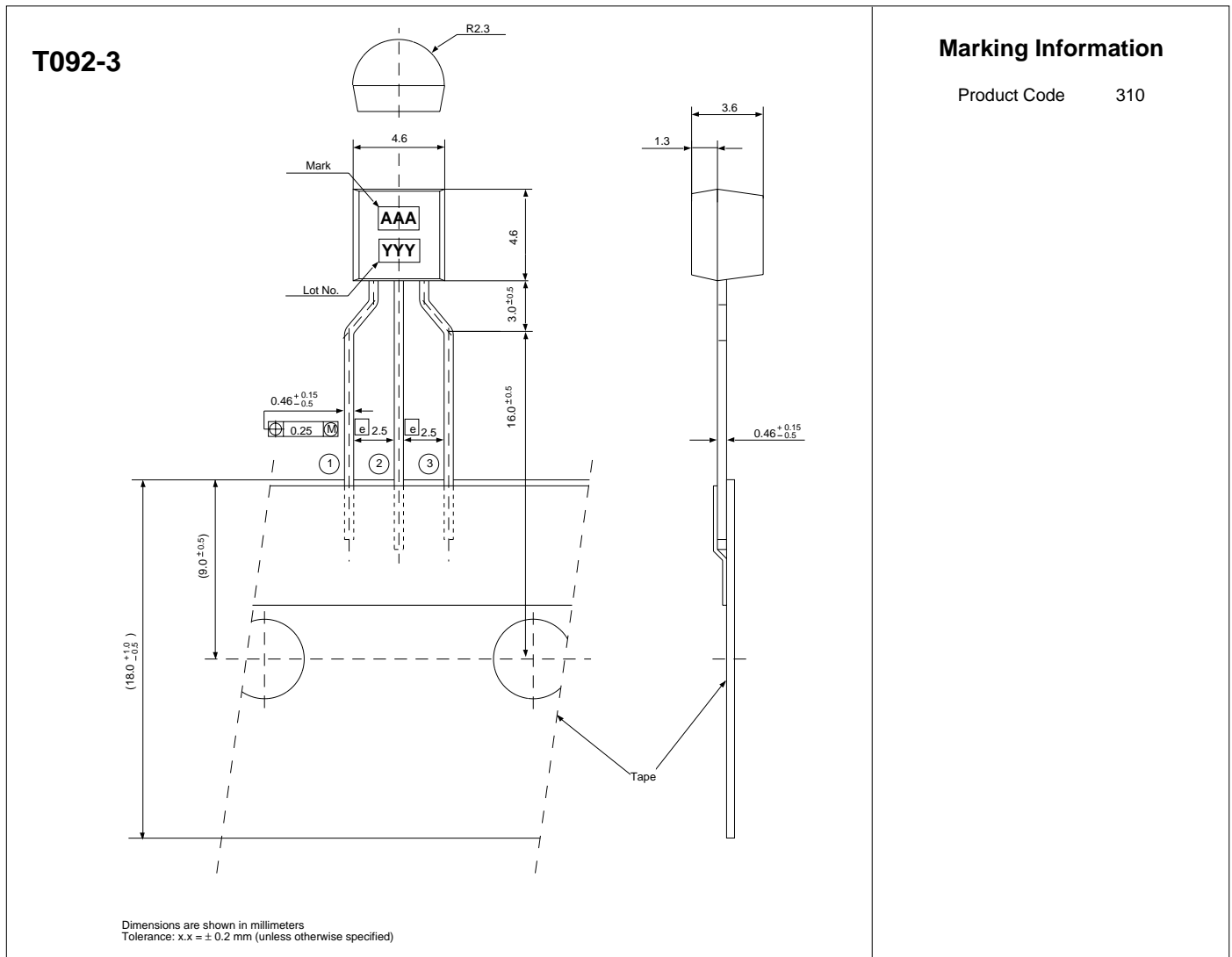
Note 2: Series Resistance measured with HP 4191A or equivalent instruments.

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

TYPICAL PERFORMANCE CHARACTERISTICS



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