

# VARIABLE CAPACITANCE DIODE

## FEATURES

- Very Small UFD Surface Mount Package
- Very Low Operating Voltage (1 to 8 V)
- Large Capacitance Ratio ( $A = 7.4$ )
- 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 KV1812K is a variable capacitance diode designed for UHF applications.

The KV1812K is available in a very small UFD Surface Mount Package.

## CLASSIFICATION

(Unit: pF)

| RANK |     | 1     | 2     | 3     |
|------|-----|-------|-------|-------|
| C    | MIN | 14.50 | 15.36 | 16.34 |
|      | MAX | 15.66 | 16.64 | 17.50 |

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

KV1812K



Tape/Reel Code

TAPE/REEL CODE  
TR: Tape Right

KV1812K



# KV1812K

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## ABSOLUTE MAXIMUM RATINGS

Reverse Voltage ..... 25 V  
Forward Current ..... 10 mA  
Power Dissipation ..... 50 mW

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

## ELECTRICAL CHARACTERISTICS

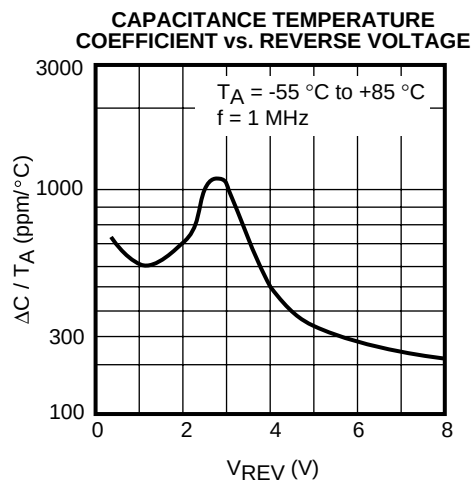
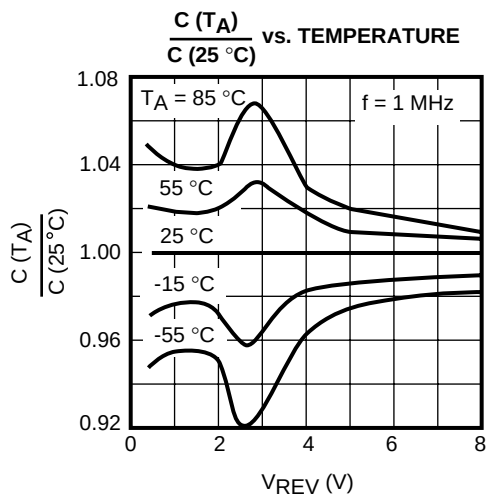
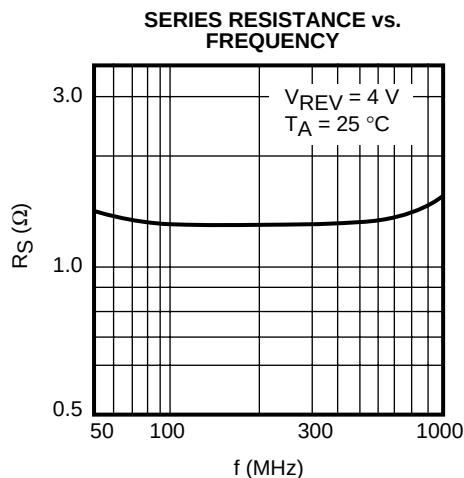
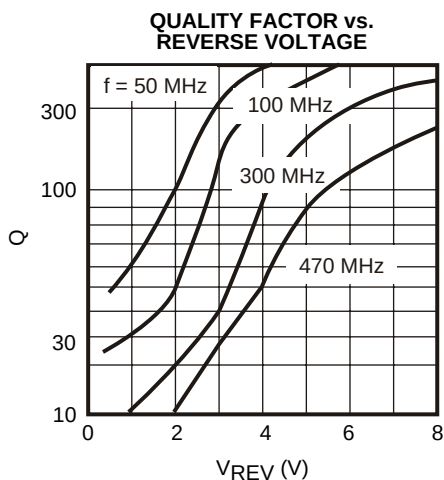
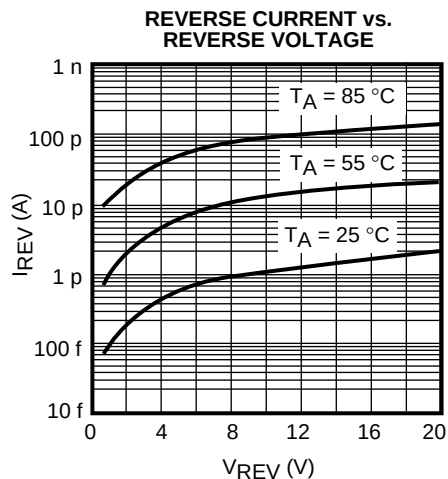
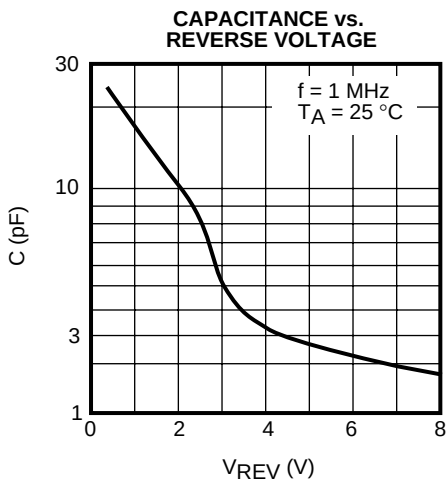
Test conditions:  $T_A = 25\text{ °C}$

| SYMBOL    | PARAMETER           | TEST CONDITIONS                             | MIN   | TYP | MAX   | UNITS    |
|-----------|---------------------|---------------------------------------------|-------|-----|-------|----------|
| $V_{REV}$ | Reverse Voltage     | $I_{REV} = 10\text{ }\mu\text{A}$           | 20    |     |       | V        |
| $I_{REV}$ | Reverse Current     | $V_{REV} = 16\text{ V}$                     |       |     | 5.0   | nA       |
| $C_1$     | Diode Capacitance 1 | $V_{REV} = 1\text{ V}$ , $f = 1\text{ MHz}$ | 14.50 |     | 17.50 | pF       |
| $C_8$     | Diode Capacitance 8 | $V_{REV} = 8\text{ V}$ , $f = 1\text{ MHz}$ | 1.64  |     | 2.24  | pF       |
| $R_S$     | Series Resistance   | $C = 6\text{ pF}$ , $f = 470\text{ MHz}$    |       |     | 2.10  | $\Omega$ |
| A         | Capacitance Ratio   | $C_1 / C_8$                                 | 7.4   |     |       |          |

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

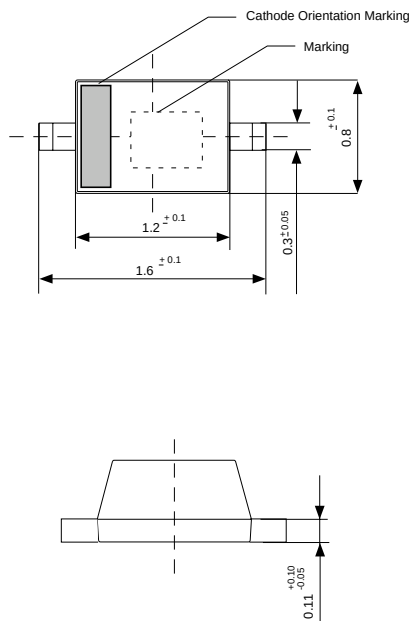
Note 2: Series Resistance measured with HP 4191A or equivalent instruments.

## TYPICAL PERFORMANCE CHARACTERISTICS

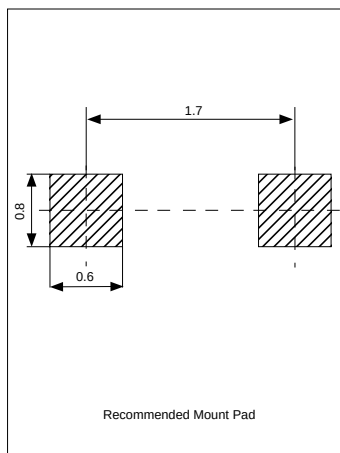


## PACKAGE OUTLINE

## UFD



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



## Marking Information

Product Code G



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