

VARIABLE CAPACITANCE DIODE

FEATURES

- Very Low Operating Voltage (1 to 4.5 V)
- Excellent Linearity (CV Curve)
- Large Capacitance Ratio (A = 5.00 minimum)
- 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 KV1370NT variable capacitance diode was specially developed for use as tuning elements in car radios, radio cassettes, and other consumer radios. Single package construction includes an antenna and oscillating tuning element. A special process provides a very high capacitance ratio in low voltage operation.

The KV1370NT is available in a TO92-3 package.

CLASSIFICATION

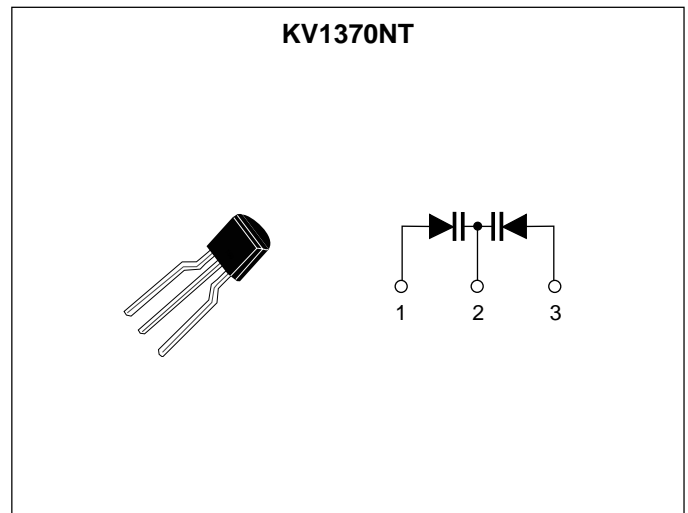
(Unit: pF)

C		RANK		
		1	2	3
C ₁	MIN	65.80	68.27	70.74
	MAX	69.25	71.72	74.20

ORDERING INFORMATION

KV1370NT

Note: The KV1370NT is supplied on folded paper tape (25 pieces per fold), 1500 pcs per box.



KV1370NT

ABSOLUTE MAXIMUM RATINGS

Reverse Voltage 18 V Storage Temperature Range -55 to +150 °C
Forward Current 50 mA Operating Temperature Range -55 to +85 °C
Power Dissipation 100 mW Lead Soldering Temperature (10 s) 235 °C

ELECTRICAL CHARACTERISTICS

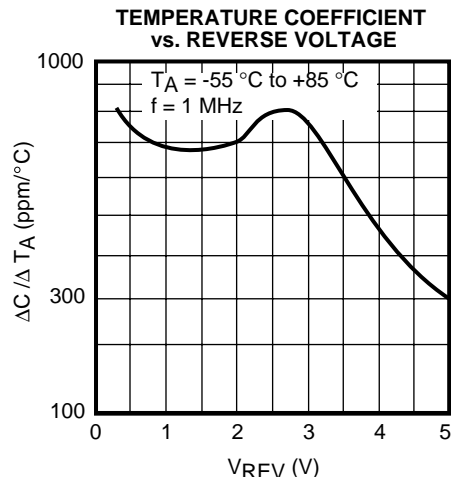
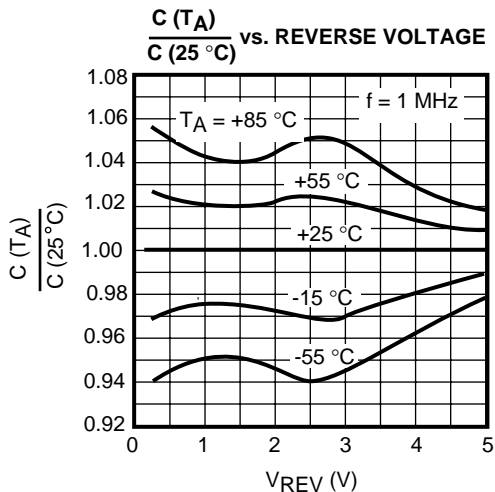
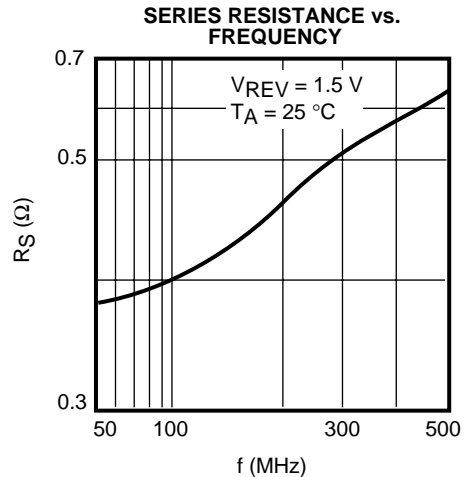
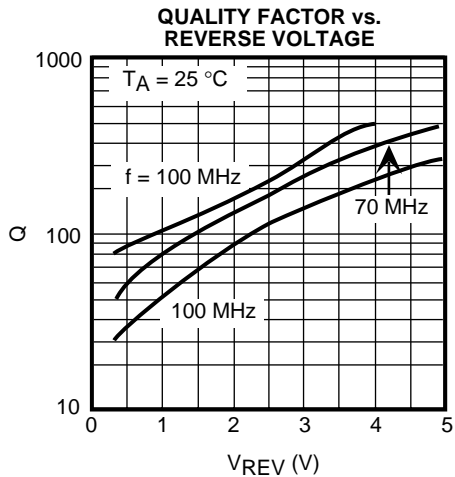
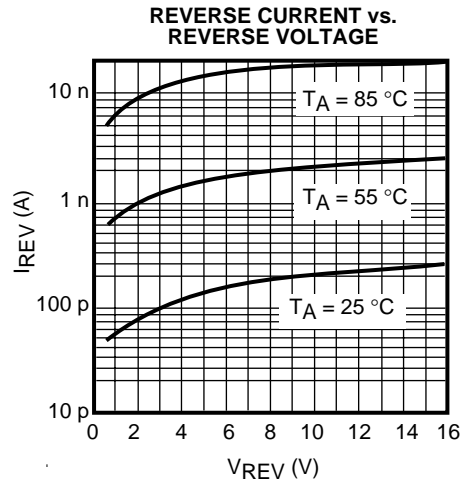
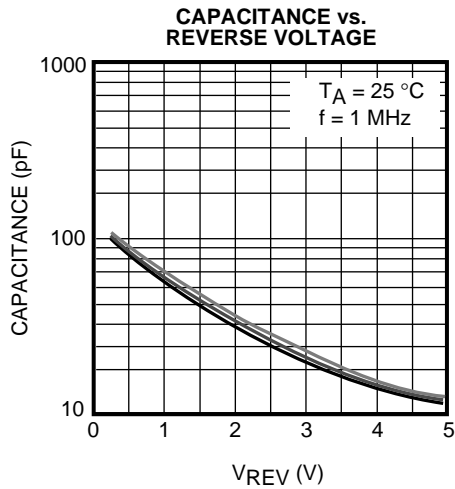
Test conditions: $T_A = 25\text{ °C}$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_{REV}	Reverse Voltage	$I_{REV} = 10\ \mu\text{A}$	16			V
I_{REV}	Reverse Current	$V_{REV} = 10.0\ \text{V}$			50	nA
C_1	Diode Capacitance 1	$V_{REV} = 1.0\ \text{V}, f = 1\ \text{MHz}$	65.80	70.00	74.20	pF
$C_{4.5}$	Diode Capacitance 4.5	$V_{REV} = 4.5\ \text{V}, f = 1\ \text{MHz}$	12.00	13.50	14.80	pF
R_s	Series Resistance	$V_{REV} = 1.5\ \text{V}, f = 100\ \text{MHz}$		0.43	0.5	Ω
A	Capacitance Ratio	C_1 / C_5	5.00			

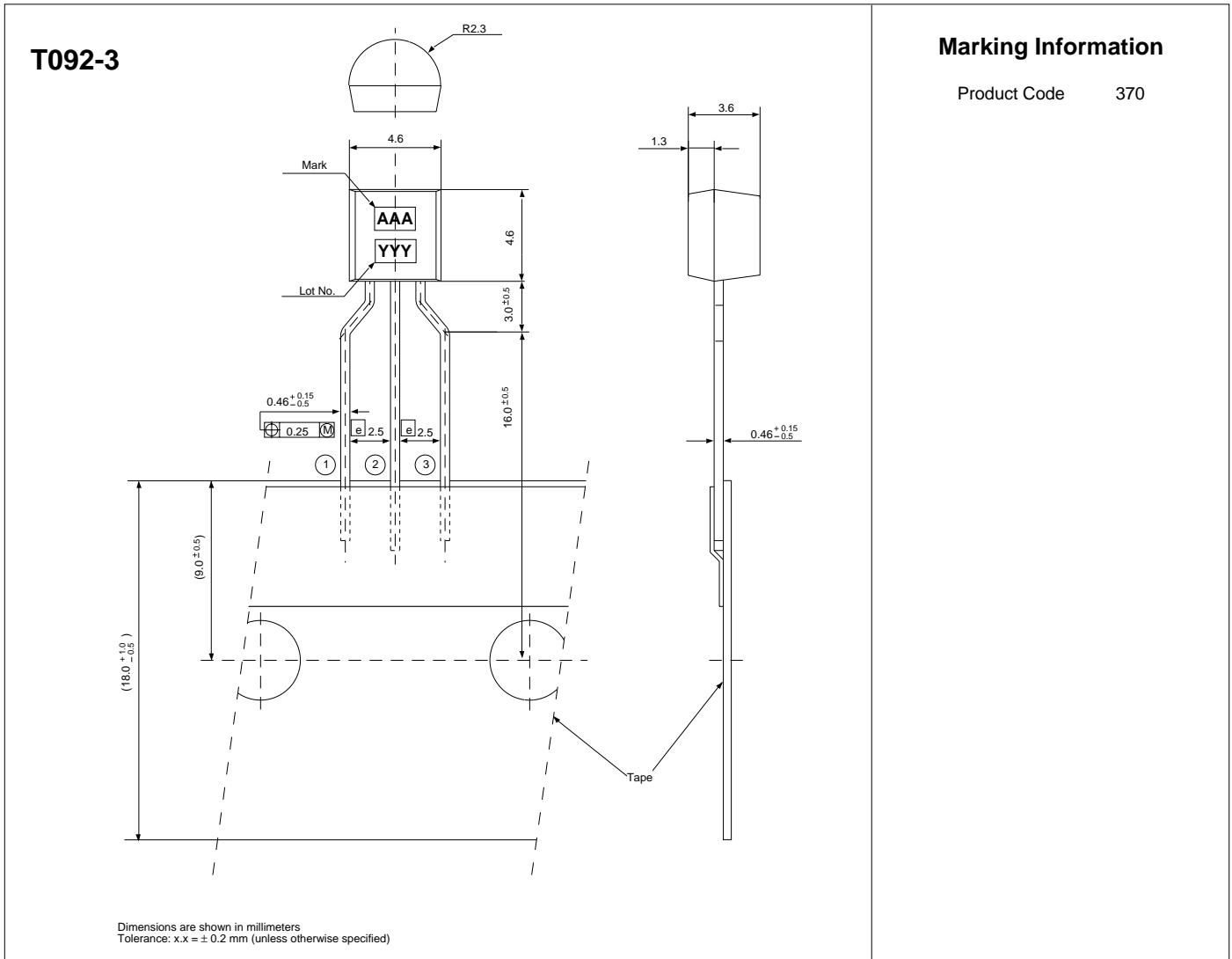
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms, $\pm 5\ \text{mVrms}$).

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

TYPICAL PERFORMANCE CHARACTERISTICS



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