

## VARIABLE CAPACITANCE DIODE

### FEATURES

- Excellent Linearity (CV Curve)
- Large Capacitance Ratio (A = 2.00 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 KV1720S is specially made to be used as a tuning element in radio cassettes, stereos, car radios, and other consumer radios.

The KV1720S minimizes cross modulation, allowing good signal-to-noise ratio in the overall design.

The KV1720S is available in the miniature SOT23-3 surface mount package.

### CLASSIFICATION

(Unit: pF)

C		RANK			
		1	2	3	4
C <sub>2</sub>	MIN	41.17	42.33	43.52	44.75
	MAX	42.76	43.96	45.20	46.48

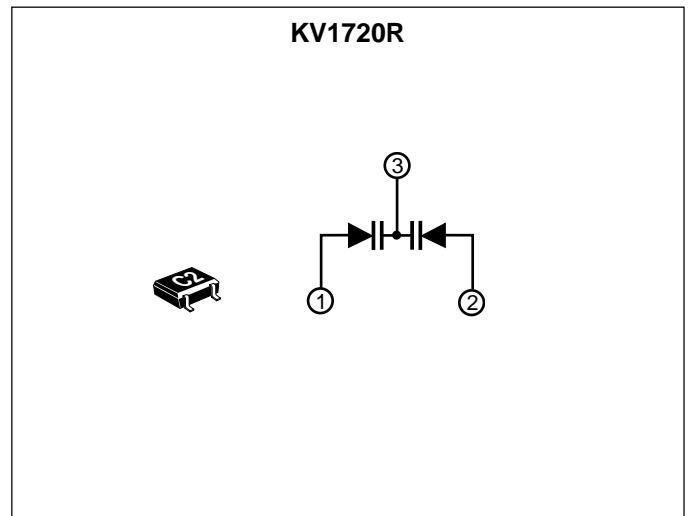
Note: Rank is determined after testing and marked on the reel. All the diodes on a reel have the same rank, but rank can not be specified when ordering.

### ORDERING INFORMATION

KV1720S□□

Tape/Reel Code

TAPE/REEL CODE  
TL: Tape Left



# KV1720S

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## 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      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	$I_{REV} = 10\ \mu\text{A}$	12			V
$I_{REV}$	Reverse Current	$V_{REV} = 10\ \text{V}$			10	nA
$C_2$	Diode Capacitance 2	$V_{REV} = 2.0\ \text{V}, f = 1\ \text{MHz}$	41.17		46.48	pF
$C_8$	Diode Capacitance 8	$V_{REV} = 8.0\ \text{V}, f = 1\ \text{MHz}$	16.00		21.34	pF
$R_S$	Series Resistance	$V_{REV} = 1.0\ \text{V}, f = 100\ \text{MHz}$			0.3	$\Omega$
A	Capacitance Ratio	$C_2 / C_8$	2.00		2.60	

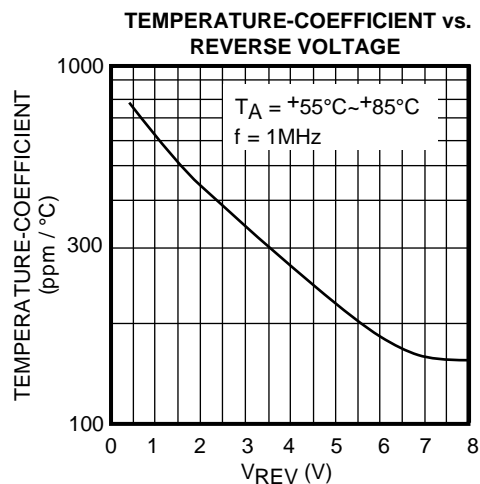
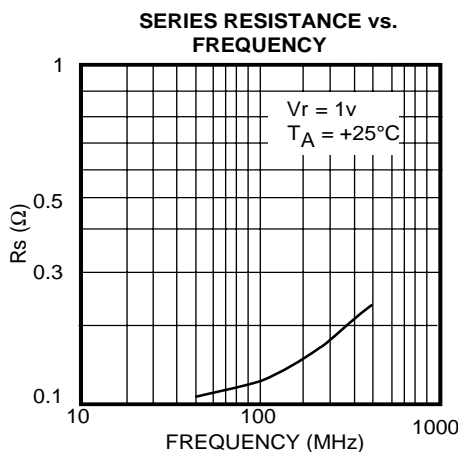
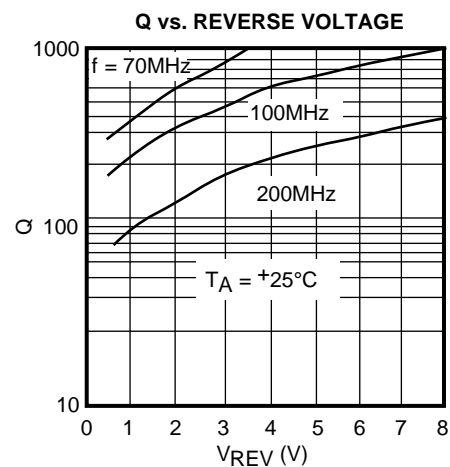
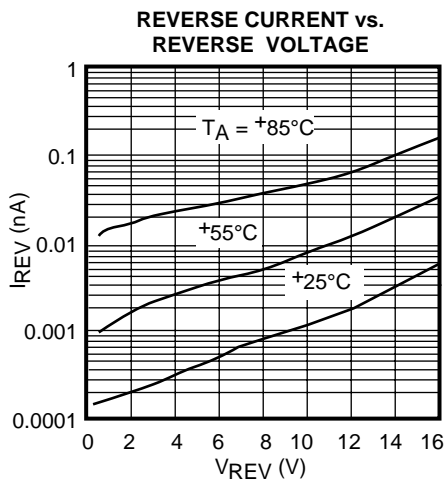
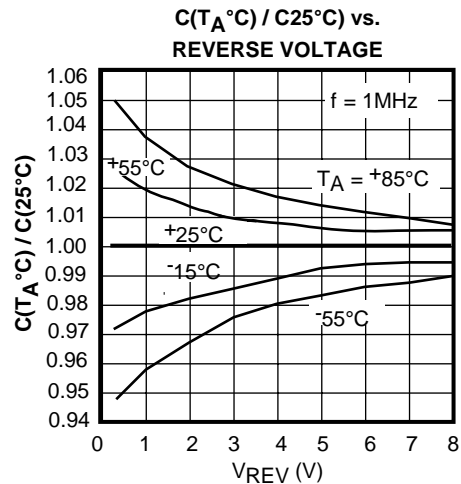
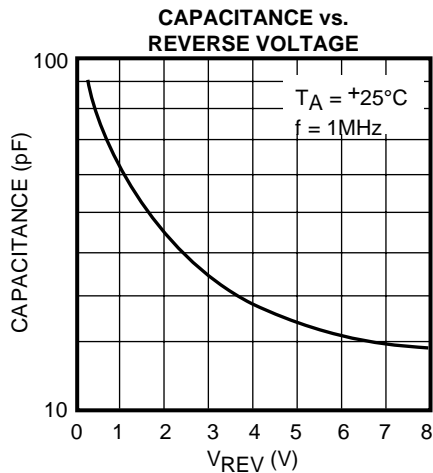
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms,  $\pm 5\ \text{mVrms}$ ).

Note 2: Series Resistance measured with HP 4291B or equivalent instruments.

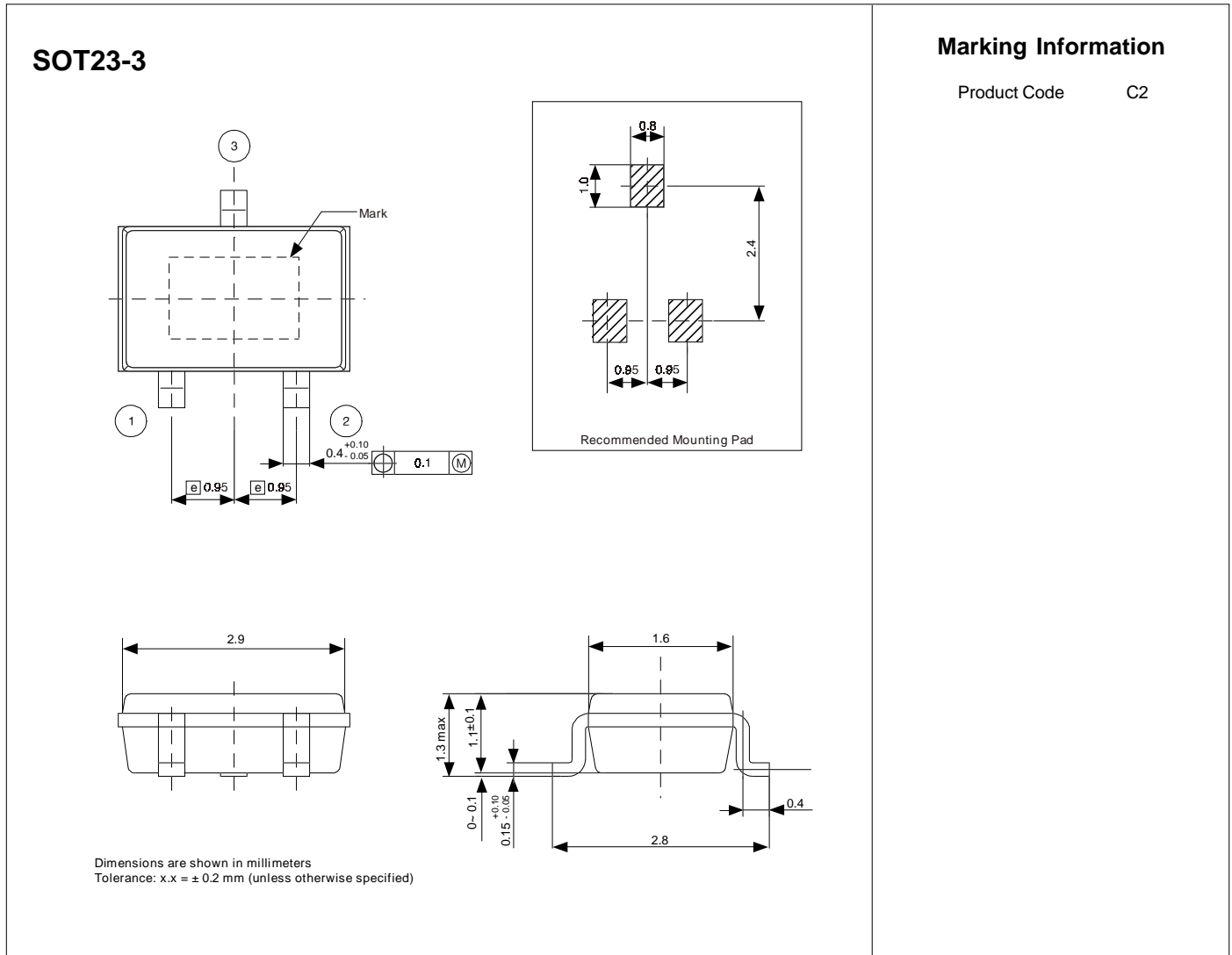
Note 3: The tolerance of two adjacent parts on a reel is within 3% at C2, C5, and C8.

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

## TYPICAL PERFORMANCE CHARACTERISTICS



## PACKAGE OUTLINE



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