VARIABLE CAPACITANCE DIODE

FEATURES

- **Very Small URD Surface Mount Package**
- **Very Low Series Resistance**
- **Large Capacitance Ratio (A = 3.9 minimum)**
- **Excellent Linearity (CV Curve)**
- **Very Small Capacitance Deviation at Tape/Reel**

APPLICATIONS

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

DESCRIPTION

The KV1851E is a variable capacitance diode designed for UHF applications.

The KV1851E is available in a very small URD Surface Mount Package.

CLASSIFICATION

(Unit: pF)

C \ RANK		1	2	3
C_1	MIN	25.00	26.50	28.10
	MAX	26.90	28.50	30.00

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.

KV1851E

ORDERING INFORMATION

KV1851E □□

Tape/Reel Code

TAPE/REEL CODE
TR: Tape Right

ABSOLUTE MAXIMUM RATINGS

Reverse Voltage ..... 18 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

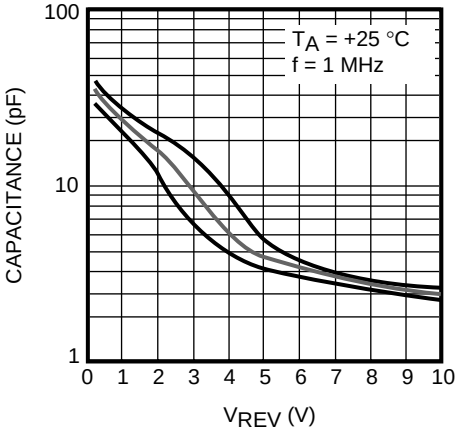
Test conditions: T_A = 25 °C

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_{REV}	Reverse Voltage	I_{REV} = 10 µA	16			V
I_{REV}	Reverse Current	V_{REV} = 10 V			5.00	nA
C_1	Diode Capacitance 1	V_{REV} = 1 V, f = 1 MHz	25.00		30.00	pF
C_4	Diode Capacitance 4	V_{REV} = 4 V, f = 1 MHz	4.90		7.00	pF
R_S	Series Resistance	V_{REV} = 4 V, f = 100 MHz			1.7	Ω
A	Capacitance Ratio	C_1 / C_4	3.90			

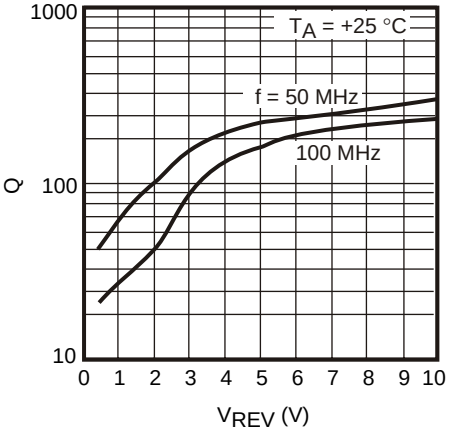
Note 1: Diode Capacitance measured with HP 4279A or equivalent instruments (at OSC level 20 mVrms, ± 5 mVrms).
Note 2: Series Resistance measured with HP 4191A or equivalent instruments.

TYPICAL PERFOMANCE CHARACTERISTICS

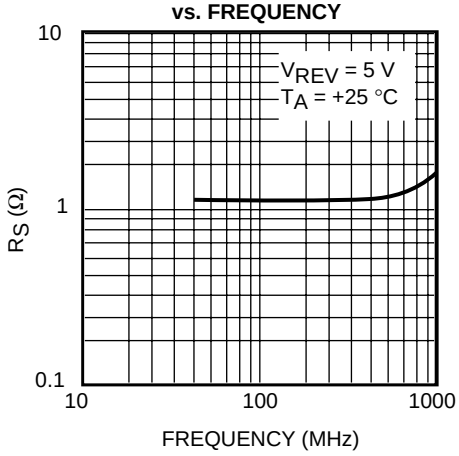
CAPACITANCE vs. REVERSE VOLTAGE



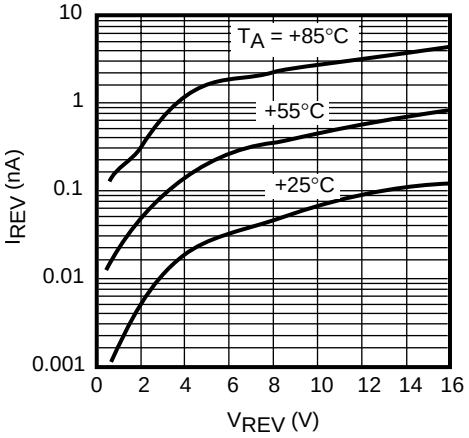
QUALITY FACTOR vs. REVERSE VOLTAGE



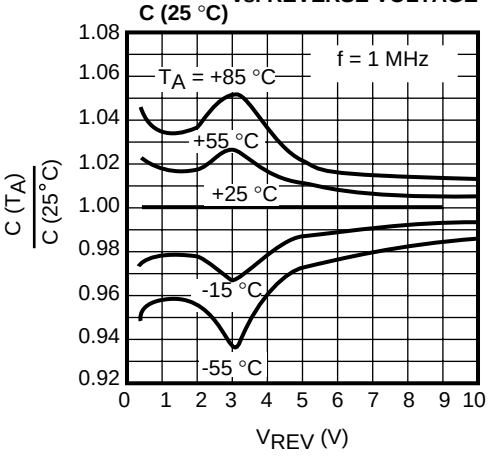
SERIES RESISTANCE vs. FREQUENCY



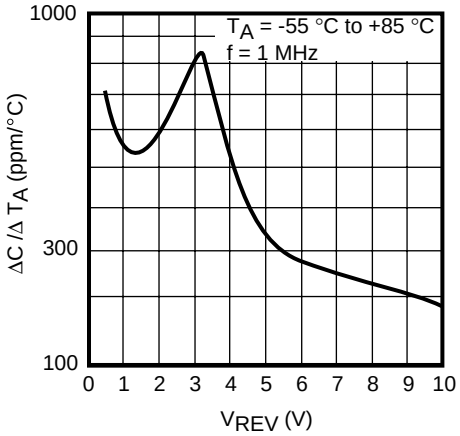
REVERSE CURRENT vs. REVERSE VOLTAGE



$\frac{C(T_A)}{C(25\,°C)}$ vs. REVERSE VOLTAGE

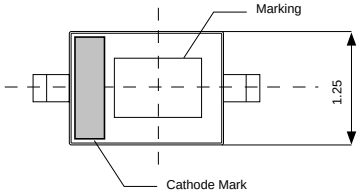


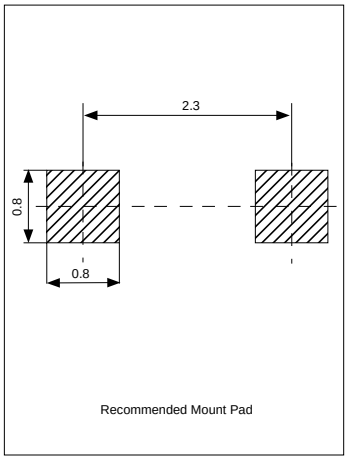
TEMPERATURE COEFFICIENT vs. REVERSE VOLTAGE

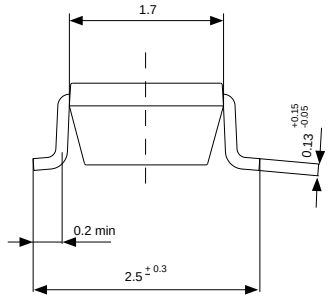


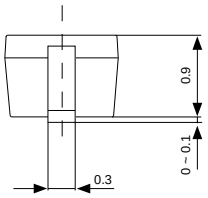
PACKAGE OUTLINE

URD









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

Marking Information

Product Code	E

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