

# RKV501KJ

## Variable Capacitance Diode for VHF tuner

REJ03G1281-0100  
Rev.1.00  
Oct 13, 2005

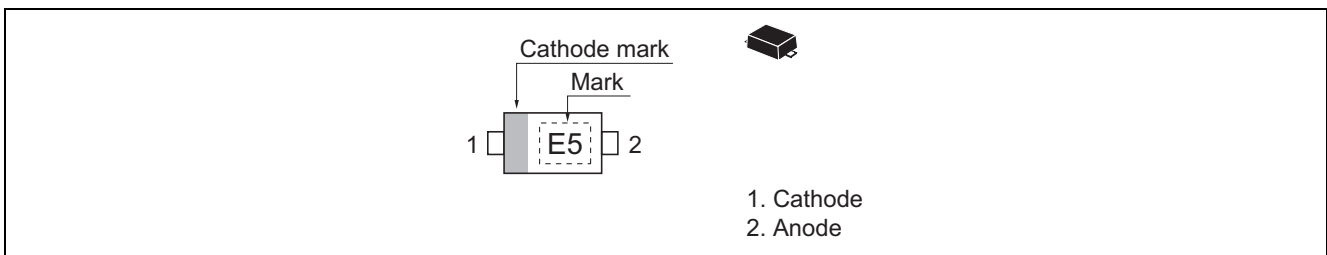
### Features

- High capacitance ratio ( $n = 11.0$  min).
- Low series resistance and good C-V linearity.
- Ultra small Flat Lead Package (UFP) is suitable for surface mount design.

### Ordering Information

Type No.	Laser Mark	Package Name	Package Code (Previous Code)
RKV501KJ	E5	UFP	PWSF0002ZA-A (UFP)

### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Peak reverse voltage	V <sub>RM</sub> *	35	V
Reverse voltage	V <sub>R</sub>	34	V
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

Note: R<sub>L</sub> = 10 kΩ

## Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	I <sub>R1</sub>	—	—	10	nA	V <sub>R</sub> = 32 V
	I <sub>R2</sub>	—	—	100		V <sub>R</sub> = 32 V, Ta = 60°C
Capacitance	C <sub>2</sub>	29.5	—	34.0	pF	V <sub>R</sub> = 2 V, f = 1 MHz
	C <sub>25</sub>	2.45	—	2.78		V <sub>R</sub> = 25 V, f = 1 MHz
Capacitance ratio	n	11.0	—	—	—	C <sub>2</sub> / C <sub>25</sub>
Series resistance	r <sub>s</sub>	—	—	0.75	Ω	V <sub>R</sub> = 5 V, f = 470 MHz
Matching error	ΔC/C *1	—	—	1.8	%	V <sub>R</sub> = 2 to 25 V, f = 1 MHz

Notes: 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of ΔC/C continuous in a reel, expect extension to another group.

Calculate Matching Error,

$$\Delta C/C = \frac{(C_{max} - C_{min})}{C_{min}} \times 100 (\%)$$

2. For UFP package, the material of lead is exposed for cutting plane. There for, soldering nature of lead tip part is considered as unquestioned. Please kindly consider soldering nature.

Main Characteristic

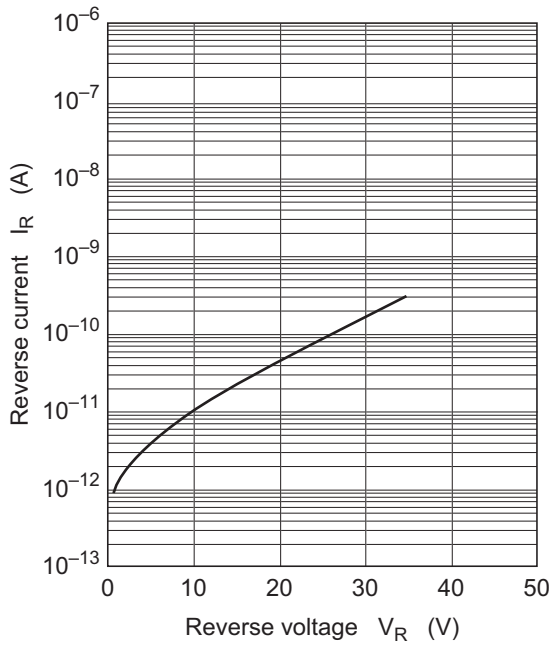


Fig.1 Reverse current vs. Reverse voltage

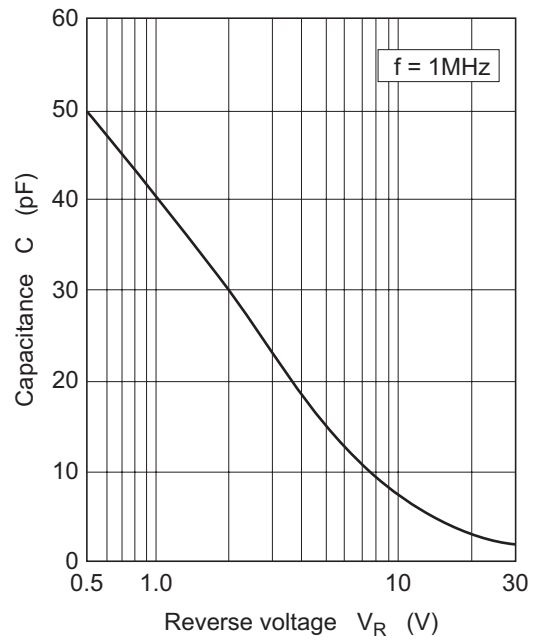


Fig.2 Capacitance vs. Reverse voltage

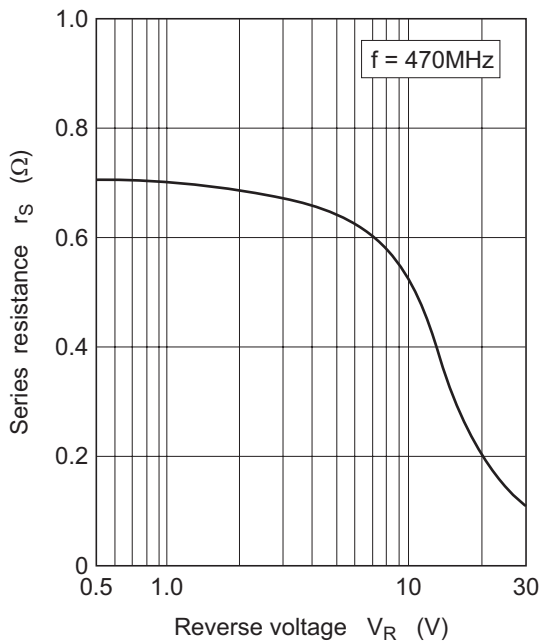


Fig.3 Series resistance vs. Reverse voltage

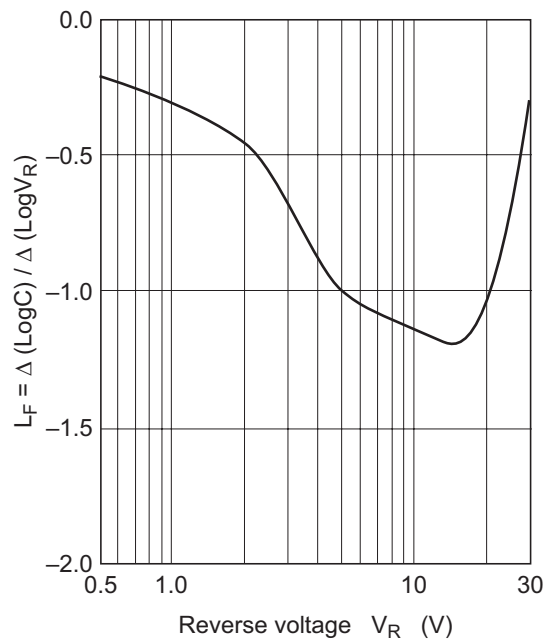
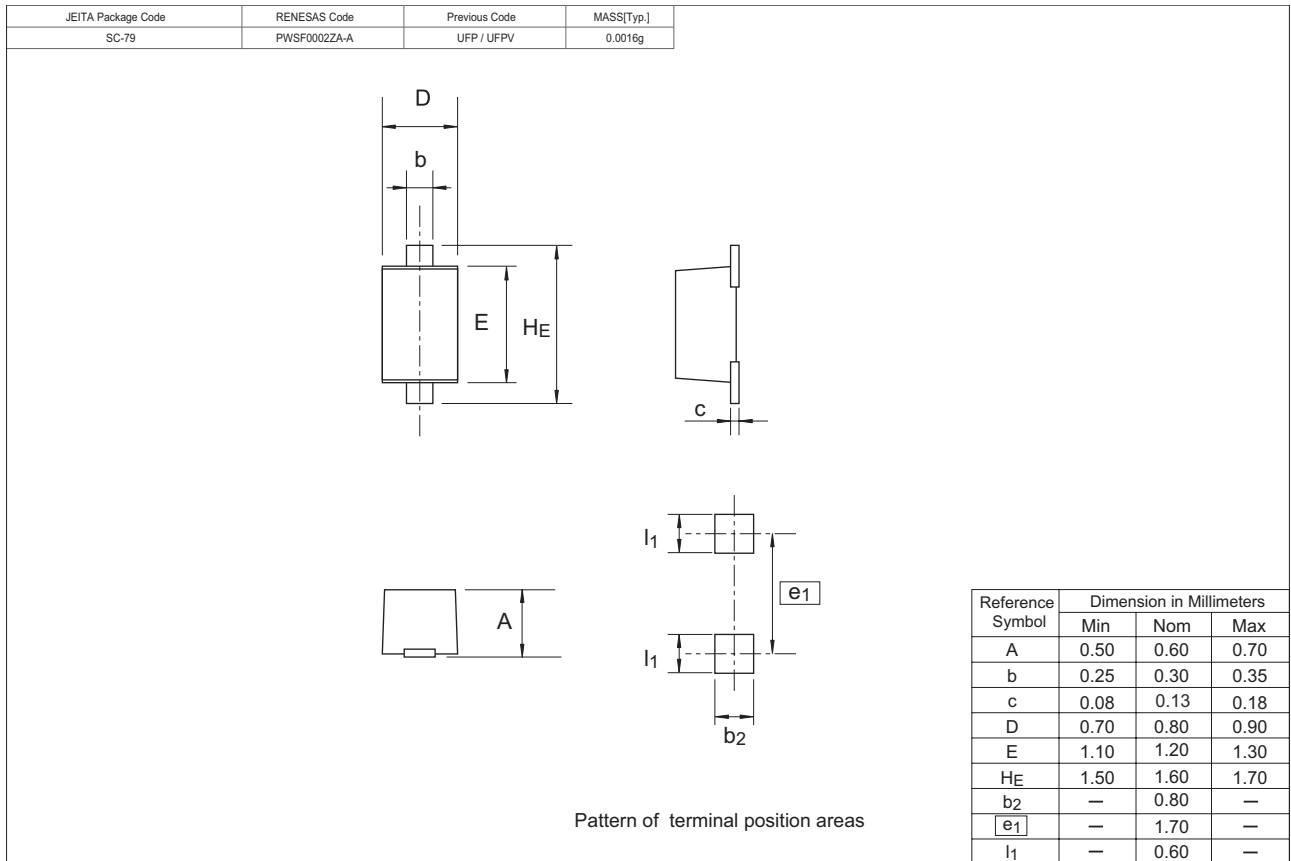


Fig.4 Linearity factor vs. Reverse voltage

### Package Dimensions



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