

# RKV502KK

## Variable Capacitance Diode for VHF tuner

REJ03G1283-0100  
Rev.1.00  
Oct 13, 2005

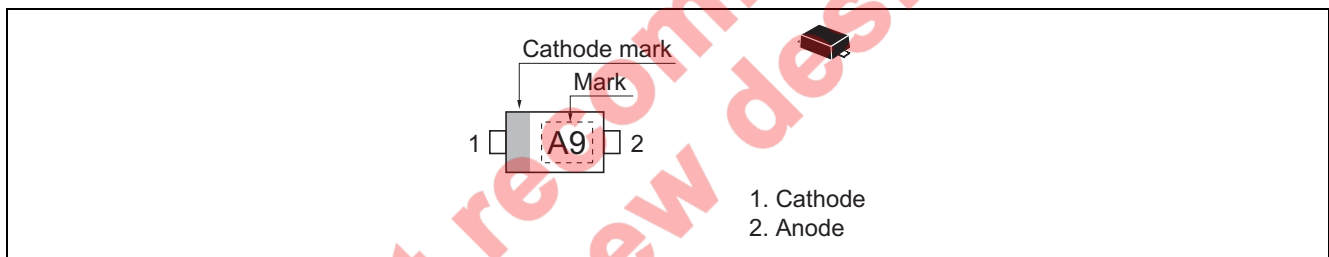
### Features

- High capacitance ratio ( $n = 14.5$  min) and suitable for wide band tuner.
- Low series resistance and good C-V linearity.
- Super small Flat Lead Package (SFP) is suitable for surface mount design.

### Ordering Information

Type No.	Laser Mark	Package Name	Package Code (Previous Code)
RKV502KK	A9	SFP	PUSF0002ZB-A (SFP)

### 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>	41.5	—	47.0	pF	V <sub>R</sub> = 2 V, f = 1 MHz
	C <sub>25</sub>	2.60	—	3.00		V <sub>R</sub> = 25 V, f = 1 MHz
Capacitance ratio	n	14.5	—	—	—	C <sub>2</sub> / C <sub>25</sub>
Series resistance	r <sub>s</sub>	—	—	1.1	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 SFP 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.

Not recommended for new design

Main Characteristic

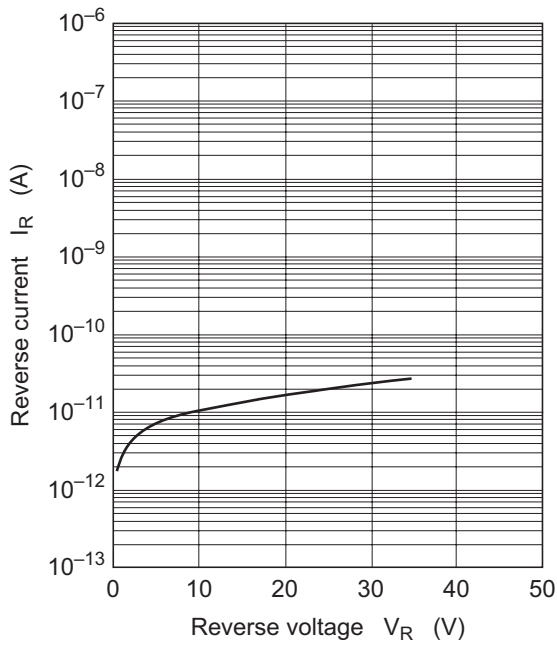


Fig.1 Reverse current vs. Reverse voltage

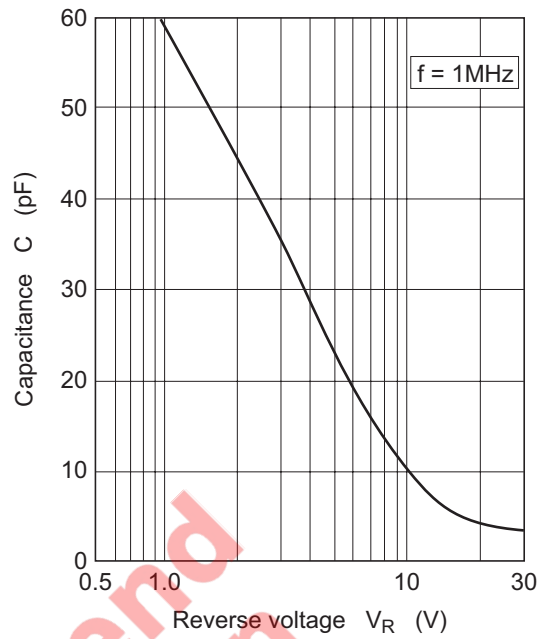


Fig.2 Capacitance vs. Reverse voltage

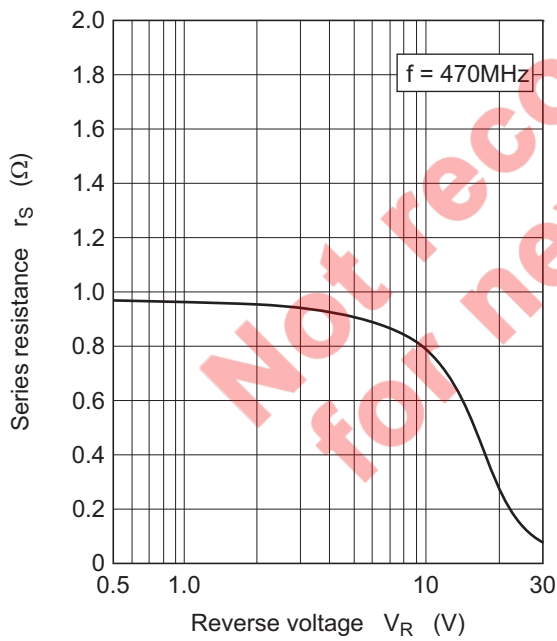


Fig.3 Series resistance vs. Reverse voltage

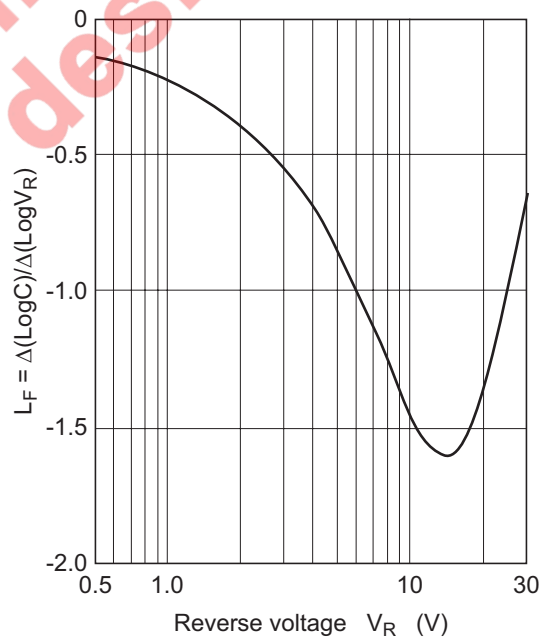
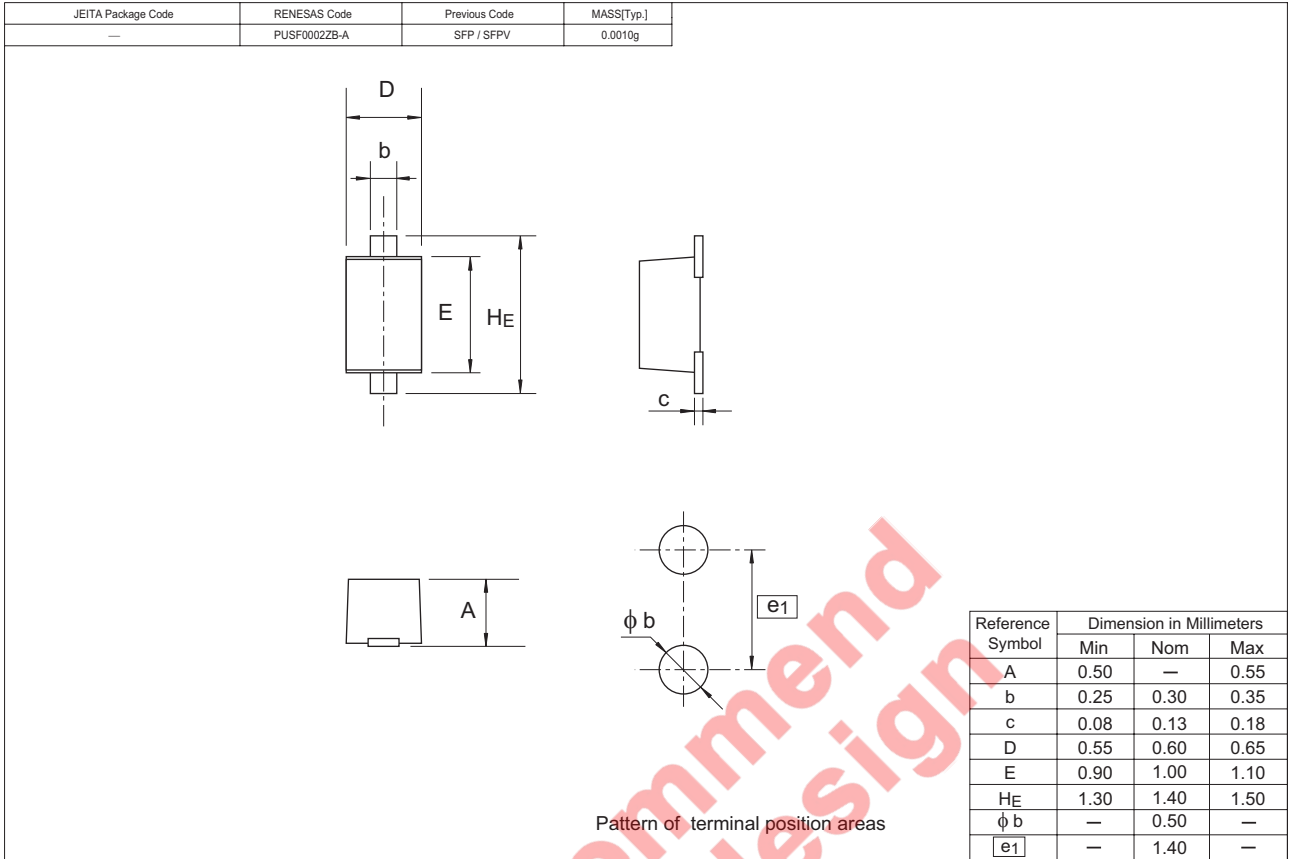


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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