

VARIABLE CAPACITANCE DIODE

FEATURES

- Suitable for World Wide Band (76 to 108 MHz)
- Excellent Linearity (CV Curve)
- Large Capacitance Ratio (A = 3.30 minimum) with Very Low Series Resistance
- Two Diodes in a Miniature Package (SOT23-3)
- Very Small Capacitance Deviation at Tape/Reel
- Very High Q

APPLICATIONS

- FM Radio
- Voltage Controlled Oscillator

DESCRIPTION

The KV1735S is a 9 volt range variable capacitance diode designed for FM tuner applications. It contains two elements housed in the miniature SOT23-3 surface mount package.

CLASSIFICATION

(Unit: pF)

C		RANK			
		1	2	3	4
C ₂	MIN	68.86	70.81	72.80	74.85
	MAX	71.52	73.53	75.61	77.74

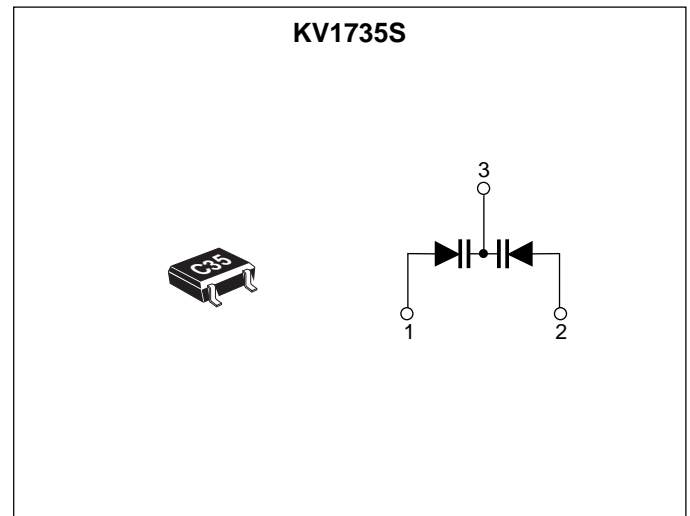
Note: Rank is determined after testing and marked on the reel. All the diodes on a reel have the same rank, but rank can not be specified when ordering.

ORDERING INFORMATION

KV1735S□□

Tape/Reel Code

TAPE/REEL CODE
TL: Tape Left



KV1735S

ABSOLUTE MAXIMUM RATINGS

Reverse Voltage 16 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: $T_A = 25\text{ °C}$

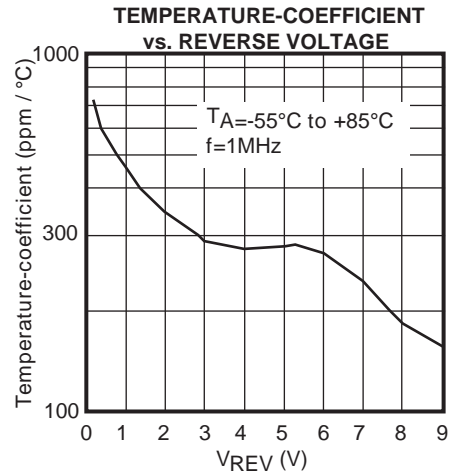
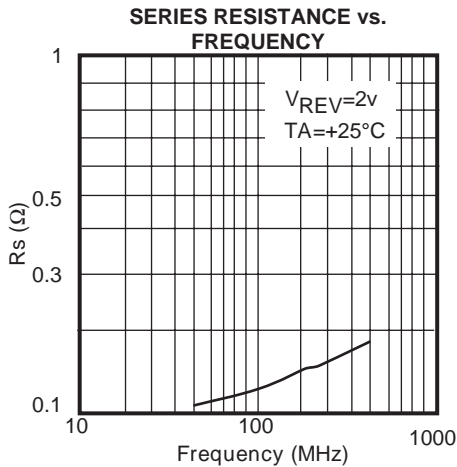
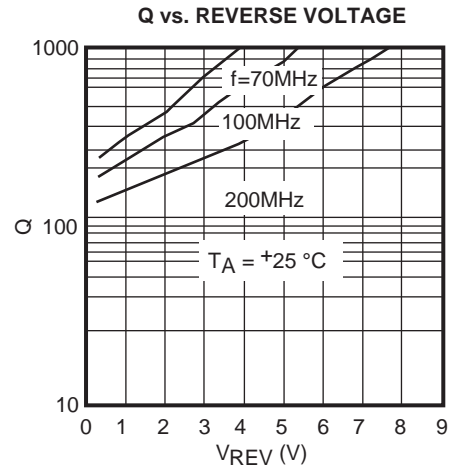
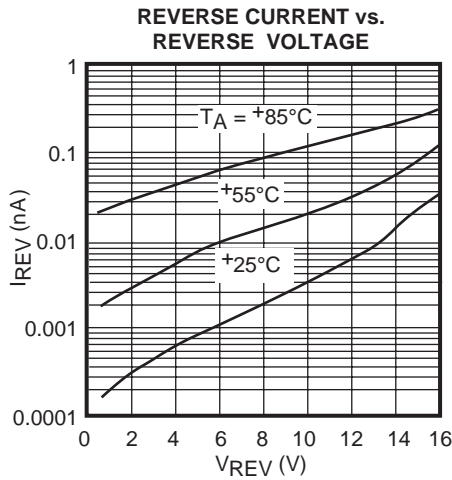
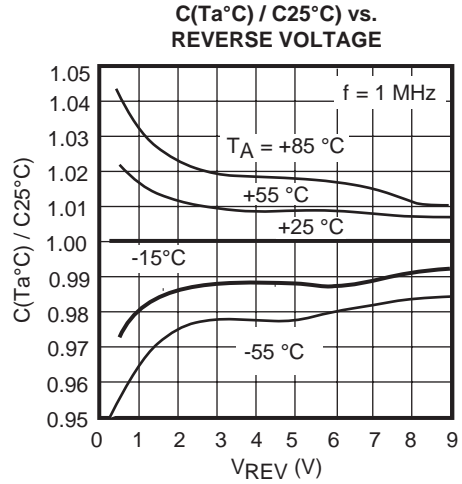
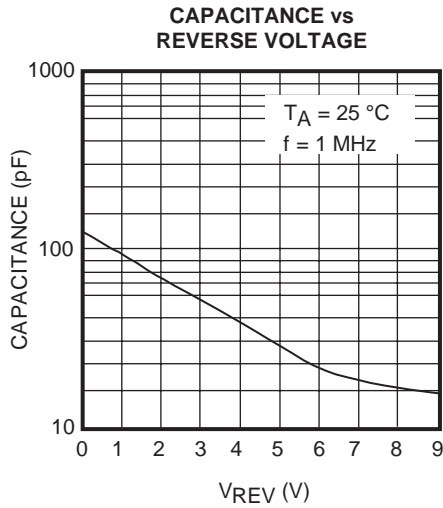
SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_{REV}	Reverse Voltage	$I_{REV} = 10\ \mu\text{A}$	12			V
I_{REV}	Reverse Current	$V_{REV} = 10.0\ \text{V}$			10	nA
C_2	Diode Capacitance 2	$V_{REV} = 2.0\ \text{V}, f = 1\ \text{MHz}$	68.86		77.74	pF
C_6	Diode Capacitance 6	$V_{REV} = 6.0\ \text{V}, f = 1\ \text{MHz}$	26.39		36.69	pF
C_9	Diode Capacitance 9	$V_{REV} = 9.0\ \text{V}, f = 1\ \text{MHz}$	16.91		22.25	pF
R_S	Series Resistance	$V_{REV} = 2.0\ \text{V}, f = 100\ \text{MHz}$			0.30	Ω
A	Capacitance Ratio	C_2 / C_9	3.30		4.60	

Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms, ± 5 mVrms).

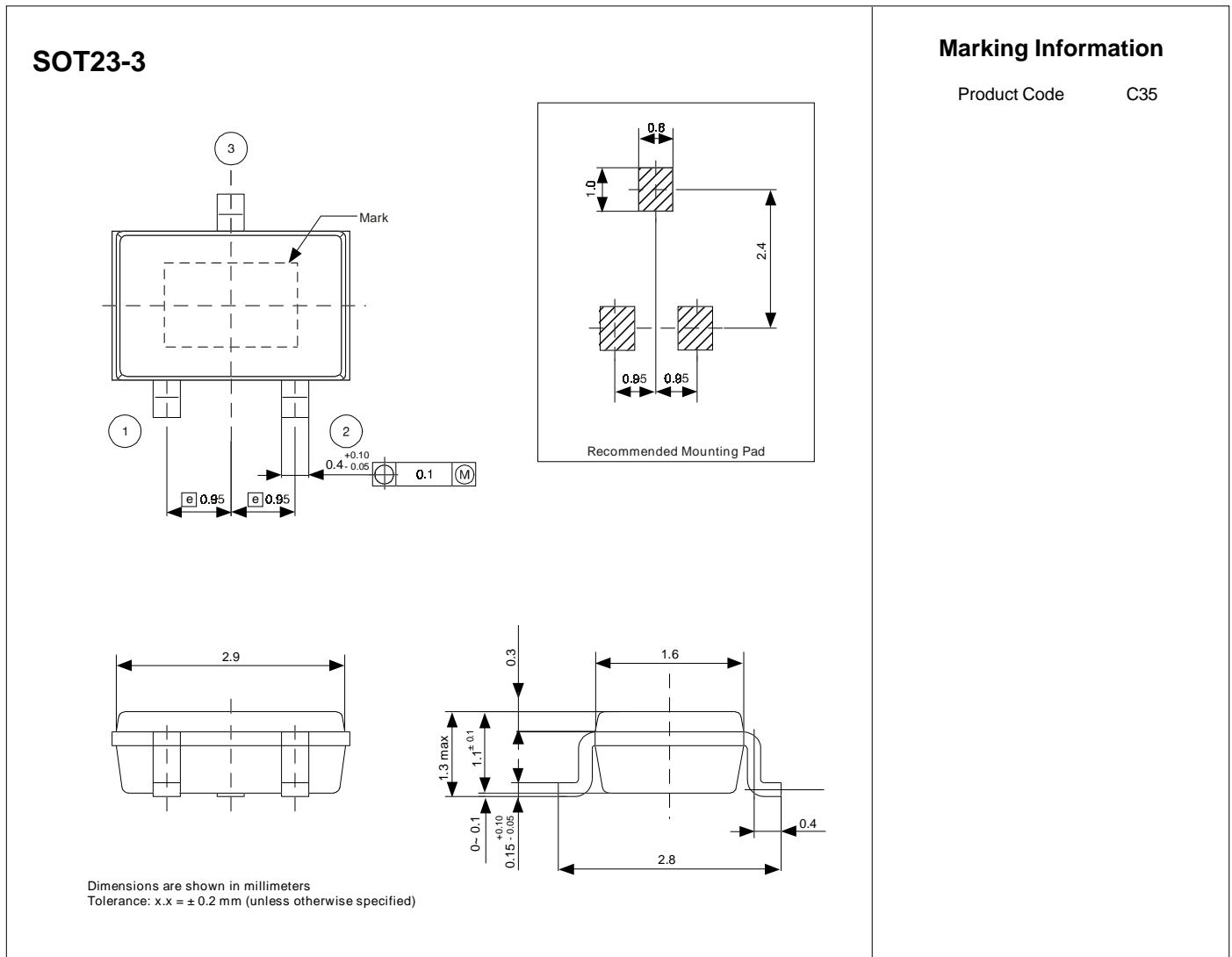
Note 2: Series Resistance measured with HP 4191A or equivalent instruments.

Note 3: The value of capacitance is the average of 2 back to back type diodes.

TYPICAL PERFORMANCE CHARACTERISTICS



PACKAGE OUTLINE



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