

## VARIABLE CAPACITANCE DIODE

### FEATURES

- Very Small UFD Surface Mount Package
- Very Low Series Resistance
- Large Capacitance Ratio (A = 1.9 minimum)
- Excellent Linearity (CV Curve)
- Very Small Capacitance Deviation at Tape/Reel

### APPLICATIONS

- UHF Communications Equipment
- Voltage Controlled Oscillator
- 900 MHz Communications Systems

### DESCRIPTION

The KV1845K is a variable capacitance diode designed for UHF applications.

The KV1845K is available in a very small UFD Surface Mount Package.

### CLASSIFICATION

(Unit: pF)

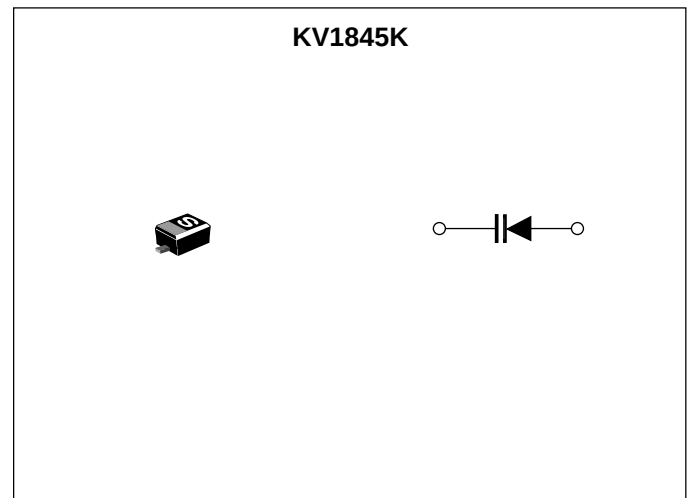
| RANK           |     | A     | B     |
|----------------|-----|-------|-------|
| C              |     |       |       |
| C <sub>1</sub> | MIN | 9.70  | 10.25 |
|                | MAX | 10.55 | 11.10 |

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

KV1845K  Tape/Reel Code

TAPE/REEL CODE  
TR: Tape Right



# KV1845K

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## ABSOLUTE MAXIMUM RATINGS

Reverse Voltage ..... 15 V  
Forward Current ..... 7 mA  
Power Dissipation ..... 25 mW

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

## ELECTRICAL CHARACTERISTICS

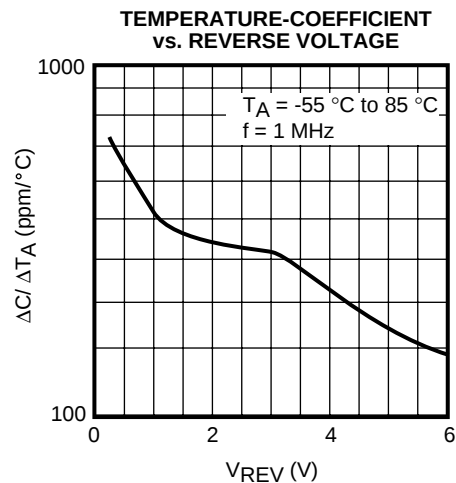
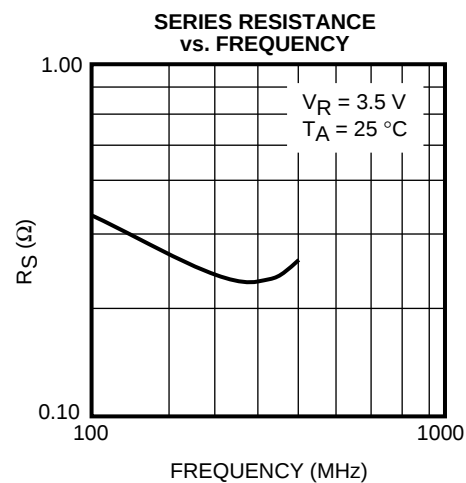
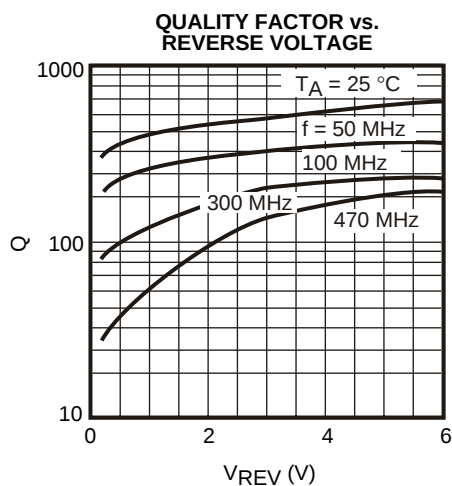
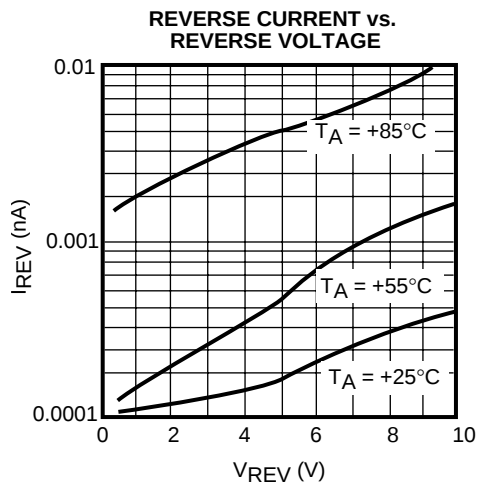
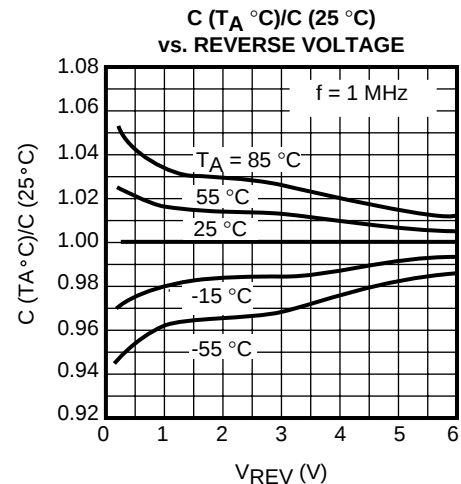
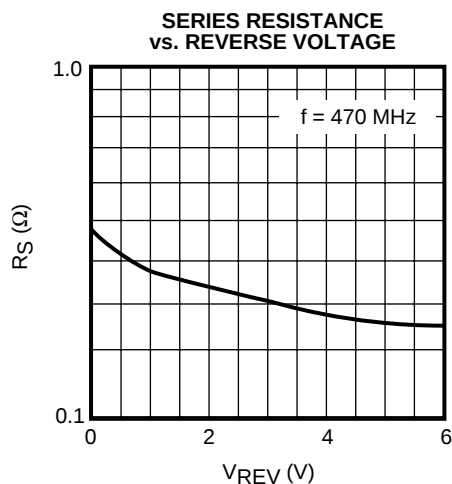
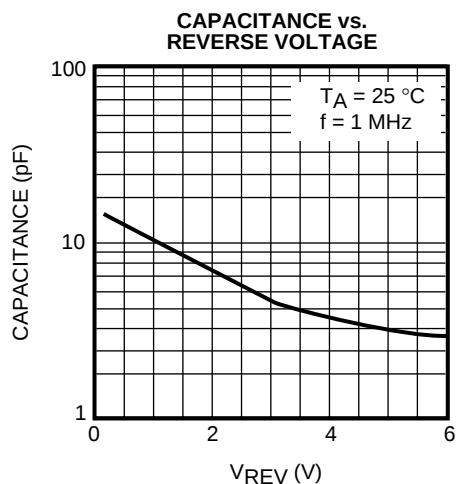
Test conditions:  $T_A = 25\text{ °C}$

| SYMBOL    | PARAMETER           | TEST CONDITIONS                             | MIN  | TYP   | MAX   | UNITS    |
|-----------|---------------------|---------------------------------------------|------|-------|-------|----------|
| $V_{REV}$ | Reverse Voltage     | $I_{REV} = 1\text{ }\mu\text{A}$            | 10   |       |       | V        |
| $I_{REV}$ | Reverse Current     | $V_{REV} = 10\text{ V}$                     |      |       | 5.00  | nA       |
| $C_1$     | Diode Capacitance 1 | $V_{REV} = 1\text{ V}$ , $f = 1\text{ MHz}$ | 9.70 | 10.40 | 11.10 | pF       |
| $C_4$     | Diode Capacitance 4 | $V_{REV} = 4\text{ V}$ , $f = 1\text{ MHz}$ | 4.15 | 4.65  | 5.15  | pF       |
| $R_S$     | Series Resistance   | $C = 5\text{ pF}$ , $f = 470\text{ MHz}$    |      | 0.25  | 0.35  | $\Omega$ |
| A         | Capacitance Ratio   | $C_1 / C_4$                                 | 1.90 |       |       |          |

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

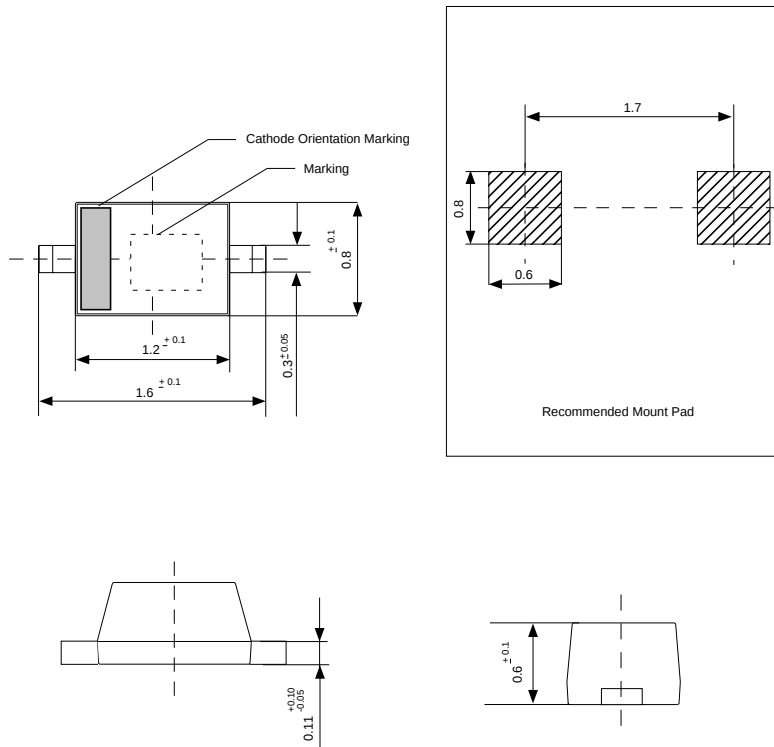
Note 2: Series Resistance measured with HP 4191A or equivalent instruments.

## TYPICAL PERFORMANCE CHARACTERISTICS



## PACKAGE OUTLINE

## UFD



Dimensions are shown in millimeters  
Tolerance:  $x.x \pm 0.2$  mm (unless otherwise specified)

## Marking Information

Product Code S



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>

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