

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 ₂	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.

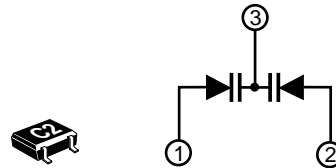
ORDERING INFORMATION

KV1720S□□

Tape/Reel Code

TAPE/REEL CODE
TL: Tape Left

KV1720R



KV1720S

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	Ω
A	Capacitance Ratio	C_2 / C_8	2.00		2.60	

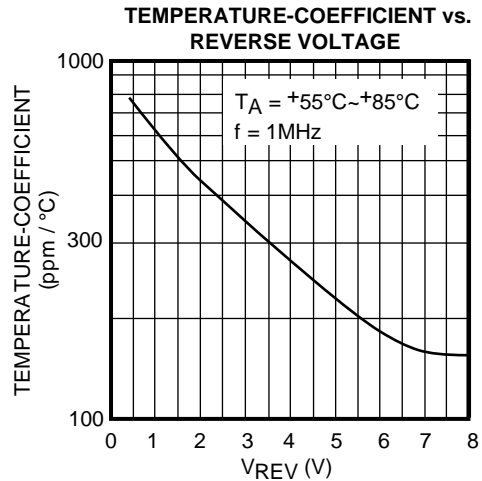
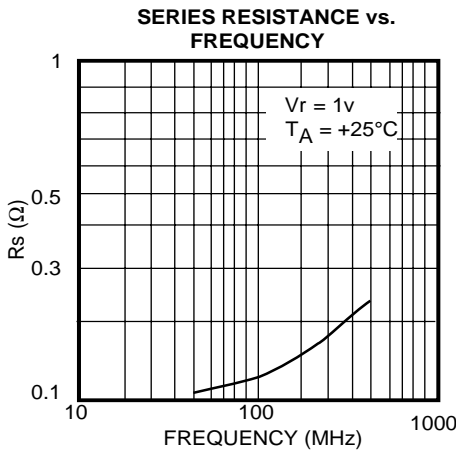
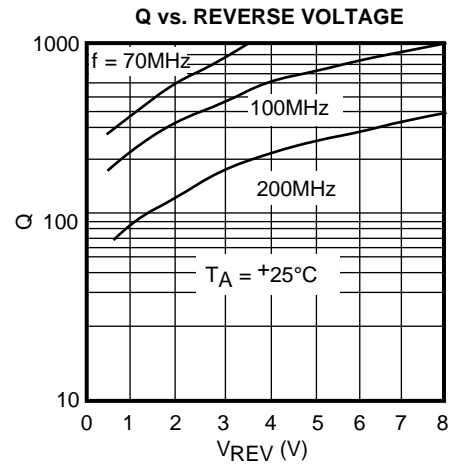
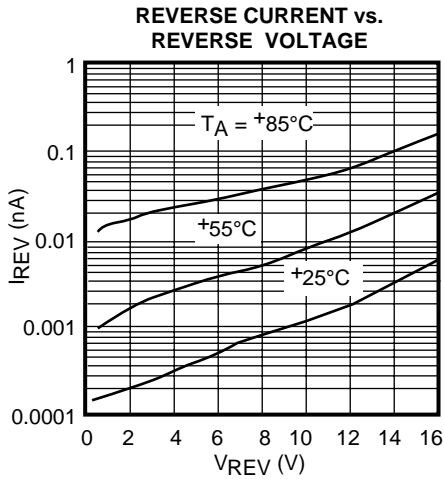
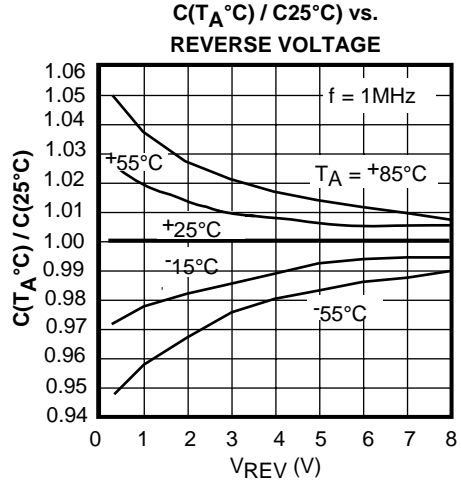
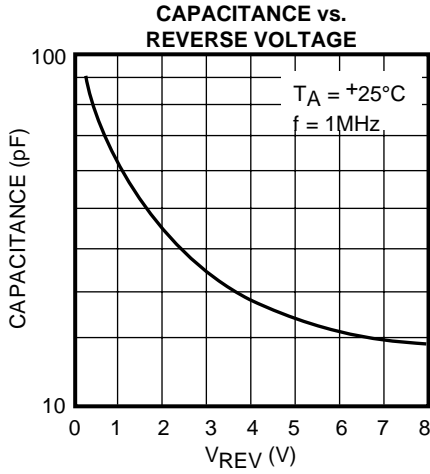
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms, $\pm 5\ \text{mVrms}$).

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

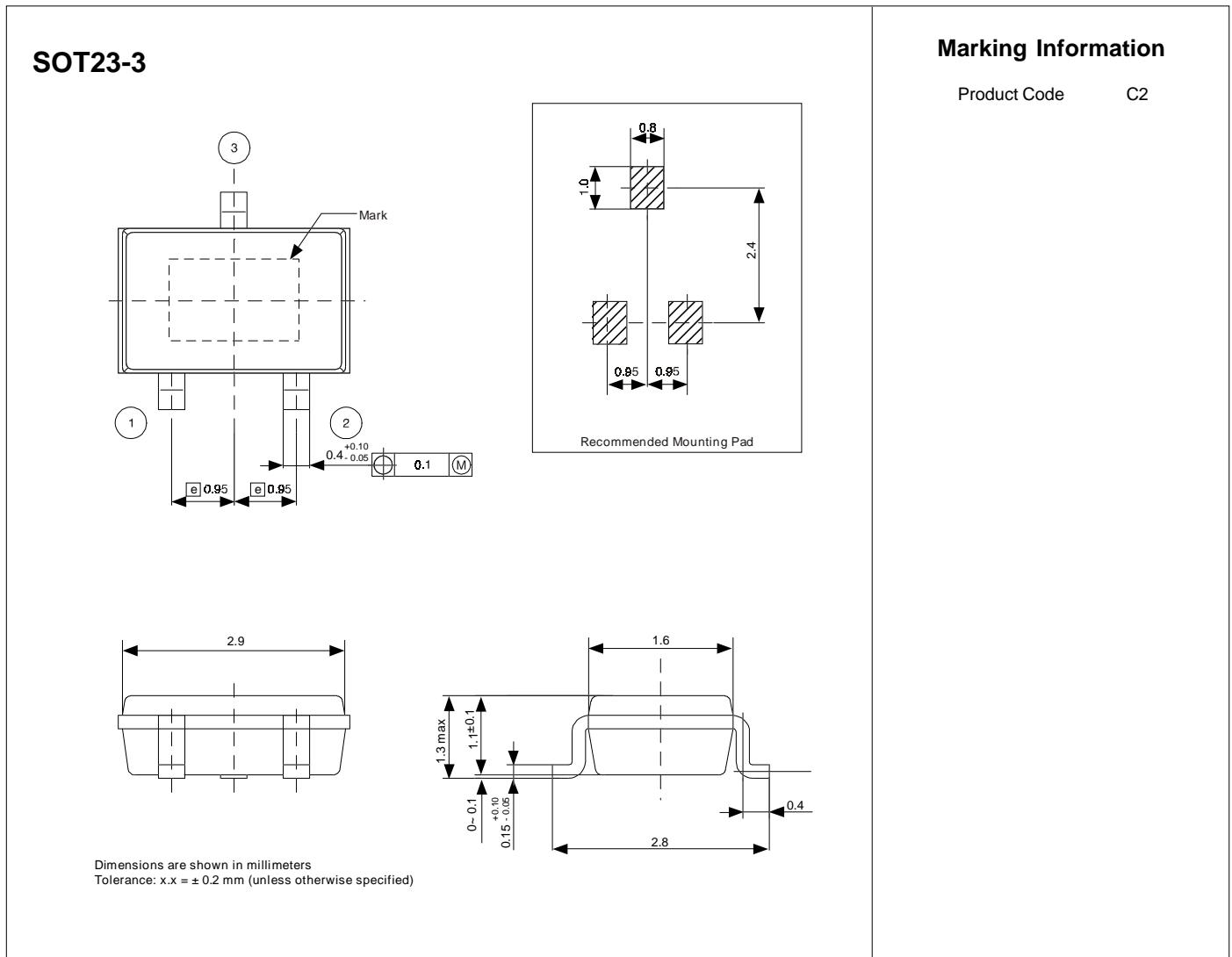
Note 3: The tolerance of two adjacent parts on a reel is within 3% at C2, C5, and C8.

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

TYPICAL PERFORMANCE CHARACTERISTICS



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