

## VARIABLE CAPACITANCE DIODE

### FEATURES

- Very Small URD Surface Mount Package
- Very Low Operating Voltage (1 to 8 V)
- Large Capacitance Ratio (A = 7.0 minimum)
- 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 KV1811E is a variable capacitance diode designed for UHF applications.

The KV1811E is available in a very small URD Surface Mount Package.


### CLASSIFICATION

(Unit: pF)

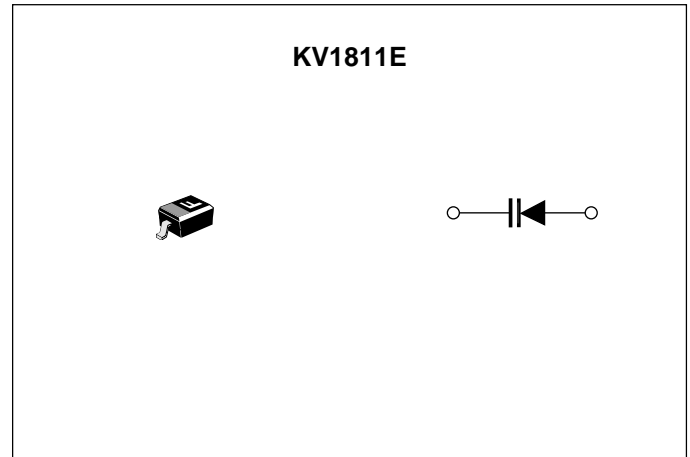
C		RANK				
		3	4	5	6	7
C <sub>1</sub>	MIN	19.51	20.22	21.03	21.83	22.64
	MAX	20.42	21.23	22.03	22.84	23.55

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

KV1811E  Tape/Reel Code

TAPE/REEL CODE  
TR: Tape Right



# KV1811E

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## ABSOLUTE MAXIMUM RATINGS

Reverse Voltage ..... 25 V      Storage Temperature Range ..... -55 to +150 °C  
Forward Current ..... 10 mA      Operating Temperature Range ..... -55 to +85 °C  
Power Dissipation ..... 50 mW

## ELECTRICAL CHARACTERISTICS

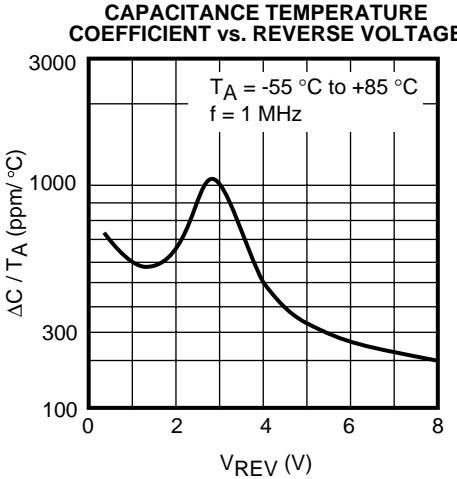
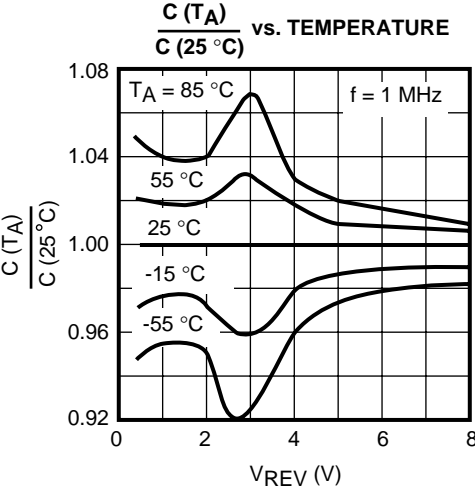
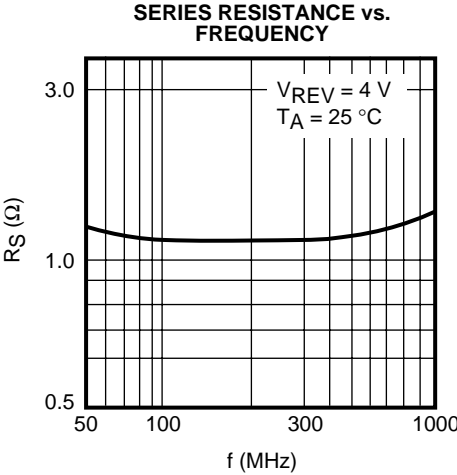
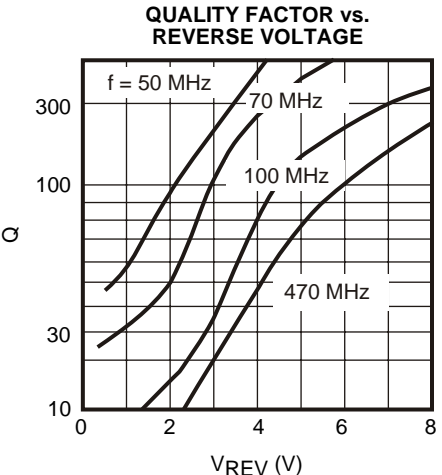
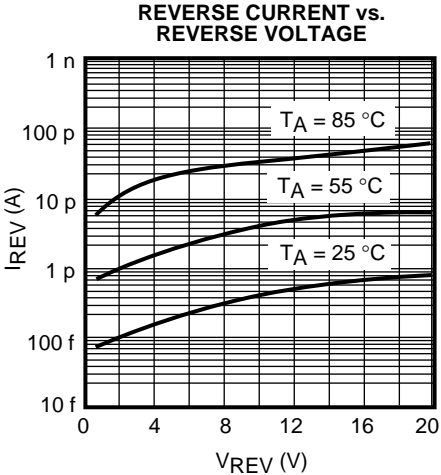
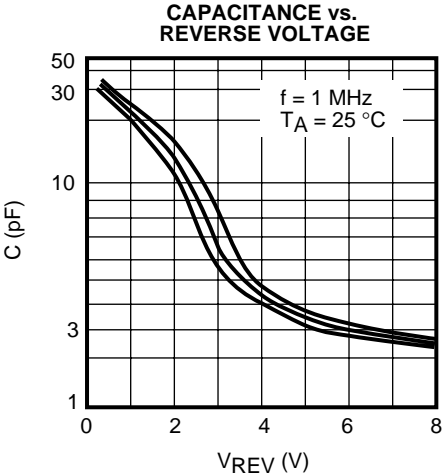
Test conditions:  $T_A = 25\text{ °C}$

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
$C_1$	Diode Capacitance 1	$V_{REV} = 1\ \text{V}, f = 1\ \text{MHz}$	19.51	21.50	23.55	pF
$C_8$	Diode Capacitance 8	$V_{REV} = 8\ \text{V}, f = 1\ \text{MHz}$	2.14	2.50	2.92	pF
$R_S$	Series Resistance	$C = 8\ \text{pF}, f = 470\ \text{MHz}$			1.8	$\Omega$
A	Capacitance Ratio	$C_1 / C_8$	7.0			

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

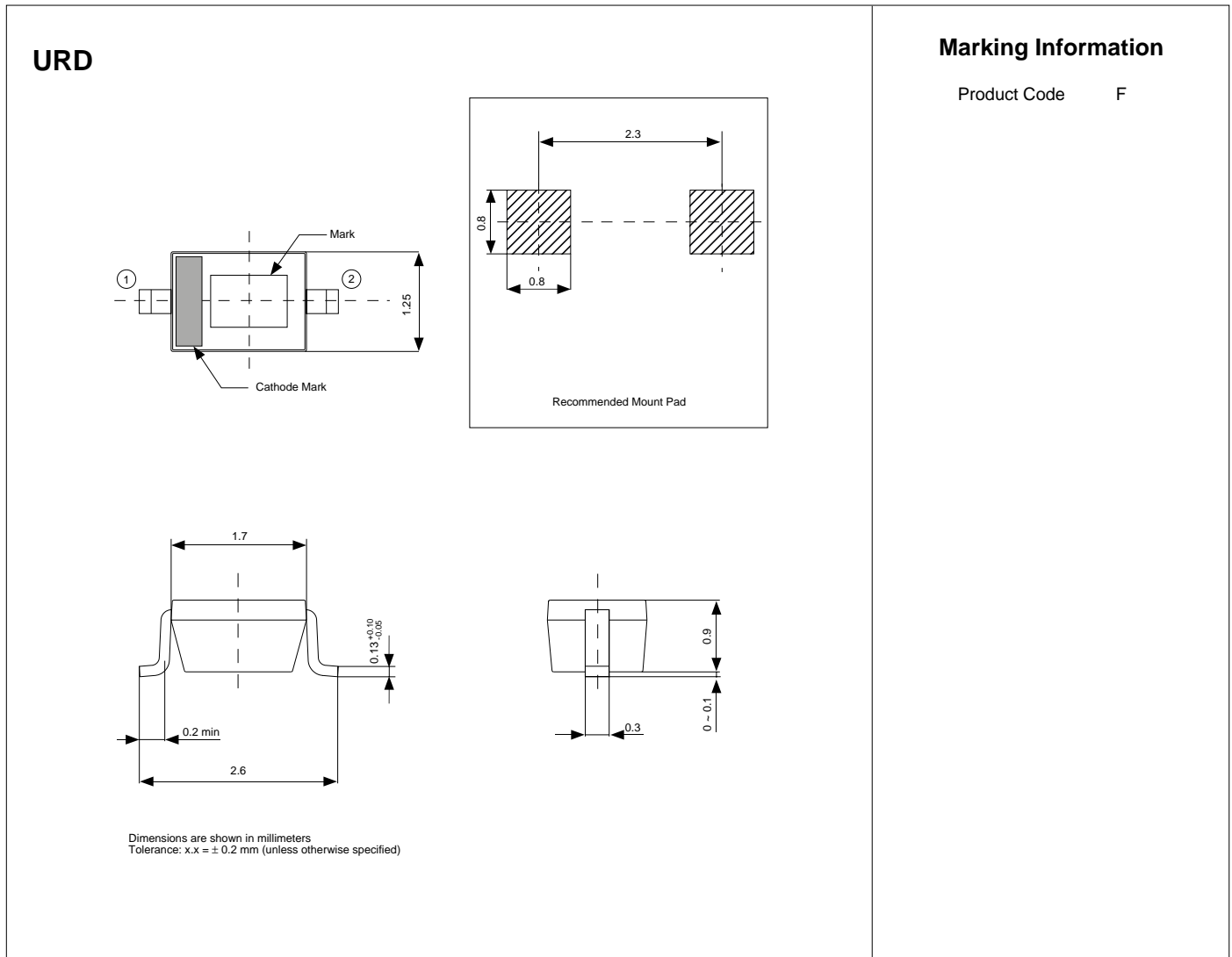
Note 2: Series Resistance measured with HP 4191A or equivalent instruments.

TYPICAL PERFORMANCE CHARACTERISTICS



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