

VARIABLE CAPACITANCE DIODE

FEATURES

- Very Low Series Resistance
- Excellent Linearity (CV Curve)
- Large Capacitance Ratio (A1 = 4.60 minimum)
- Two Diodes in a Miniature Package (SOT23-3)
- Very Small Capacitance Deviation at Tape/Reel

APPLICATIONS

- FM Radio
- Voltage Controlled Oscillator

DESCRIPTION

The KV1450 variable capacitance diode was specially made to be used as tuning elements in car radios, radio cassettes, stereos, and other consumer radios. The KV1450 is suitable for wide band tuning from 76 to 108 MHz.

If the KV450 is used only for FM reception, it is possible to operate it at 4.5 V so it is very useful in lowering the power demands of the set.


The KV1450 is available in the miniature SOT23-3 package.

CLASSIFICATION

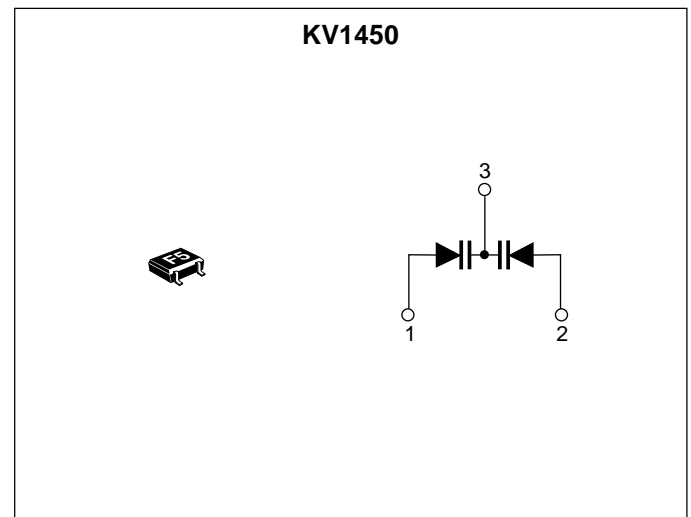
(Unit: pF)

C		RANK				
		1	2	3	4	5
C ₁	MIN	59.15	60.30	61.50	62.75	64.00
	MAX	60.90	62.10	63.35	64.65	65.90

ORDERING INFORMATION

KV1450 
 Tape/Reel Code

TAPE/REEL CODE
 TL: Tape Left



KV1450

ABSOLUTE MAXIMUM RATINGS

Reverse Voltage 18 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

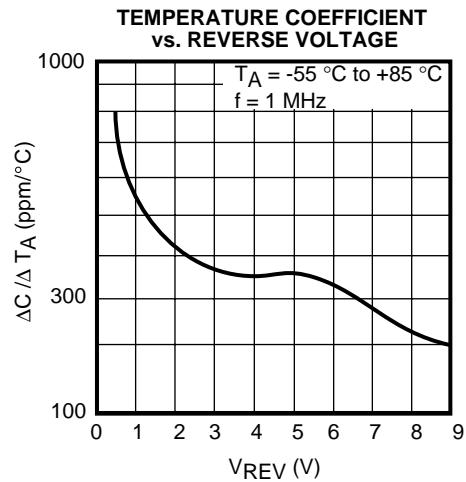
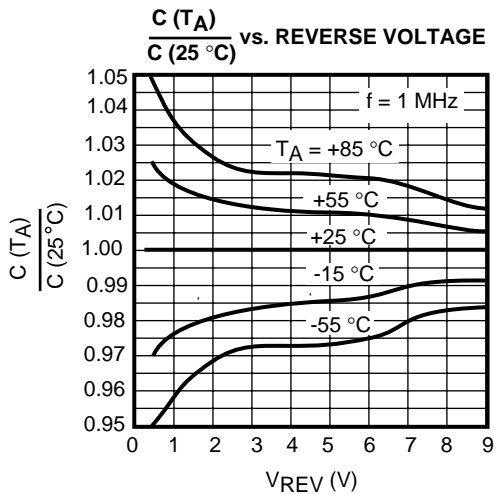
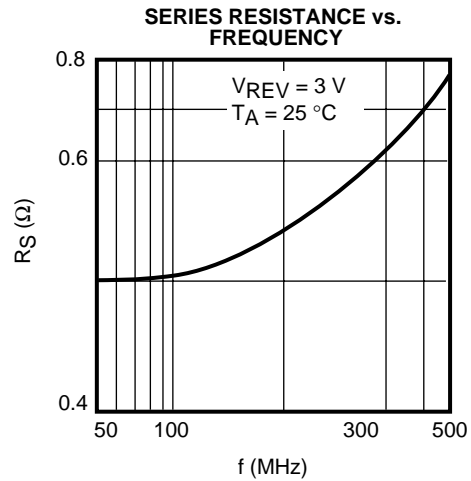
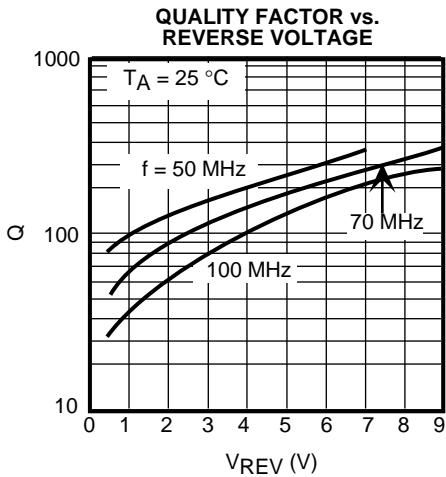
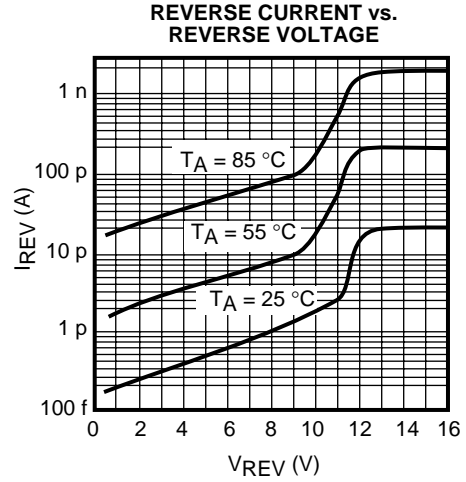
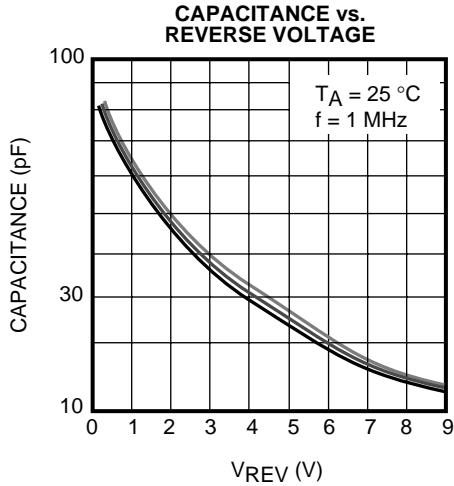
Test conditions: $T_A = 25\text{ °C}$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_{REV}	Reverse Voltage	$I_{REV} = 10\ \mu\text{A}$	16			V
I_{REV}	Reverse Current	$V_{REV} = 10.0\ \text{V}$			100	nA
C_1	Diode Capacitance 1	$V_{REV} = 1.0\ \text{V}, f = 1\ \text{MHz}$	59.15	62.50	65.90	pF
C_6	Diode Capacitance 6	$V_{REV} = 6.0\ \text{V}, f = 1\ \text{MHz}$	17.67		23.54	pF
C_9	Diode Capacitance 9	$V_{REV} = 9.0\ \text{V}, f = 1\ \text{MHz}$	10.77		13.26	pF
Q	Quality Factor	$V_{REV} = 3.0\ \text{V}, f = 100\ \text{MHz}$	60			
A1	Capacitance Ratio	C_1 / C_9	4.60			

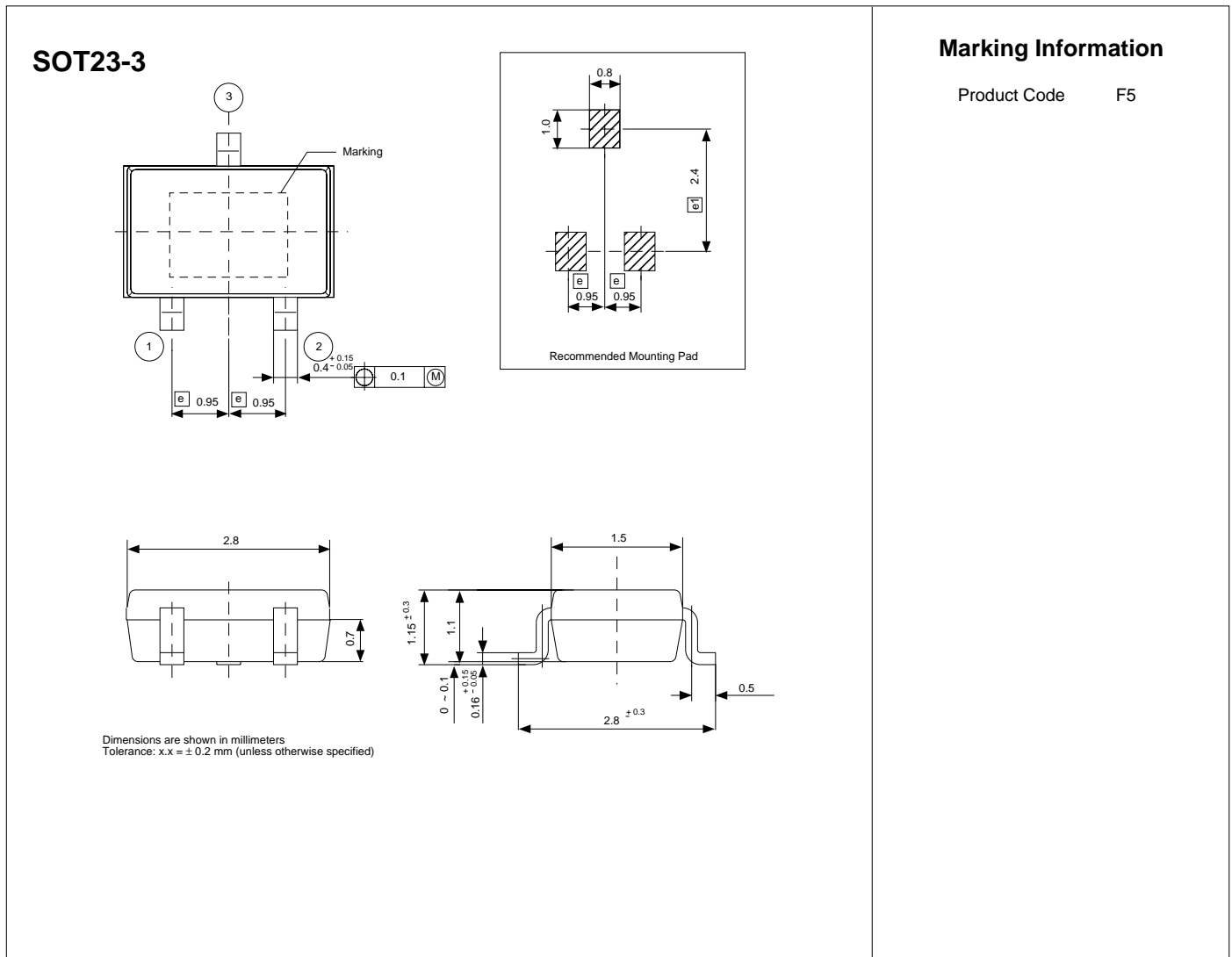
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms, $\pm 5\ \text{mVrms}$).

Note 2: Quality Factor measured with HP 4191A or equivalent instruments.

TYPICAL PERFORMANCE CHARACTERISTICS



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