

## VARIABLE CAPACITANCE DIODE

### FEATURES

- Very Low Series Resistance
- Excellent Linearity (CV Curve)
- Large Capacitance Ratio (A1 = 1.23 minimum, A2 = 1.65 minimum)
- Two Diodes in a Miniature Package (SOT23-3)
- Very Small Capacitance Deviation at Tape/Reel

### APPLICATIONS

- FM Radio
- Voltage Controlled Oscillator

### DESCRIPTION

The KV1440 is specially made to be used as a tuning element in radio cassettes, stereos, car radios, and other consumer radios.

The KV1440 minimizes cross modulation, allowing good signal-to-noise ratio in the overall design.


The KV1440 is available in the miniature SOT23-3 surface mount package.

### CLASSIFICATION

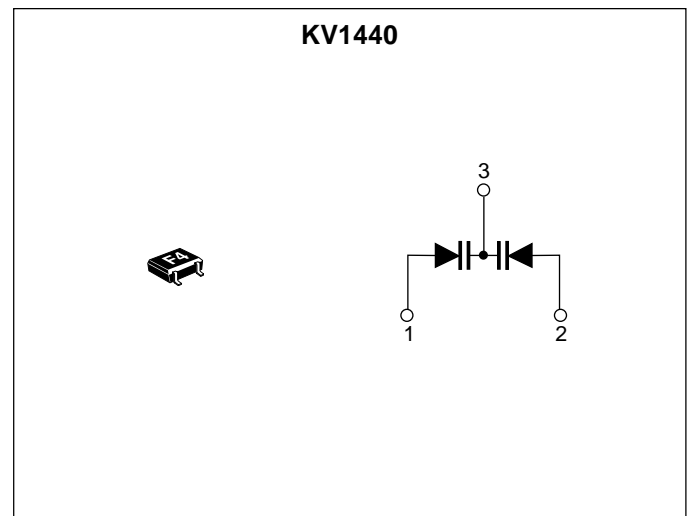
(Unit: pF)

C		RANK			
		1	2	3	4
C <sub>2</sub>	MIN	43.00	44.00	45.00	46.00
	MAX	44.60	45.60	46.60	47.60

### ORDERING INFORMATION

KV1440    
 \_\_\_\_\_ Tape/Reel Code

TAPE/REEL CODE  
 TL: Tape Left



# KV1440

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## 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

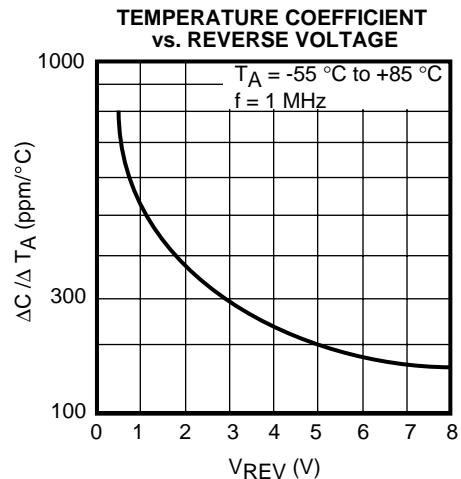
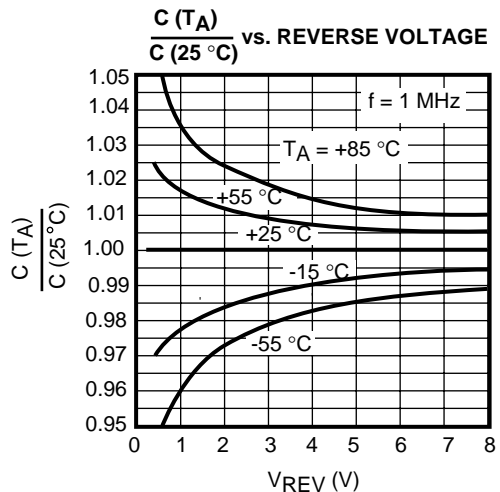
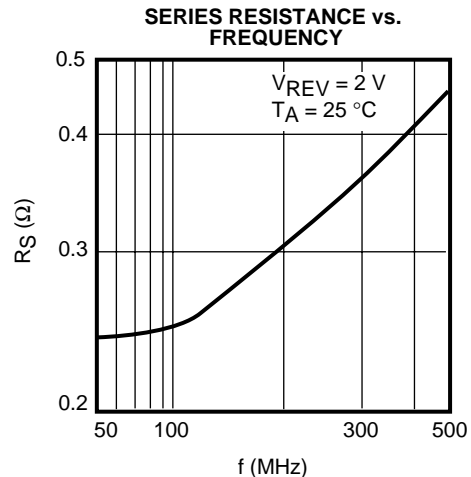
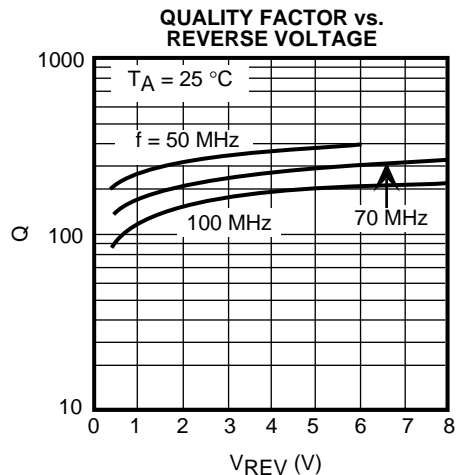
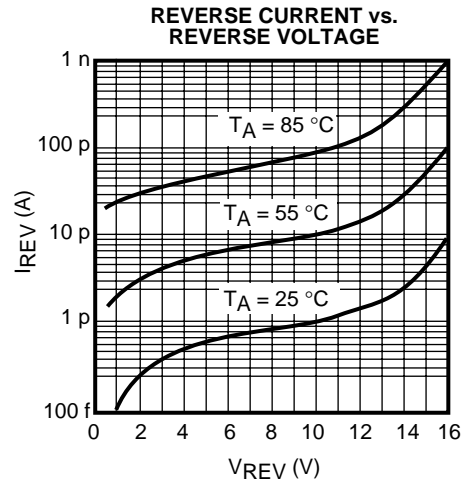
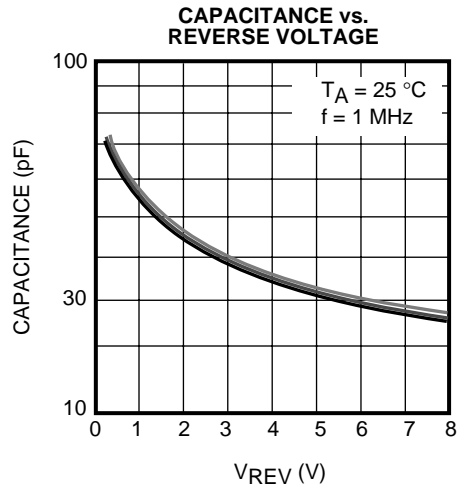
Test conditions:  $T_A = 25\text{ °C}$

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
$C_2$	Diode Capacitance 2	$V_{REV} = 2.0\ \text{V}, f = 1\ \text{MHz}$	43.00		47.60	pF
Q	Quality Factor	$V_{REV} = 3.0\ \text{V}, f = 100\ \text{MHz}$	100			
A1	Capacitance Ratio	$C_2 / C_4$	1.23		1.33	
A2	Capacitance Ratio	$C_2 / C_8$	1.65		1.75	

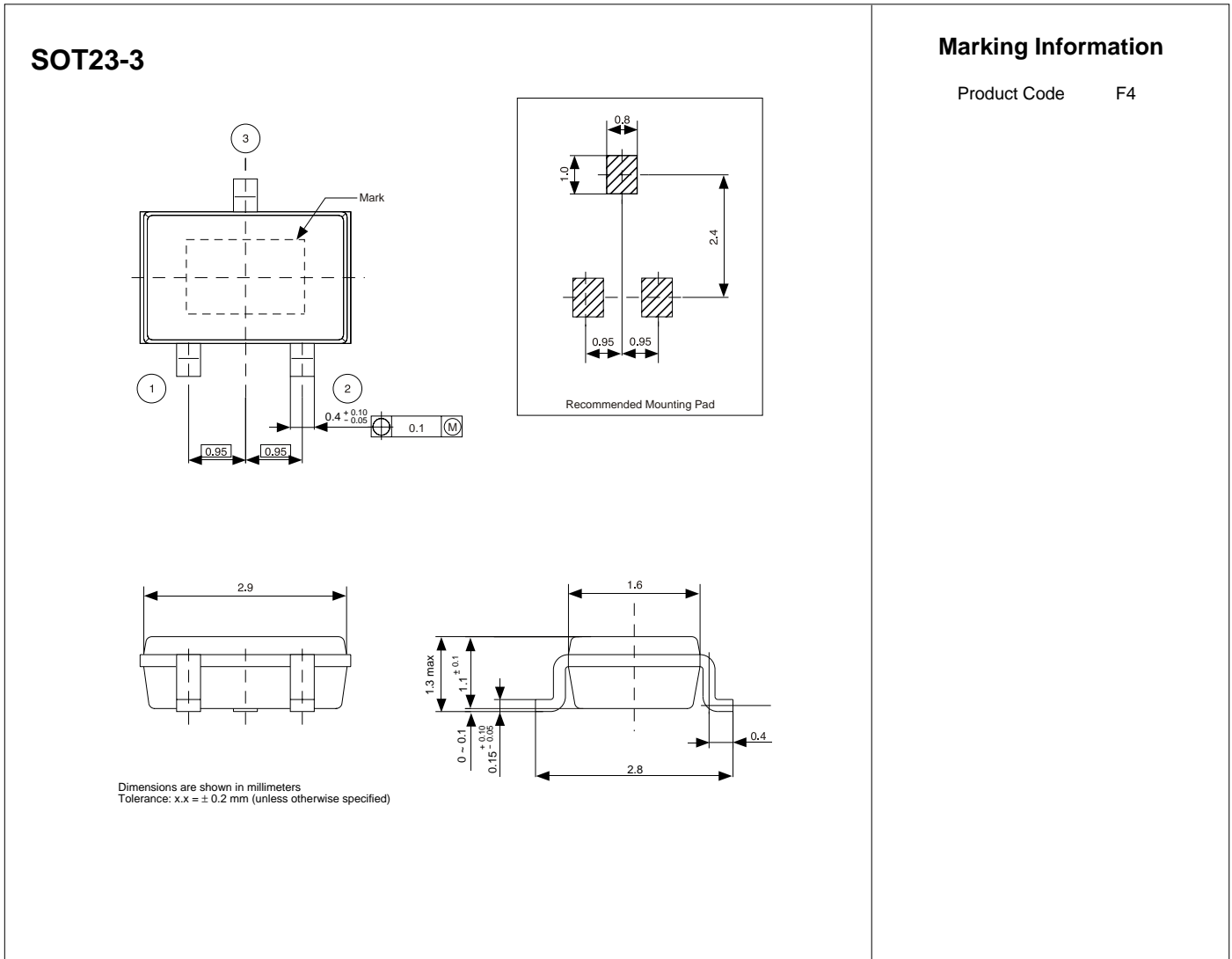
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms,  $\pm 5\ \text{mVrms}$ ).

Note 2: Quality Factor measured with HP 4191A or equivalent instruments.

## TYPICAL PERFORMANCE CHARACTERISTICS



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