

VARIABLE CAPACITANCE DIODE

FEATURES

- Very Small URD Surface Mount Package
- Very Low Series Resistance
- Large Capacitance Ratio ($A = 1.85$ minimum)
- Excellent Linearity (CV Curve)
- Very Small Capacitance Deviation at Tape/Reel

APPLICATIONS

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

DESCRIPTION

The KV1847E is a variable capacitance diode designed for UHF applications.

The KV1847E is available in a very small URD Surface Mount Package.


CLASSIFICATION

(Unit: pF)

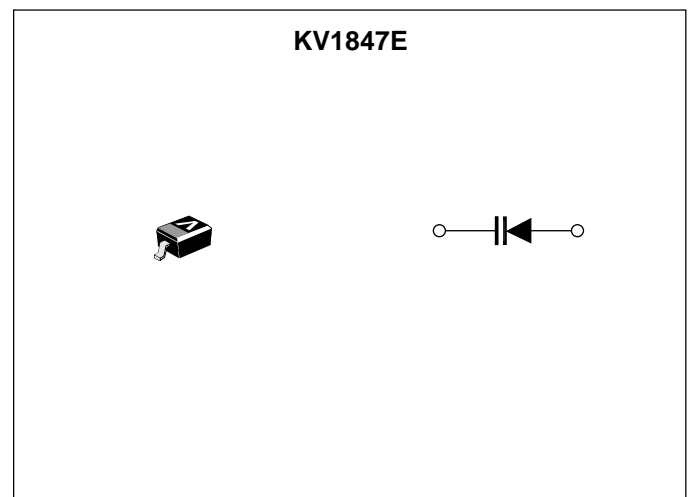
| RANK | | 1 | 2 | 3 |
|------|-----|------|------|------|
| C | MIN | 4.10 | 4.32 | 4.83 |
| | MAX | 4.47 | 4.98 | 5.20 |

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

KV1847E  Tape/Reel Code

TAPE/REEL CODE
TR: Tape Right



KV1847E

ABSOLUTE MAXIMUM RATINGS

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

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

ELECTRICAL CHARACTERISTICS

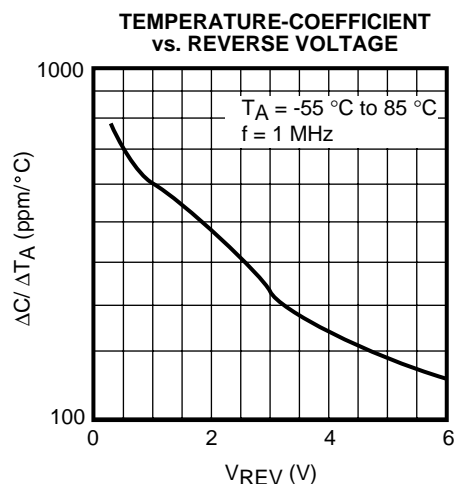
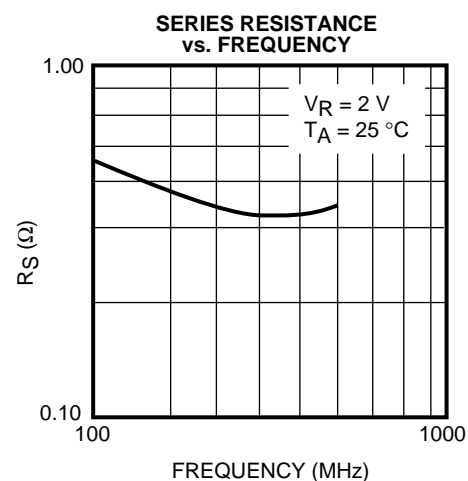
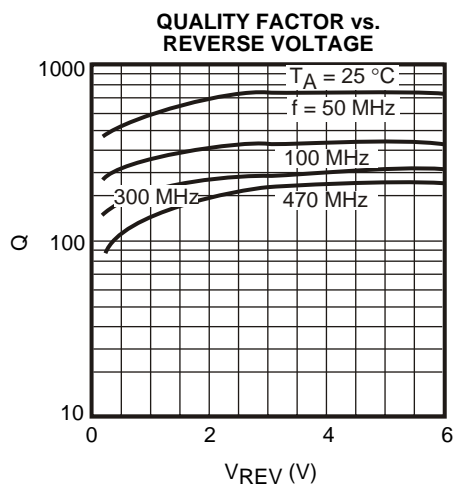
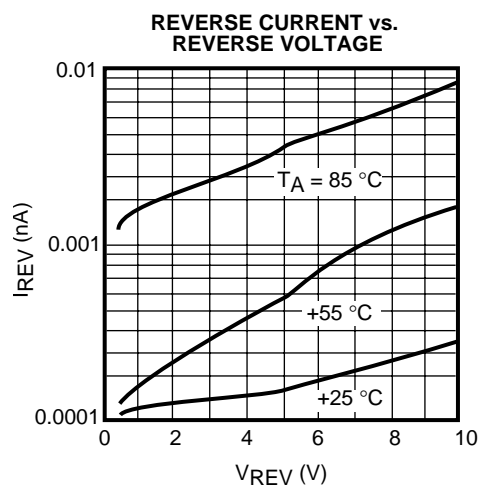
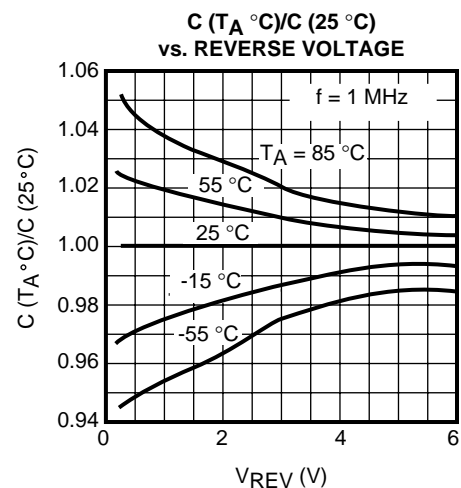
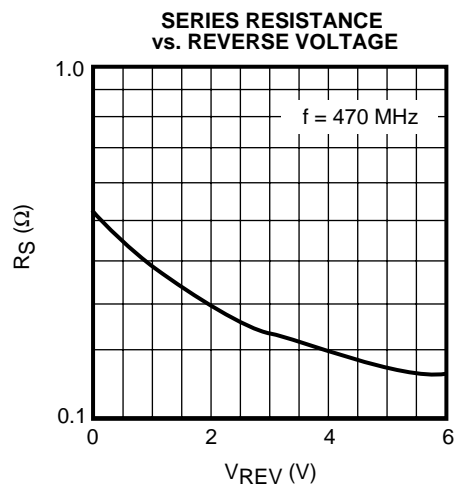
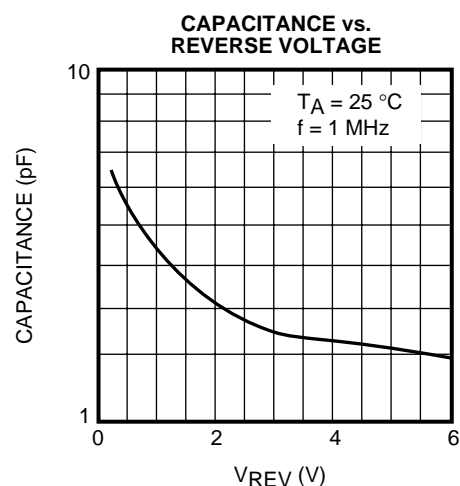
Test conditions: $T_A = 25\text{ °C}$

| 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 | $V_{REV} = 1\text{ V}$, $f = 1\text{ MHz}$ | 4.1 | 4.65 | 5.2 | pF |
| C_4 | Diode Capacitance 4 | $V_{REV} = 4\text{ V}$, $f = 1\text{ MHz}$ | 1.9 | 2.23 | 2.56 | pF |
| R_S | Series Resistance | $C = 3\text{ pF}$, $f = 470\text{ MHz}$ | | 0.35 | 0.40 | Ω |
| A | Capacitance Ratio | C_1 / C_4 | 1.85 | | | |

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

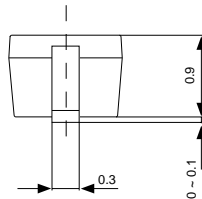
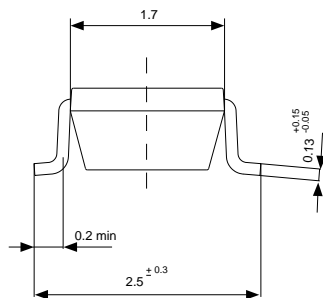
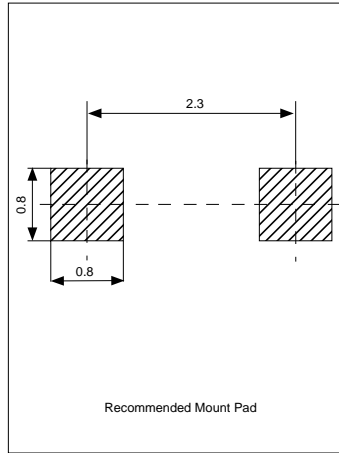
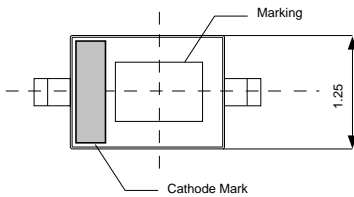
Note 2: Series Resistance measured with HP 4191A or equivalent instruments.

TYPICAL PERFORMANCE CHARACTERISTICS



PACKAGE OUTLINE

URD



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

Marking Information

Product Code V



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