

## VARIABLE CAPACITANCE DIODE

### FEATURES

- Very Small UFD Surface Mount Package
- Very Low Series Resistance
- Large Capacitance Ratio (A = 2.35)
- Excellent Linearity (CV Curve)
- Very Small Capacitance Deviation at Tape/Reel

### APPLICATIONS

- Communications Equipment
- Multi-Channel Cordless Telephone
- Voltage Controlled Oscillator
- UHF Wireless Communication Systems

### DESCRIPTION

The KV1841K is a variable capacitance diode designed for UHF applications.

The KV1841K is available in a very small UFD Surface Mount Package.


### CLASSIFICATION

(Unit: pF)

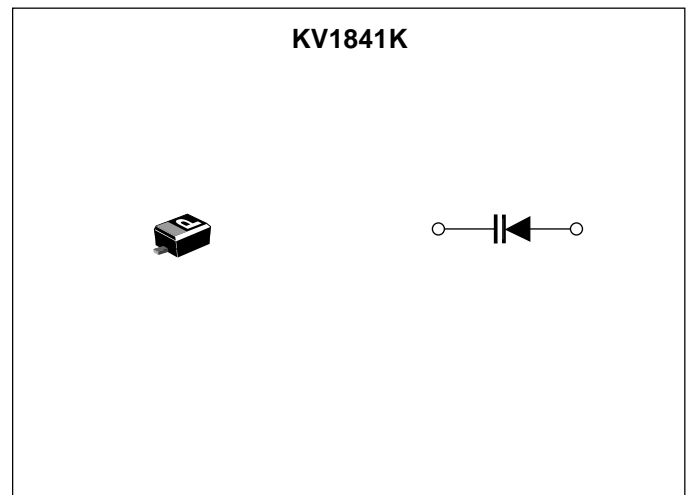
C		RANK			
		1	2	3	4
C <sub>2</sub>	MIN	13.50	13.93	14.35	14.78
	MAX	14.23	14.65	15.08	15.50

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

KV1841K 

TAPE/REEL CODE  
TR: Tape Right



# KV1841K

---

## ABSOLUTE MAXIMUM RATINGS

Reverse Voltage ..... 18 V      Storage Temperature Range ..... -55 to +150 °C  
Forward Current ..... 7 mA      Operating Temperature Range ..... -55 to +85 °C  
Power Dissipation ..... 25 mW

## ELECTRICAL CHARACTERISTICS

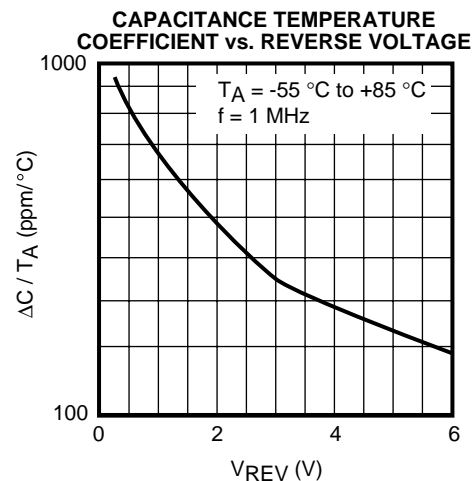
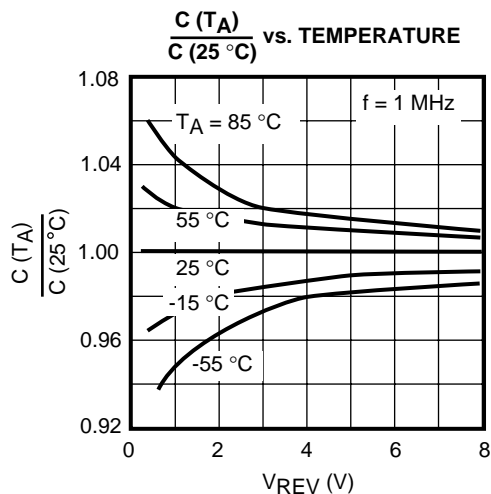
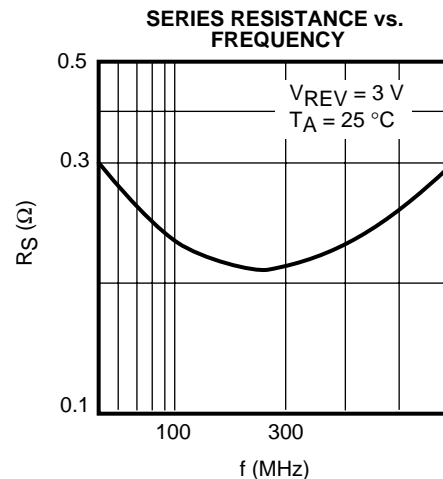
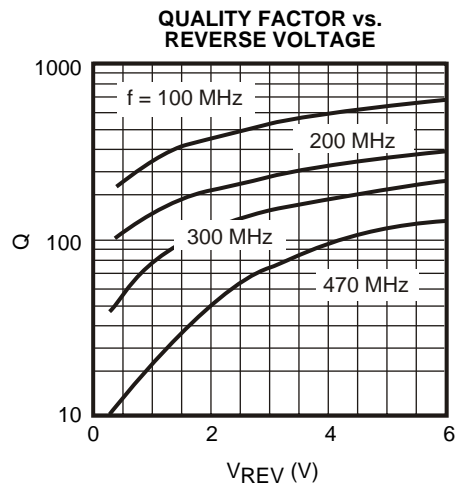
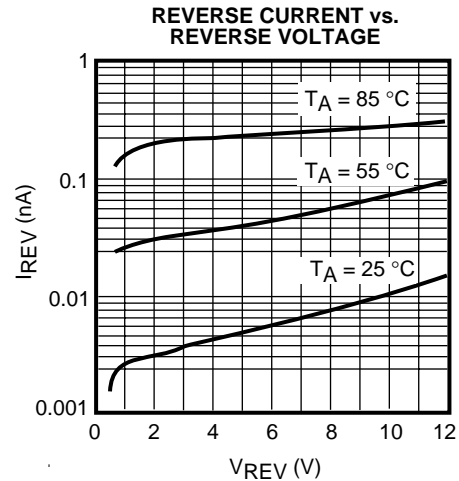
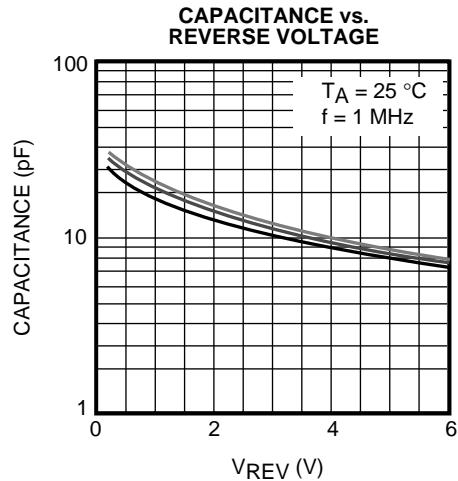
Test conditions:  $T_A = 25\text{ °C}$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_{REV}$	Reverse Voltage	$I_{REV} = 1\ \mu\text{A}$	12			V
$I_{REV}$	Reverse Current	$V_{REV} = 10\ \text{V}$			5.0	nA
$C_2$	Diode Capacitance 2	$V_{REV} = 2\ \text{V}, f = 1\ \text{MHz}$	13.50	14.50	15.50	pF
$C_6$	Diode Capacitance 6	$V_{REV} = 6\ \text{V}, f = 1\ \text{MHz}$	6.80	7.50	8.30	pF
$R_S$	Series Resistance	$C = 11\ \text{pF}, f = 470\ \text{MHz}$			0.3	$\Omega$
A	Capacitance Ratio	$C_1 / C_6$	2.35			

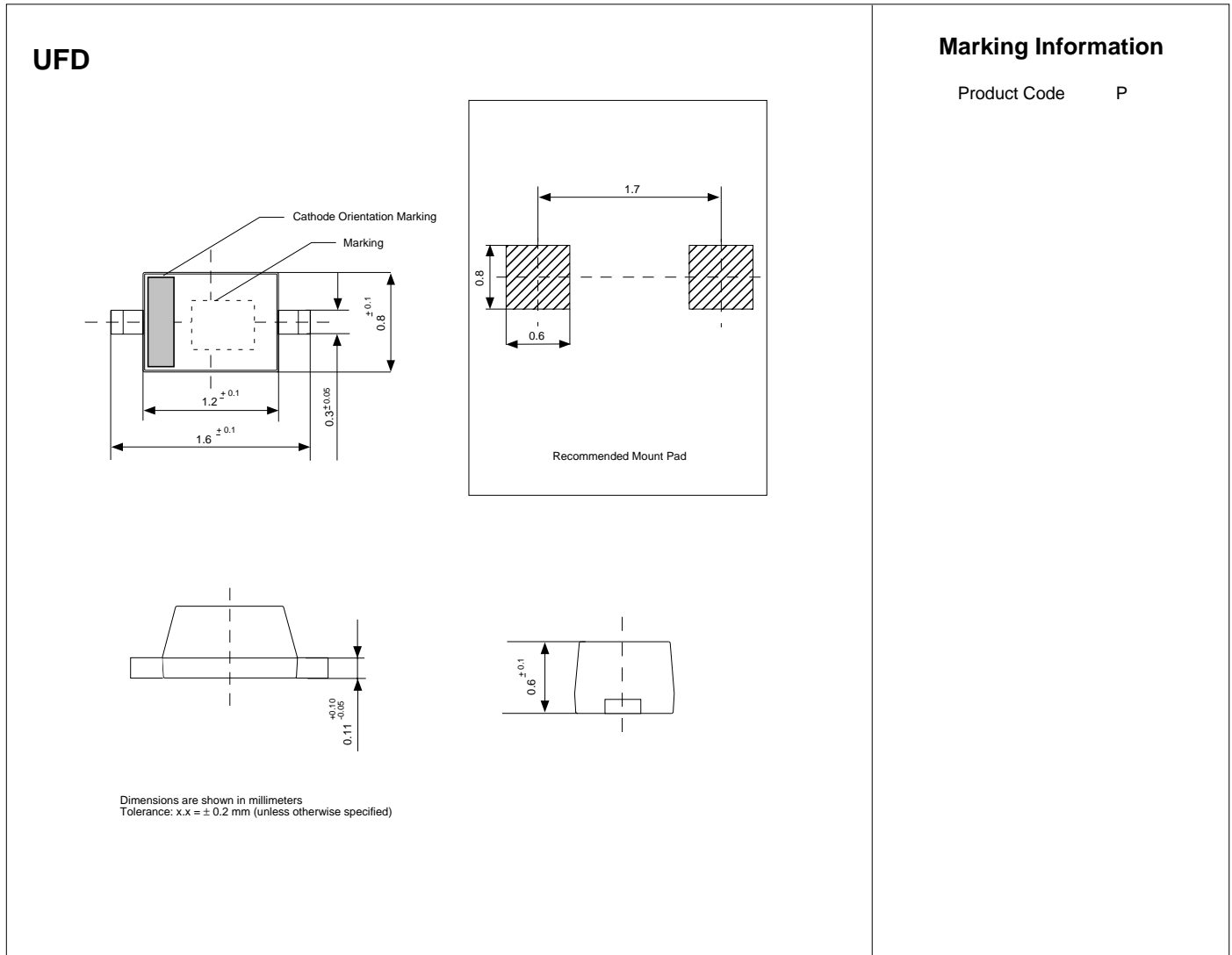
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms,  $\pm 5$  mVrms).

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

## TYPICAL PERFORMANCE CHARACTERISTICS



## PACKAGE OUTLINE



Toko 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.