

VARIABLE CAPACITANCE DIODE

FEATURES

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

APPLICATIONS

- FM Electronic Tuning
- Voltage Controlled Oscillator

DESCRIPTION


The KV1400 is an 8 volt range variable capacitance diode designed for FM tuner applications. It contains two elements housed in the miniature SOT23-3 surface mount package.

CLASSIFICATION

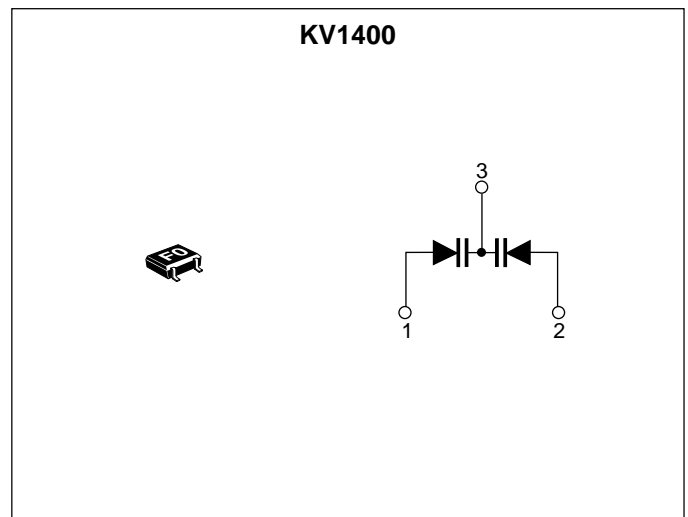
(Unit: pF)

C		RANK				
		1	2	3	4	5
C ₂	MIN	69.13	71.08	73.09	75.15	77.27
	MAX	71.23	73.24	75.30	77.43	79.61

ORDERING INFORMATION

KV1400 
 _____ Tape/Reel Code

TAPE/REEL CODE
 TL: Tape Left



KV1400

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	$V_{REV} = 2.0\ \text{V}, f = 1\ \text{MHz}$	69.13	74.37	79.61	pF
C_3	Diode Capacitance 3	$V_{REV} = 3.0\ \text{V}, f = 1\ \text{MHz}$	57.71		64.63	pF
C_6	Diode Capacitance 6	$V_{REV} = 6.0\ \text{V}, f = 1\ \text{MHz}$	33.56		39.18	pF
C_8	Diode Capacitance 8	$V_{REV} = 8.0\ \text{V}, f = 1\ \text{MHz}$	23.38		27.29	pF
R_S	Series Resistance	$V_{REV} = 3.0\ \text{V}, f = 100\ \text{MHz}$		0.3	0.5	Ω
A	Capacitance Ratio	C_3 / C_8	2.10	2.35	2.60	

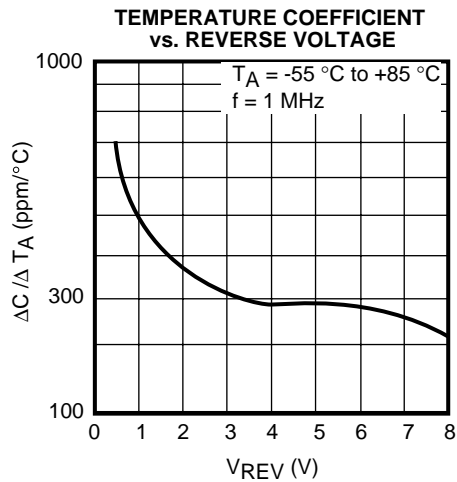
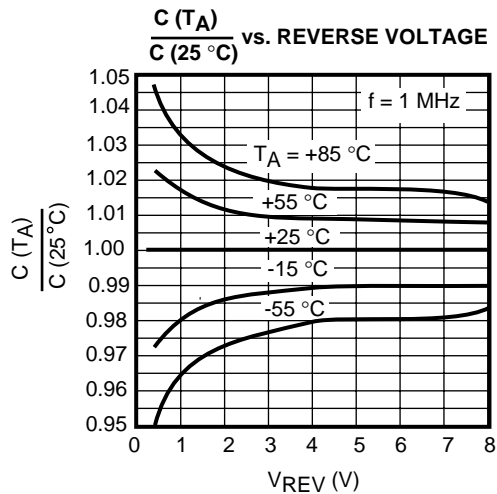
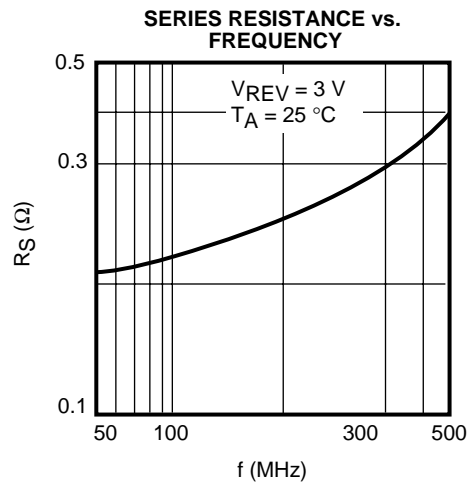
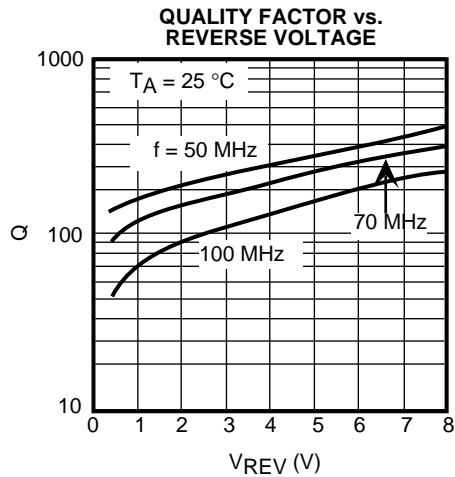
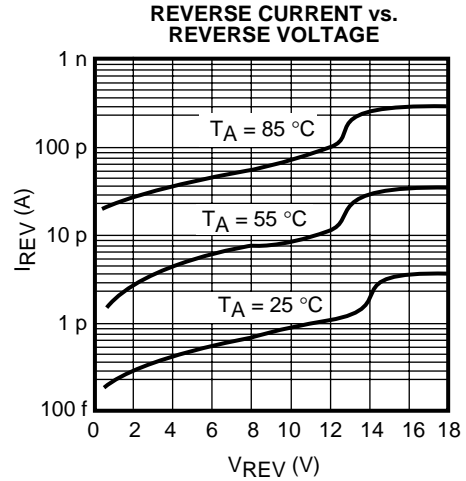
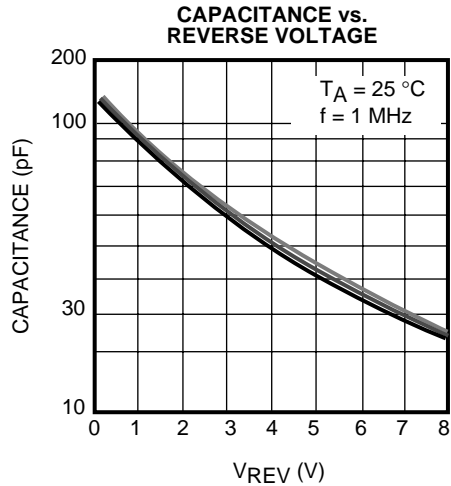
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms, $\pm 5\ \text{mVrms}$).

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

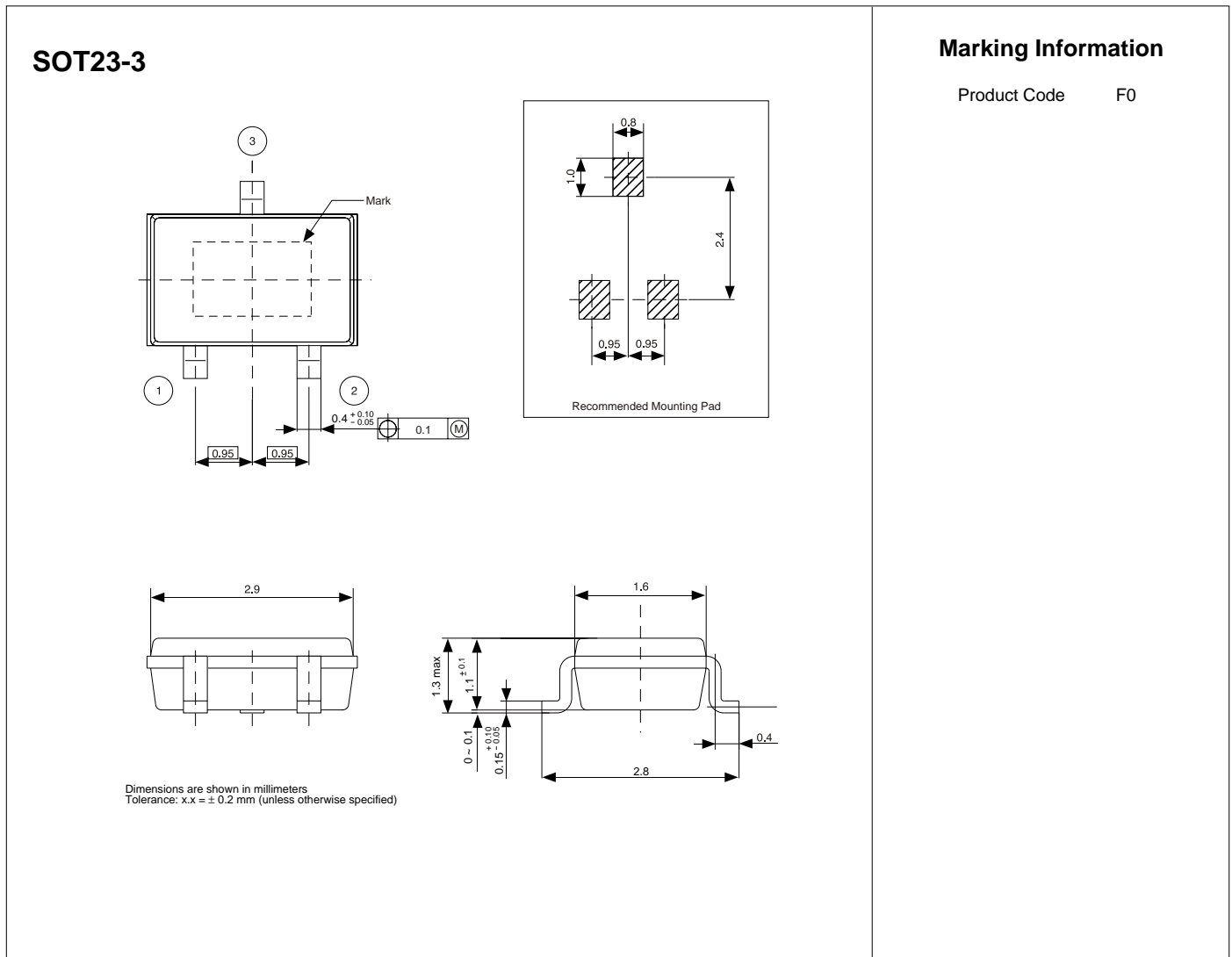
Note 3: The tolerance of two adjacent parts on a reel is within 3% at C2, C3, C6, and C8.

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

TYPICAL PERFORMANCE CHARACTERISTICS



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