

## VARIABLE CAPACITANCE DIODE

### FEATURES

- Very Low Operating Voltage (1 to 6.5 V)
- Excellent Linearity (CV Curve)
- Large Capacitance Ratio (A1 = 4.70 minimum)
- Two Diodes in a Miniature Package (SOT23-3)
- Very Small Capacitance Deviation at Tape/Reel

### APPLICATIONS

- FM Radio
- Voltage Controlled Oscillator
- Battery Operated Products

### DESCRIPTION

The KV1460 variable capacitance diode was specially developed for use as FM tuning elements in car radios, radio cassettes, and other consumer radios.

The KV1460 uses a special process to provide a very high capacitance ratio in low voltage operation.


The KV1460 is available in the miniature SOT23-3 surface mount package.

### CLASSIFICATION

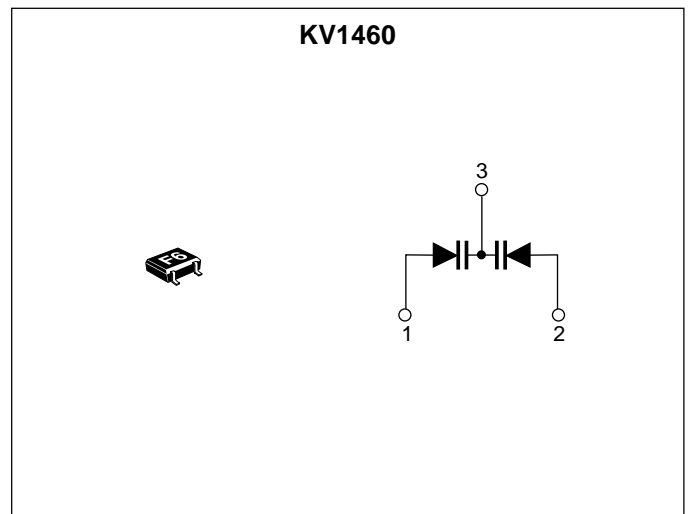
(Unit: pF)

C		RANK		
		1A	2A	3A
C <sub>1</sub>	MIN	86.10	89.60	93.30
	MAX	90.50	94.10	98.00

### ORDERING INFORMATION

KV1460  Tape/Reel Code

TAPE/REEL CODE  
TL: Tape Left



# KV1460

---

## ABSOLUTE MAXIMUM RATINGS

Reverse Voltage ..... 18 V  
Forward Current ..... 50 mA  
Power Dissipation ..... 100 mW

Storage Temperature Range ..... -55 to +150 °C  
Operating Temperature Range ..... -55 to +85 °C

## ELECTRICAL CHARACTERISTICS

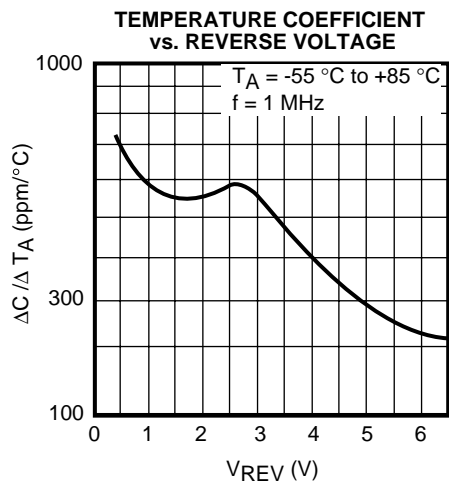
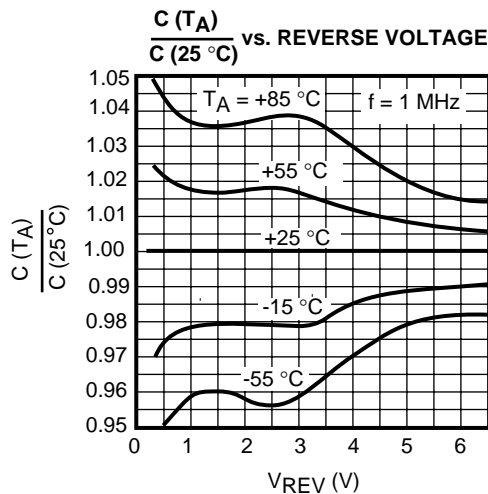
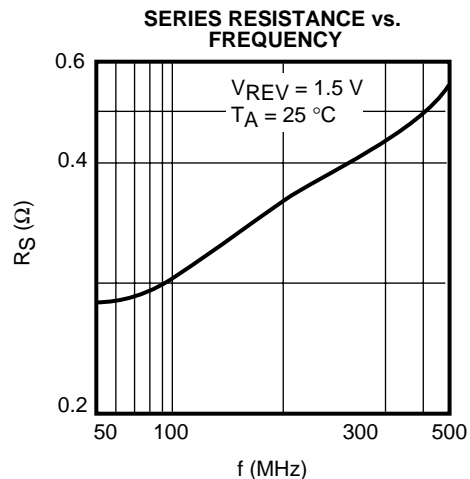
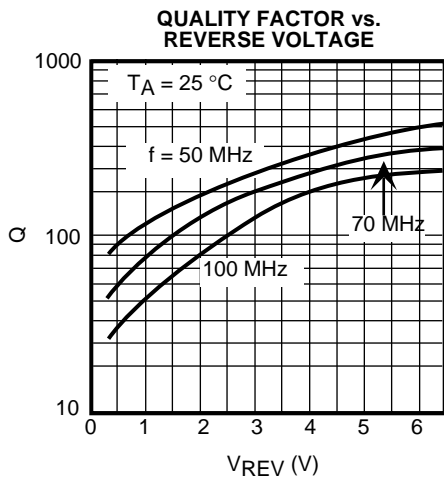
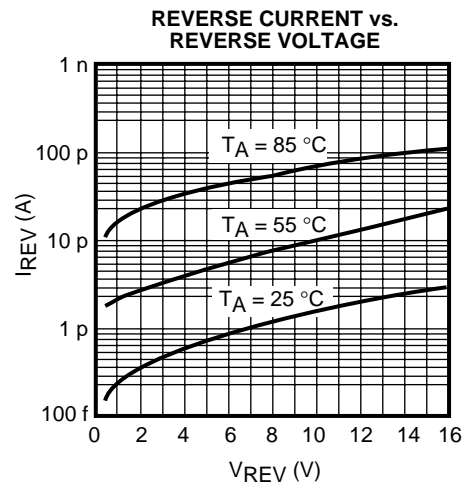
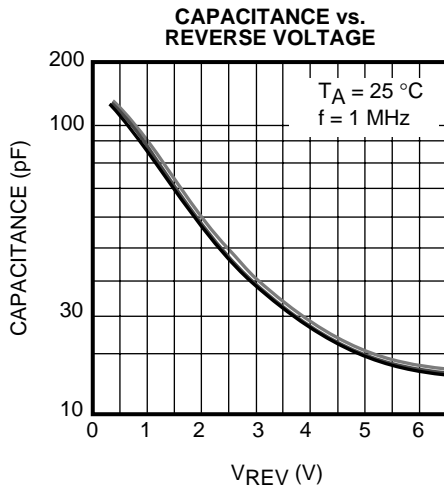
Test conditions:  $T_A = 25\text{ °C}$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_{REV}$	Reverse Voltage	$I_{REV} = 10\ \mu\text{A}$	16			V
$I_{REV}$	Reverse Current	$V_{REV} = 10.0\ \text{V}$			50	nA
$C_1$	Diode Capacitance 1	$V_{REV} = 1.0\ \text{V}, f = 1\ \text{MHz}$	86.10	92.00	98.00	pF
$C_{6.5}$	Diode Capacitance 6.5	$V_{REV} = 6.5\ \text{V}, f = 1\ \text{MHz}$	13.90	16.00	18.20	pF
$R_s$	Series Resistance	$V_{REV} = 1.5\ \text{V}, f = 100\ \text{MHz}$		0.5	0.6	$\Omega$
A	Capacitance Ratio	$C_1 / C_{6.5}$	4.70			

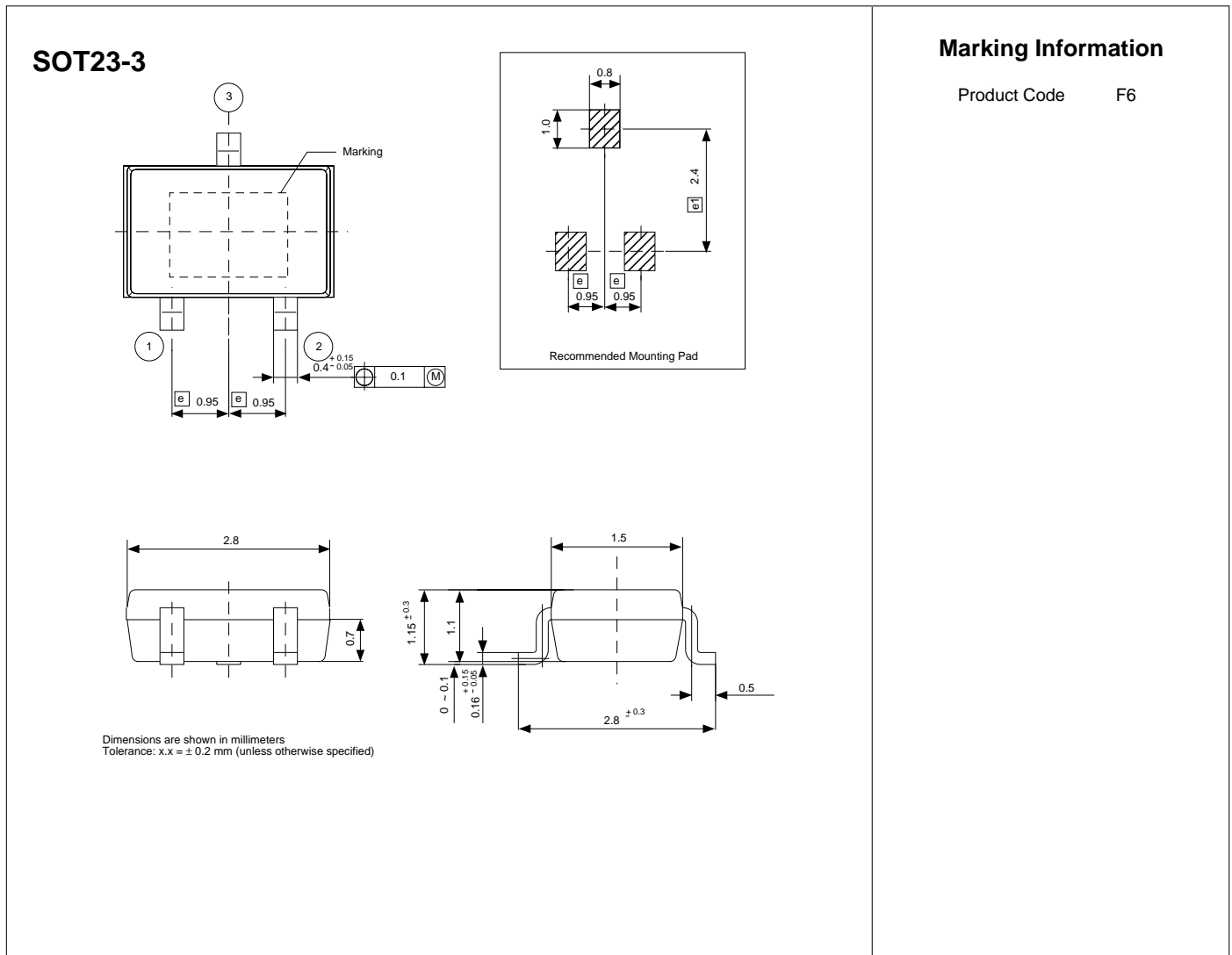
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms,  $\pm 5$  mVrms).

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

## TYPICAL PERFORMANCE CHARACTERISTICS



## PACKAGE OUTLINE



**TOKO**

Toko America, Inc. Headquarters  
1250 Feehanville Drive, Mount Prospect, Illinois 60056  
Tel: (847) 297-0070 Fax: (847) 699-7864

## TOKO AMERICA REGIONAL OFFICES

Midwest Regional Office  
Toko America, Inc.  
1250 Feehanville Drive  
Mount Prospect, IL 60056  
Tel: (847) 297-0070  
Fax: (847) 699-7864

Western Regional Office  
Toko America, Inc.  
2480 North First Street, Suite 260  
San Jose, CA 95131  
Tel: (408) 432-8281  
Fax: (408) 943-9790

Eastern Regional Office  
Toko America, Inc.  
107 Mill Plain Road  
Danbury, CT 06811  
Tel: (203) 748-6871  
Fax: (203) 797-1223

Semiconductor Technical Support  
Toko Design Center  
4755 Forge Road  
Colorado Springs, CO 80907  
Tel: (719) 528-2200  
Fax: (719) 528-2375

Visit our Internet site at <http://www.tokoam.com>

The information furnished by TOKO, Inc. is believed to be accurate and reliable. However, TOKO reserves the right to make changes or improvements in the design, specification or manufacture of its products without further notice. TOKO does not assume any liability arising from the application or use of any product or circuit described herein, nor for any infringements of patents or other rights of third parties which may result from the use of its products. No license is granted by implication or otherwise under any patent or patent rights of TOKO, Inc.