

## VARIABLE CAPACITANCE DIODE

### FEATURES

- Excellent Linearity (CV Curve)
- Large Capacitance Ratio ( $A = 3.70$  minimum) with Very Low Series Resistance
- Two Diodes in a Miniature Package (SOT23-3)
- Very Small Capacitance Deviation at Tape/Reel

### APPLICATIONS

- FM Radio
- Voltage Controlled Oscillator

### DESCRIPTION

The KV1430 variable capacitance diode was specially made to be used as tuning elements in car radios, radio cassettes, stereos, and other consumer radios. The KV1430 is suitable for wide band tuning from 76 to 108 MHz.

If the KV1430 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.

The KV1430 is available in a miniature SOT23-3 package.

### CLASSIFICATION

(Unit: pF)

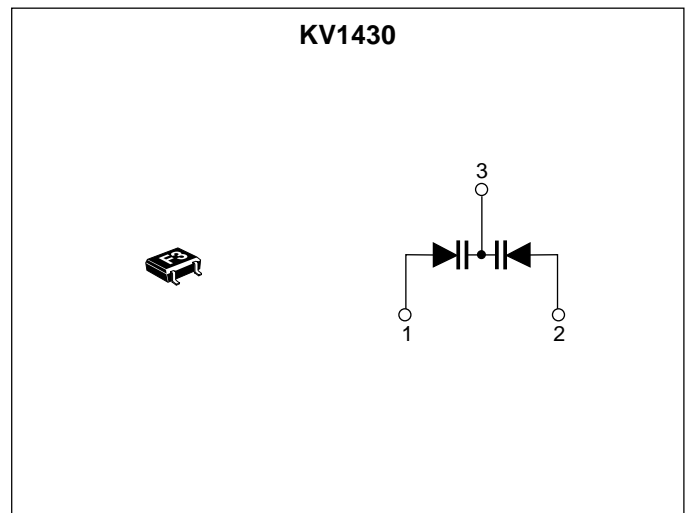
C \ RANK		2	3	4	5
C <sub>2</sub>	MIN	69.14	71.09	73.09	75.15
	MAX	71.23	73.24	75.31	77.43

### ORDERING INFORMATION

KV1430 

Tape/Reel Code

TAPE/REEL CODE  
TL: Tape Left



**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	$I_{REV} = 10\text{ }\mu\text{A}$	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	

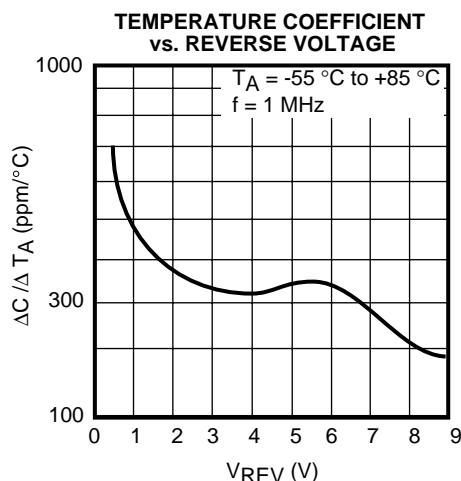
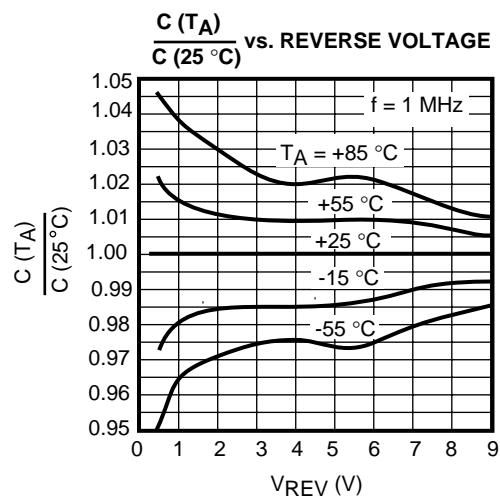
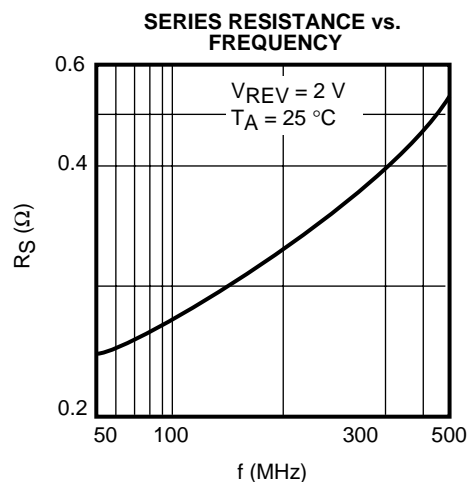
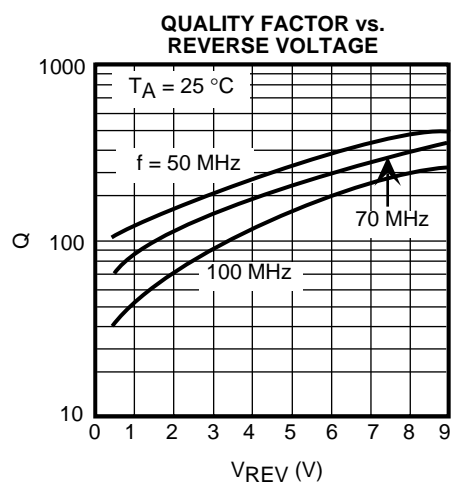
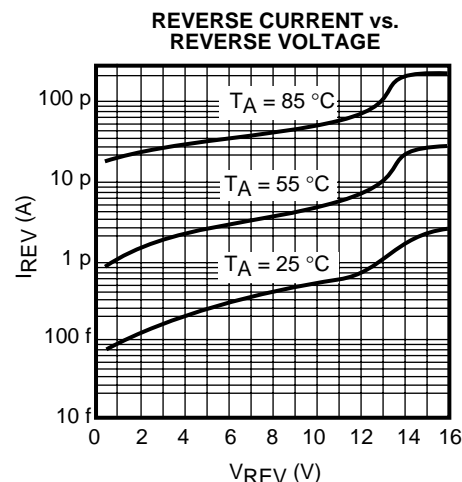
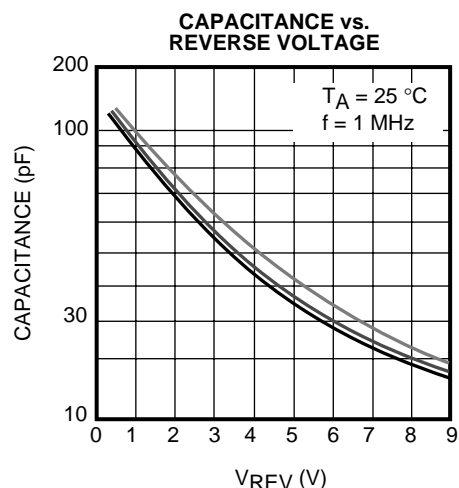
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms,  $\pm 5\text{ mVrms}$ ).

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, C4, C6, and C9.

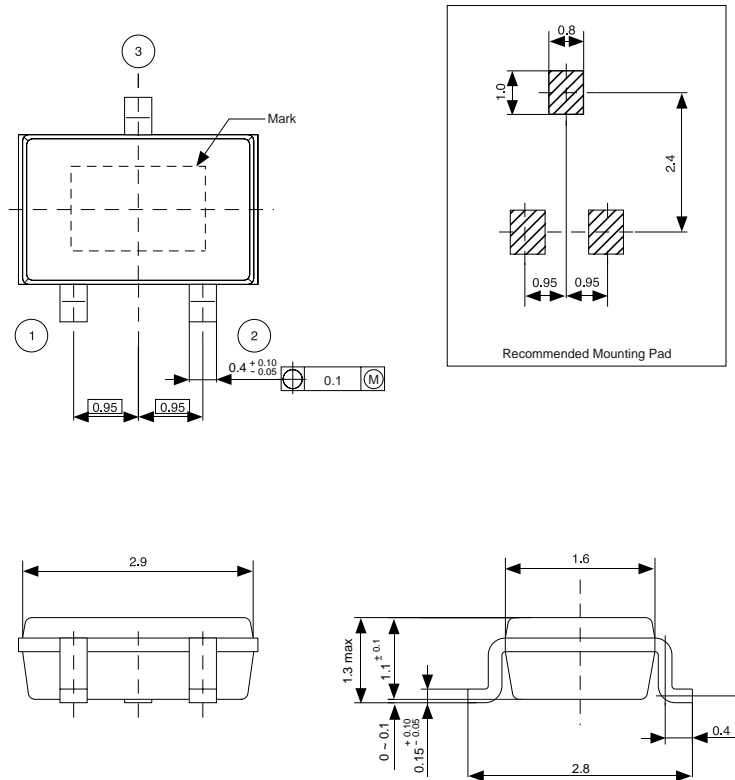
Note 4: The value of capacitance is the average of 2 back to back type diodes.

## TYPICAL PERFORMANCE CHARACTERISTICS



## PACKAGE OUTLINE

## SOT23-3



Dimensions are shown in millimeters  
Tolerance: x.x =  $\pm 0.2$  mm (unless otherwise specified)

## Marking Information

Product Code F3



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