

## VARIABLE CAPACITANCE DIODE

### FEATURES

- Very Small URD Surface Mount Package
- Very Low Operating Voltage (1 to 4 V)
- Large Capacitance Ratio (A = 2.8 minimum)
- Excellent Linearity (CV Curve)
- Very Small Capacitance Deviation at Tape/Reel
- Very Low Series Resistance

### APPLICATIONS

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

### DESCRIPTION

The KV1835E is a variable capacitance diode designed for UHF applications.

The KV1835E is available in a very small URD Surface Mount Package.


### CLASSIFICATION

(Unit: pF)

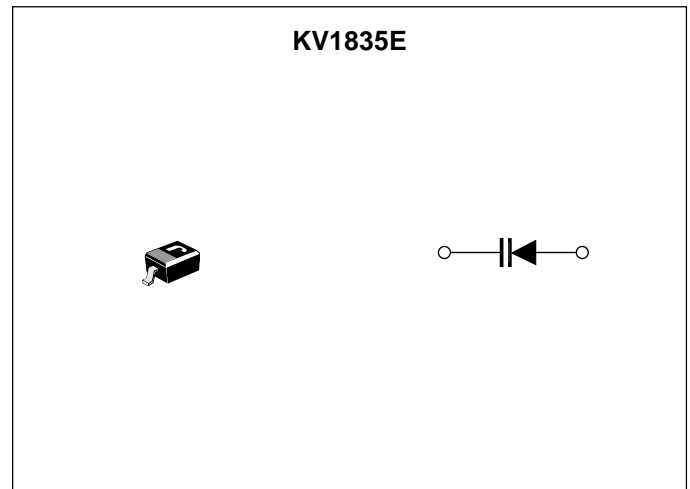
C		RANK		
		1	2	3
C <sub>2</sub>	MIN	11.8	12.3	13.0
	MAX	12.6	13.3	13.8

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

KV1835E    
 \_\_\_\_\_ Tape/Reel Code

TAPE/REEL CODE  
 TR: Tape Right



# KV1835E

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## ABSOLUTE MAXIMUM RATINGS

Reverse Voltage ..... 28 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

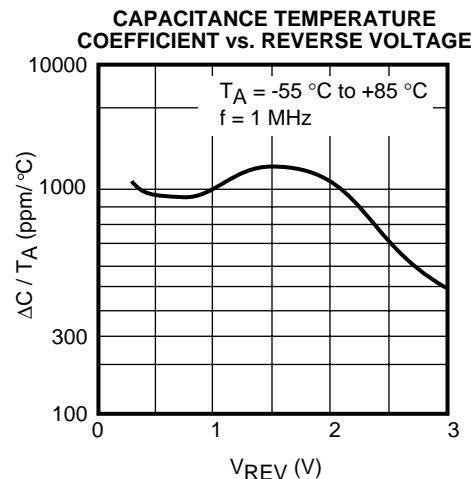
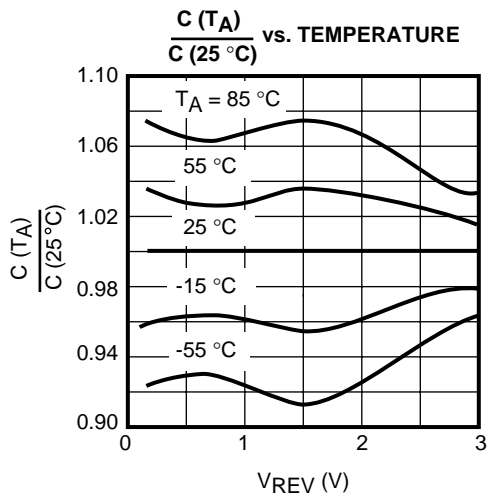
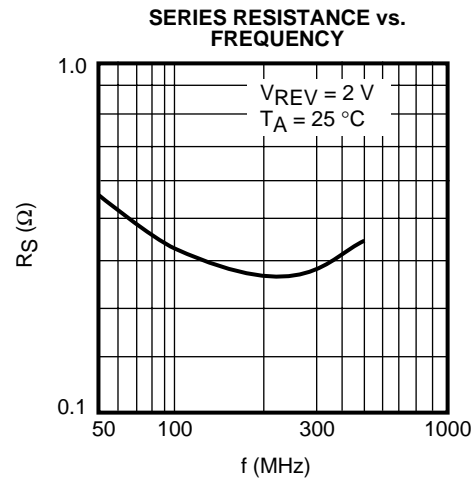
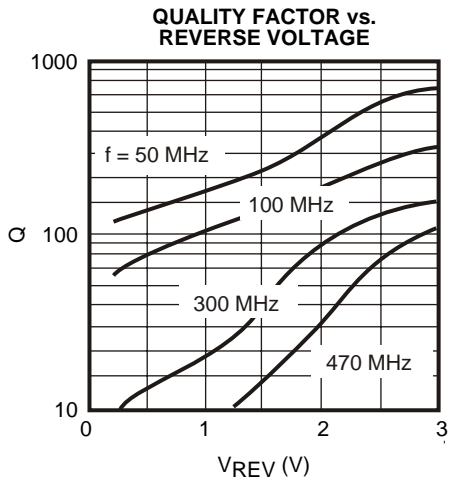
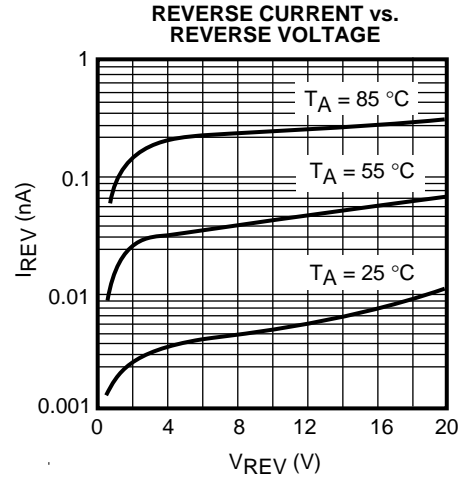
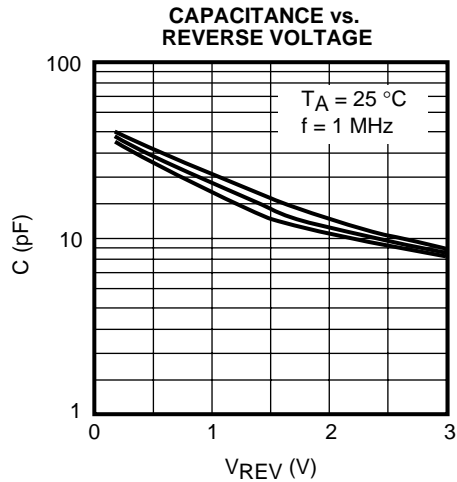
Test conditions:  $T_A = 25\text{ °C}$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_{REV}$	Reverse Voltage	$I_{REV} = 10\ \mu\text{A}$	20			V
$I_{REV}$	Reverse Current	$V_{REV} = 16\ \text{V}$			5.0	nA
$C_{0.5}$	Diode Capacitance 0.5	$V_{REV} = 0.5\ \text{V}, f = 1\ \text{MHz}$	36.5		42.5	pF
$C_2$	Diode Capacitance 2	$V_{REV} = 2\ \text{V}, f = 1\ \text{MHz}$	11.8		13.8	pF
$R_S$	Series Resistance	$V_{REV} = 1.5\ \text{V}, f = 100\ \text{MHz}$			0.6	$\Omega$
A	Capacitance Ratio	$C_{0.5} / C_2$	2.8			

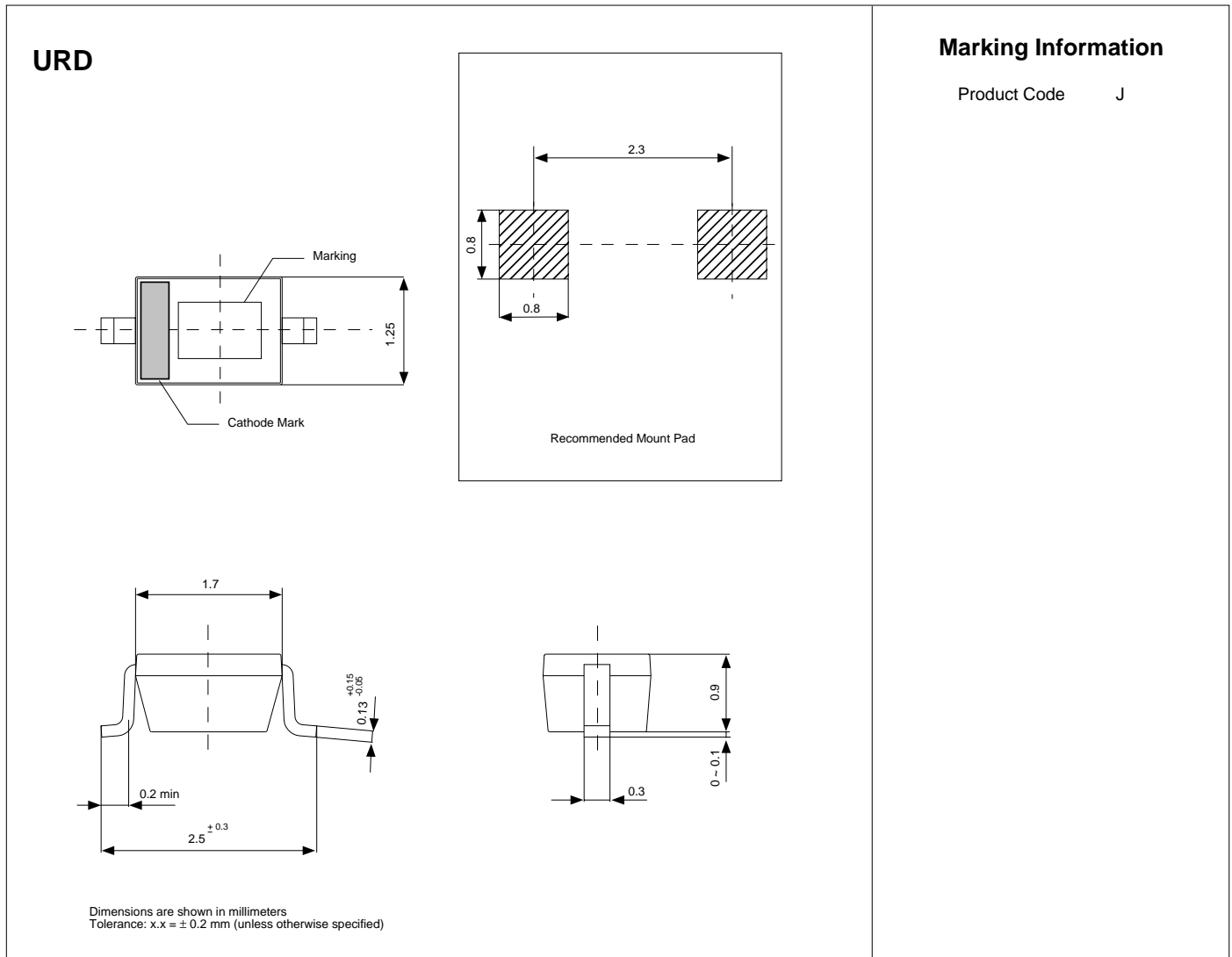
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms,  $\pm 5\ \text{mVrms}$ ).

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

## TYPICAL PERFORMANCE CHARACTERISTICS



## PACKAGE OUTLINE



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