

VARIABLE CAPACITANCE DIODE

FEATURES

- Excellent Linearity (CV Curve)
- Large Capacitance Ratio (A = 2.10 minimum)
- Two Diodes in a Miniature Package (SOT23-3)
- Very Small Capacitance Deviation at Tape/Reel

APPLICATIONS

- Voltage Controlled Oscillator
- AM Upconversion

DESCRIPTION


The KV1405 is an 8 volt range variable capacitance diode designed for AM tuner applications. It contains two elements housed in the miniature SOT23-3 surface mount package.

CLASSIFICATION

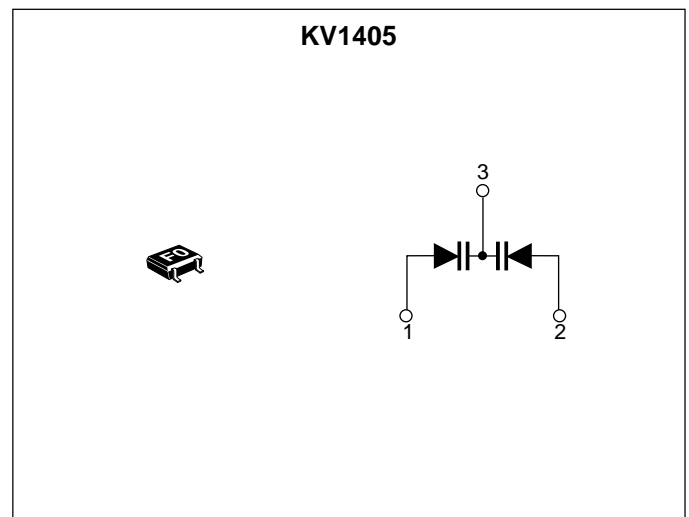
(Unit: pF)

C		RANK		
		1A	2A	3A
C ₂	MIN	132.00	141.61	153.93
	MAX	143.03	155.47	164.00

ORDERING INFORMATION

KV1405 
 Tape/Reel Code

TAPE/REEL CODE
 TL: Tape Left



KV1405

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: $T_A = 25\text{ °C}$

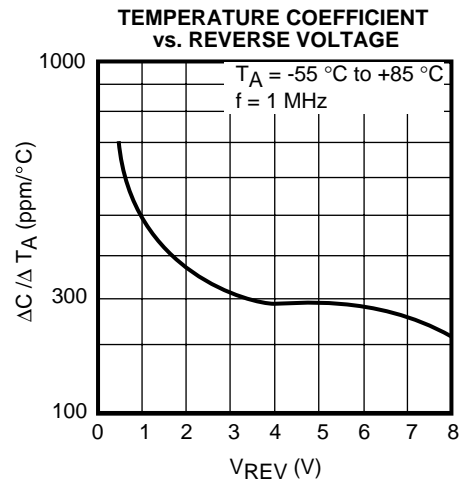
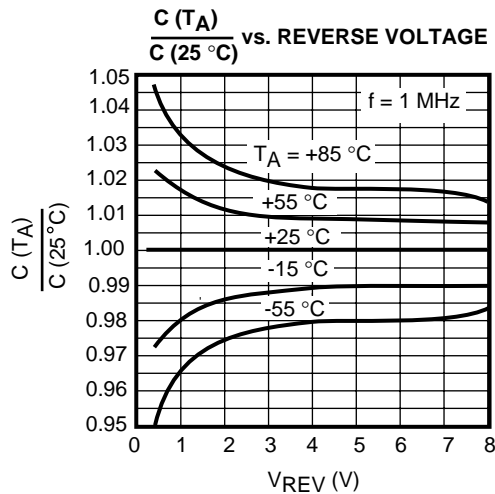
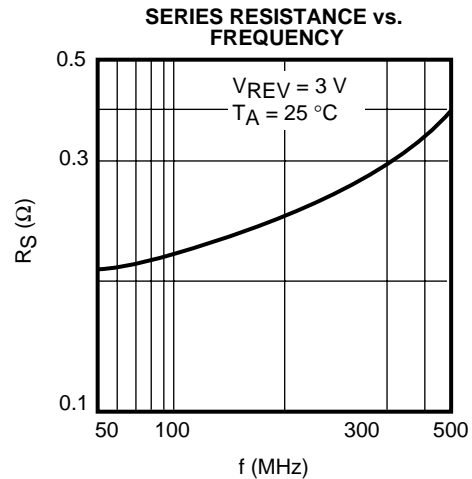
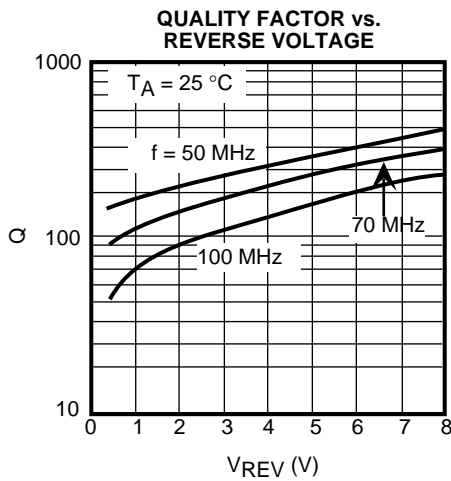
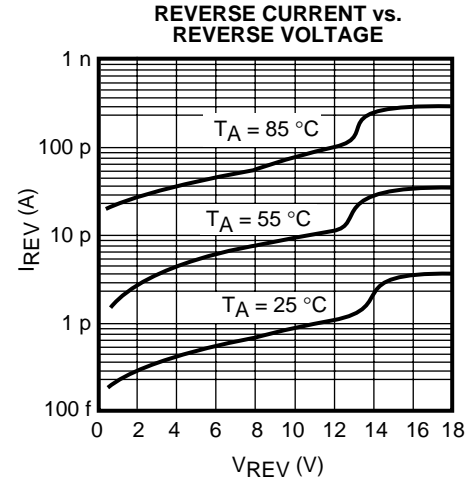
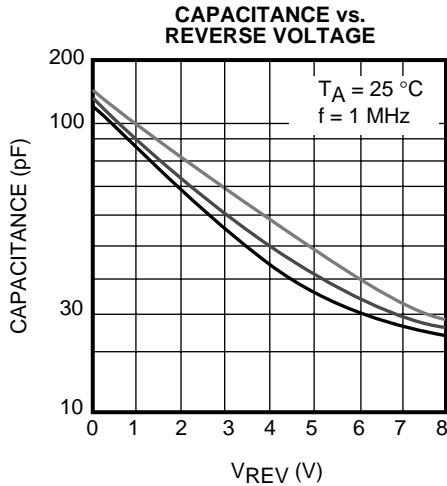
SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_{REV}	Reverse Voltage	$I_{REV} = 10\ \mu\text{A}$	17			V
I_{REV}	Reverse Current	$V_{REV} = 15.0\ \text{V}$			10	nA
C_2	Diode Capacitance 2	$V_{REV} = 2.0\ \text{V}$, $f = 1\ \text{MHz}$ (Note 3)	132.00	148.00	164.00	pF
C_8	Diode Capacitance 8	$V_{REV} = 8.0\ \text{V}$, $f = 1\ \text{MHz}$ (Note 3)	46.00	52.00	58.00	pF
R_S	Series Resistance	$V_{REV} = 3.0\ \text{V}$, $f = 100\ \text{MHz}$		0.3	0.5	Ω

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

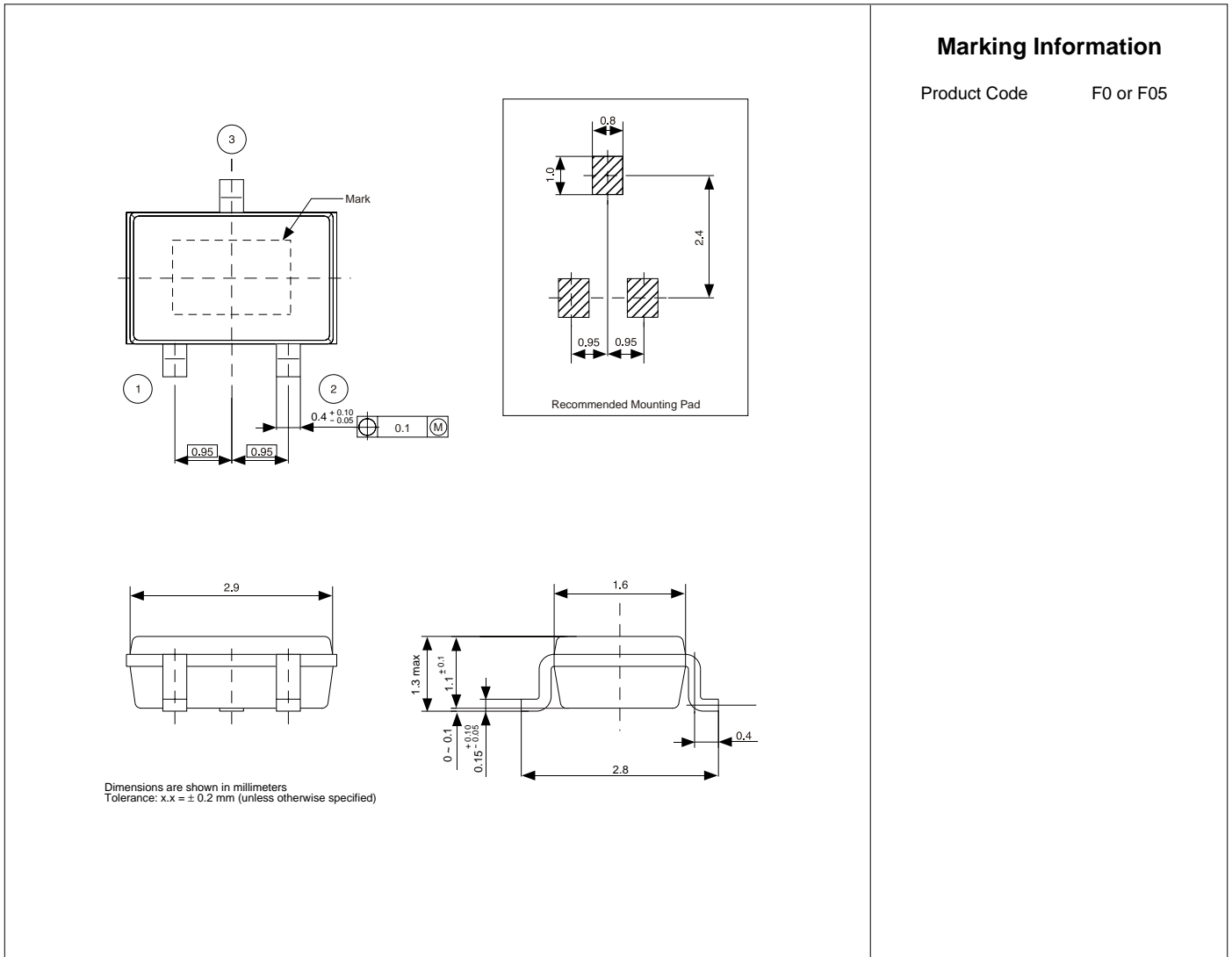
Note 2: Series Resistance measured with HP 4191A or equivalent instruments.

Note 3: Capacitance measured in parallel connection.

TYPICAL PERFORMANCE CHARACTERISTICS



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