

## VARIABLE CAPACITANCE DIODE

### FEATURES

- Very Low Operating Voltage (1 to 4.5 V)
- Excellent Linearity (CV Curve)
- Large Capacitance Ratio (A = 5 minimum)
- Very Small URD Surface Mount Package
- Very Small Capacitance Deviation at Tape/Reel

### APPLICATIONS

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

### DESCRIPTION

The KV1471E is a 5 volt range variable capacitance diode designed for FM tuner applications.

The KV1471E is available in a very small URD Surface Mount Package.

### CLASSIFICATION

(Unit: pF)

C		RANK		
		1	2	3
C <sub>1</sub>	MIN	30.16	33.30	36.77
	MAX	33.63	37.13	40.99

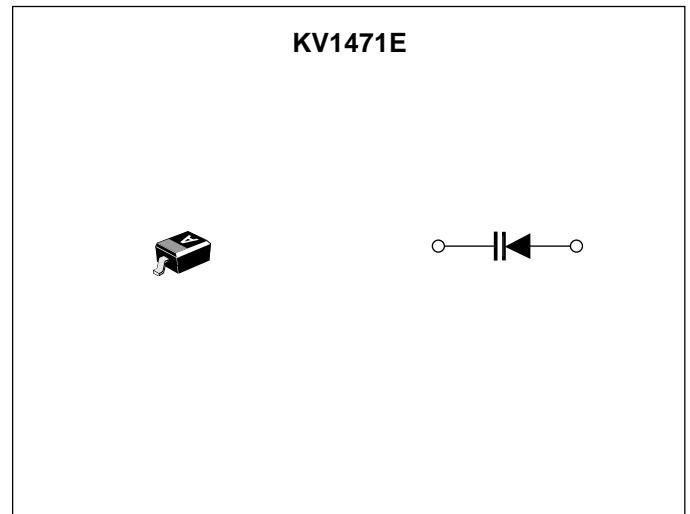
Note: Rank is determined after testing and marked on the reel. All the diodes on a reel have the same rank, but rank can not be specified when ordering.

### ORDERING INFORMATION

KV1471E □□

Tape/Reel Code

TAPE/REEL CODE  
TR: Tape Right



# KV1471E

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## ABSOLUTE MAXIMUM RATINGS

Reverse Voltage ..... 18V      Storage Temperature Range ..... -55 to +150 °C  
Forward Current ..... 50 mA      Operating Temperature Range ..... -55 to +85 °C  
Power Dissipation ..... 100 mW

## ELECTRICAL CHARACTERISTICS

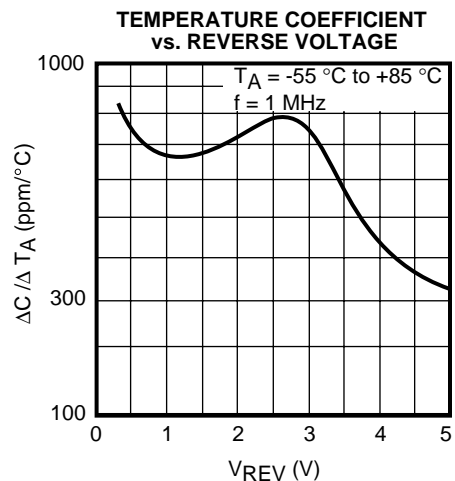
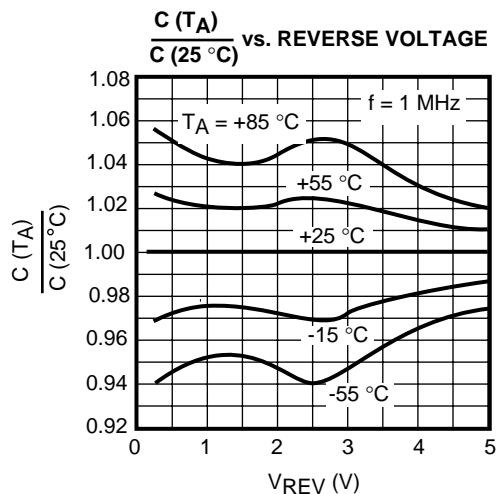
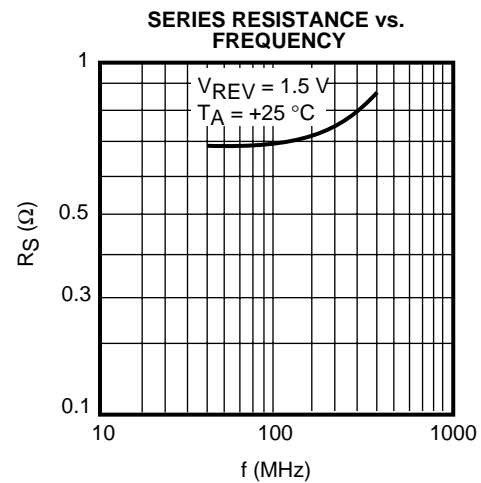
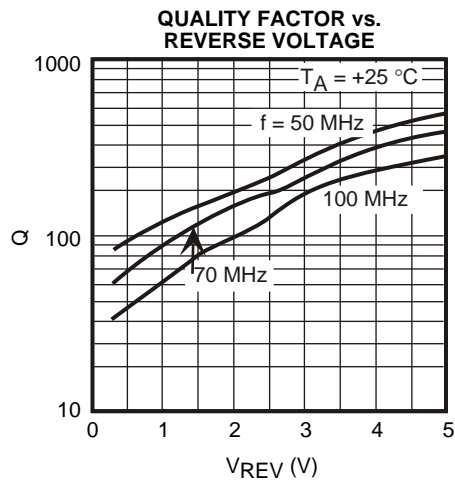
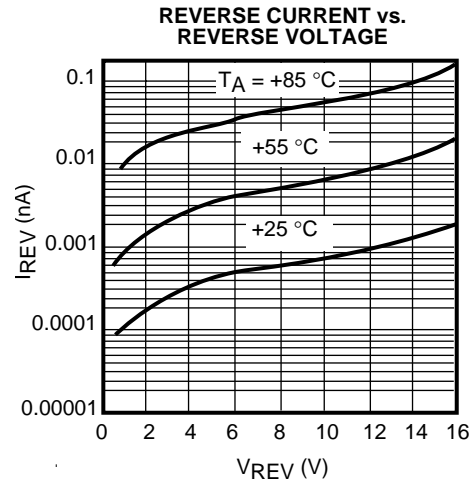
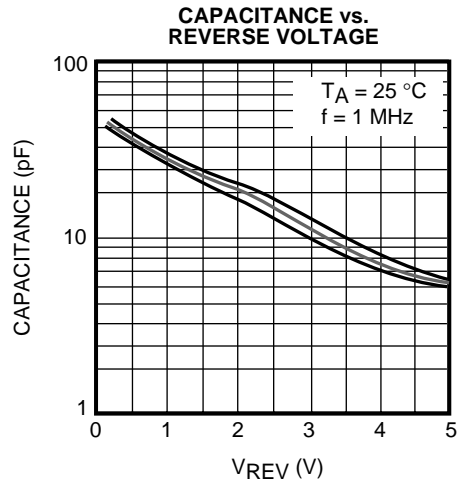
Test conditions:  $T_A = 25\text{ °C}$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_{REV}$	Reverse Voltage	$I_{REV} = 10\ \mu\text{A}$	16			V
$I_{REV}$	Reverse Current	$V_{REV} = 10\ \text{V}$			50	nA
$C_1$	Diode Capacitance 1	$V_{REV} = 1\ \text{V}, f = 1\ \text{MHz}$	30.16	35.60	40.99	pF
$C_{4.5}$	Diode Capacitance 4.5	$V_{REV} = 4.5\ \text{V}, f = 1\ \text{MHz}$	6.20	7.70	9.20	pF
$R_S$	Series Resistance	$V_{REV} = 1.5\ \text{V}, f = 100\ \text{MHz}$		0.8	1.0	$\Omega$
A	Capacitance Ratio	$C_1 / C_5$	5.00			

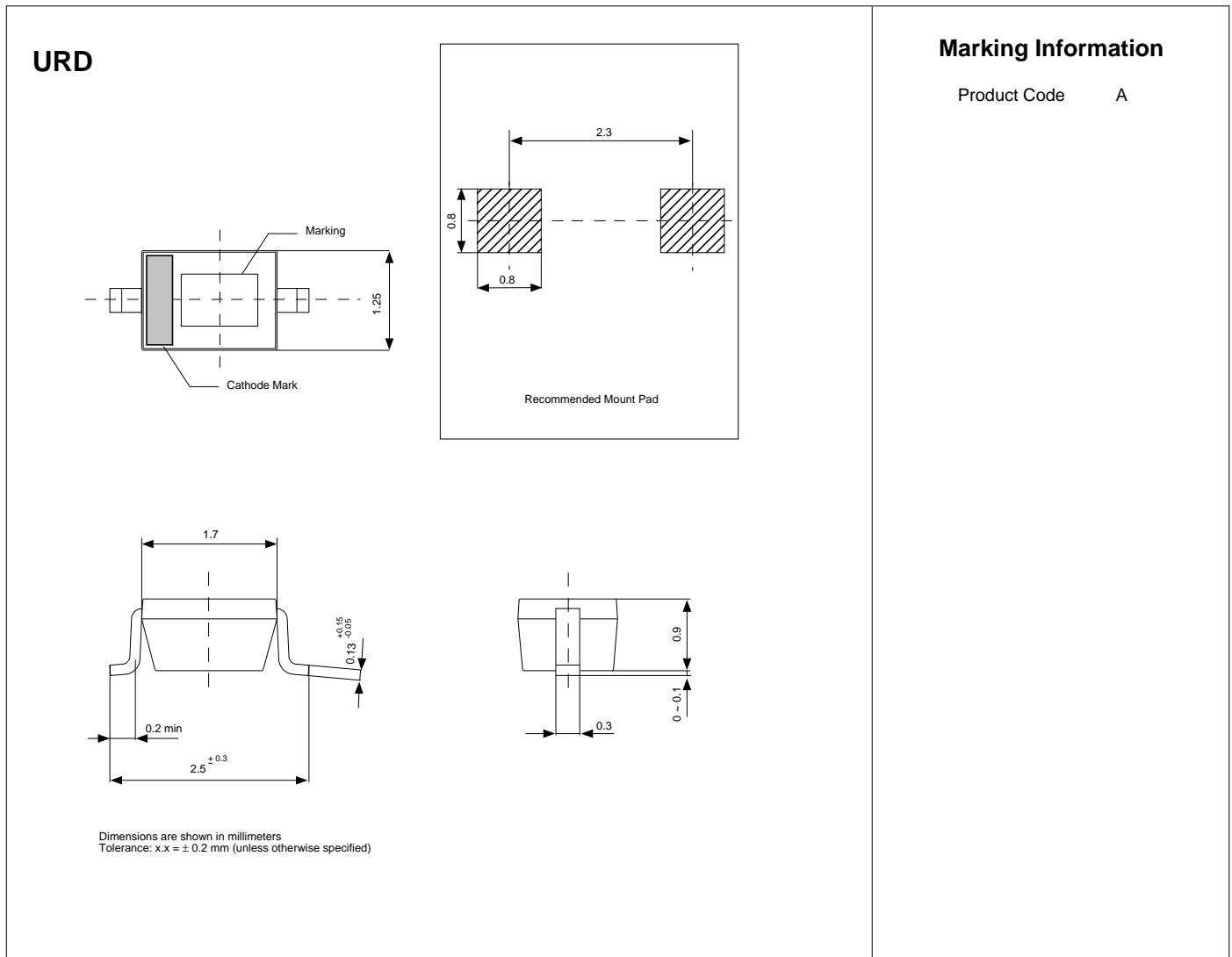
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms,  $\pm 5$  mVrms).

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

## TYPICAL PERFORMANCE CHARACTERISTICS



## PACKAGE OUTLINE



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