

# RKV500KK

Variable Capacitance Diode for UHF/VHF tuner

REJ03G1279-0100

Rev.1.00

Oct 13, 2005

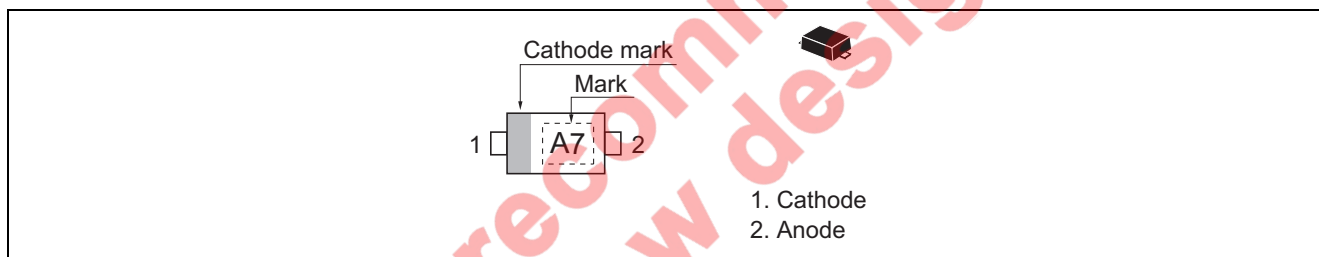
## Features

- 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)
RKV500KK	A7	SFP	PUSF0002ZB-A (SFP)

## Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Peak reverse voltage	$V_{RM}^*$	35	V
Reverse voltage	$V_R$	34	V
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

Note:  $R_L = 10\text{ k}\Omega$ 

## Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	$I_{R1}$	—	—	10	nA	$V_R = 32\text{ V}$
	$I_{R2}$	—	—	100		$V_R = 32\text{ V}, T_a = 60^\circ\text{C}$
Capacitance	$C_2$	14.15	—	15.75	pF	$V_R = 2\text{ V}, f = 1\text{ MHz}$
	$C_{25}$	1.89	—	2.18		$V_R = 25\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	n	6.3	—	—	—	$C_2 / C_{25}$
Series resistance	$r_s$	—	—	0.57	$\Omega$	$V_R = 5\text{ V}, f = 470\text{ MHz}$
Matching error	$\Delta C/C^{*1}$	—	—	1.8	%	$V_R = 2\text{ to }25\text{ V}, f = 1\text{ MHz}$

Notes: 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of  $\Delta C/C$  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.

## Main Characteristic

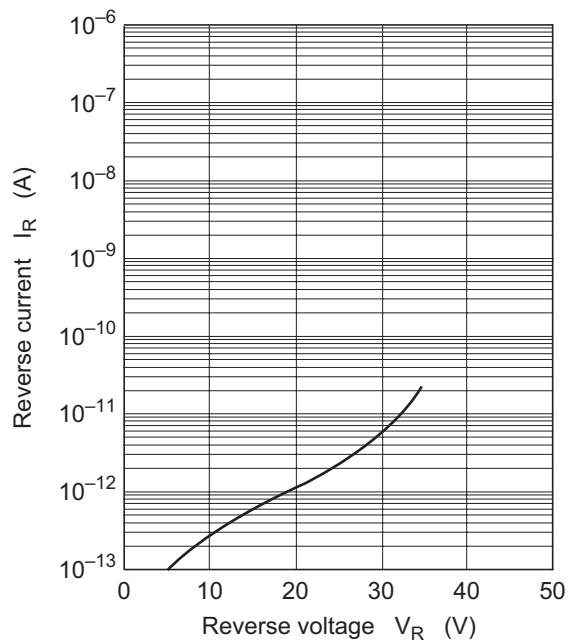


Fig.1 Reverse current vs. Reverse voltage

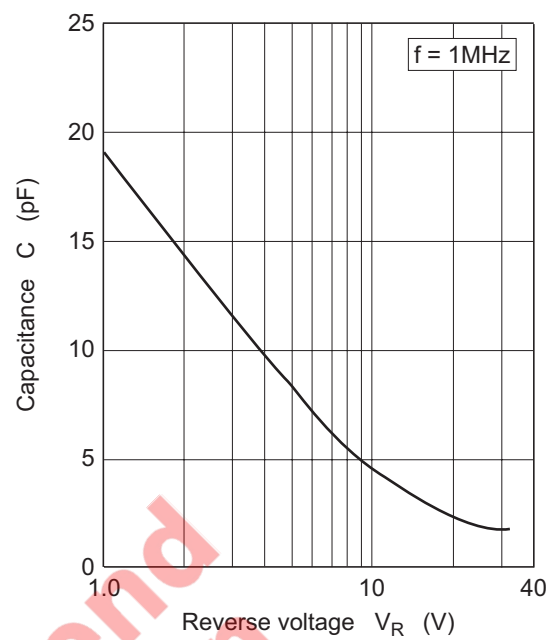


Fig.2 Capacitance vs. Reverse voltage

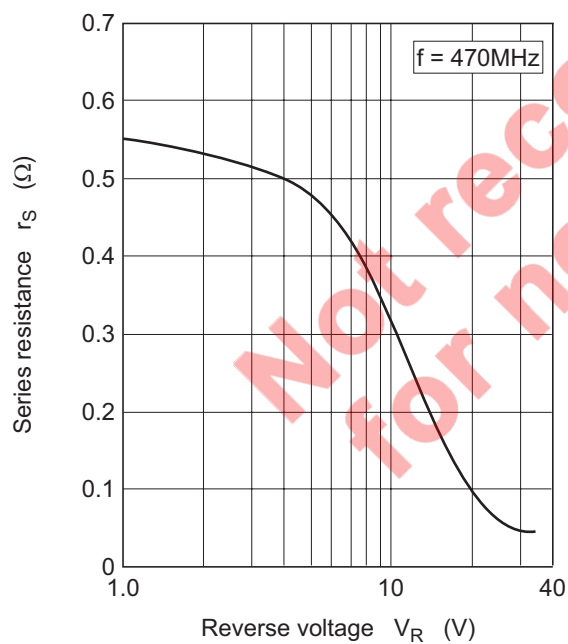


Fig.3 Series resistance vs. Reverse voltage

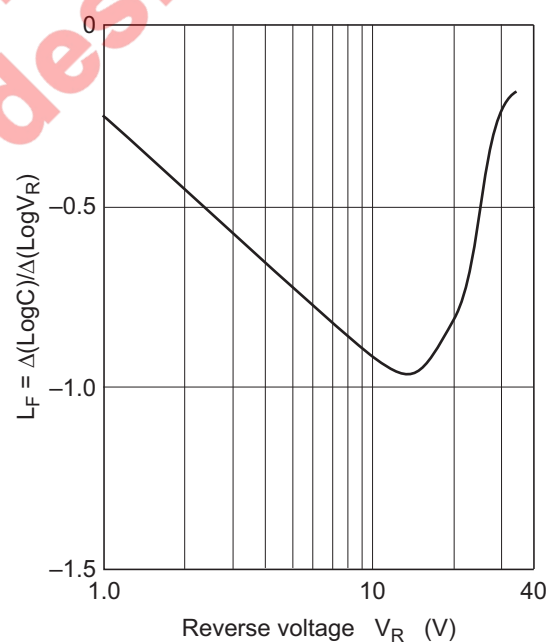
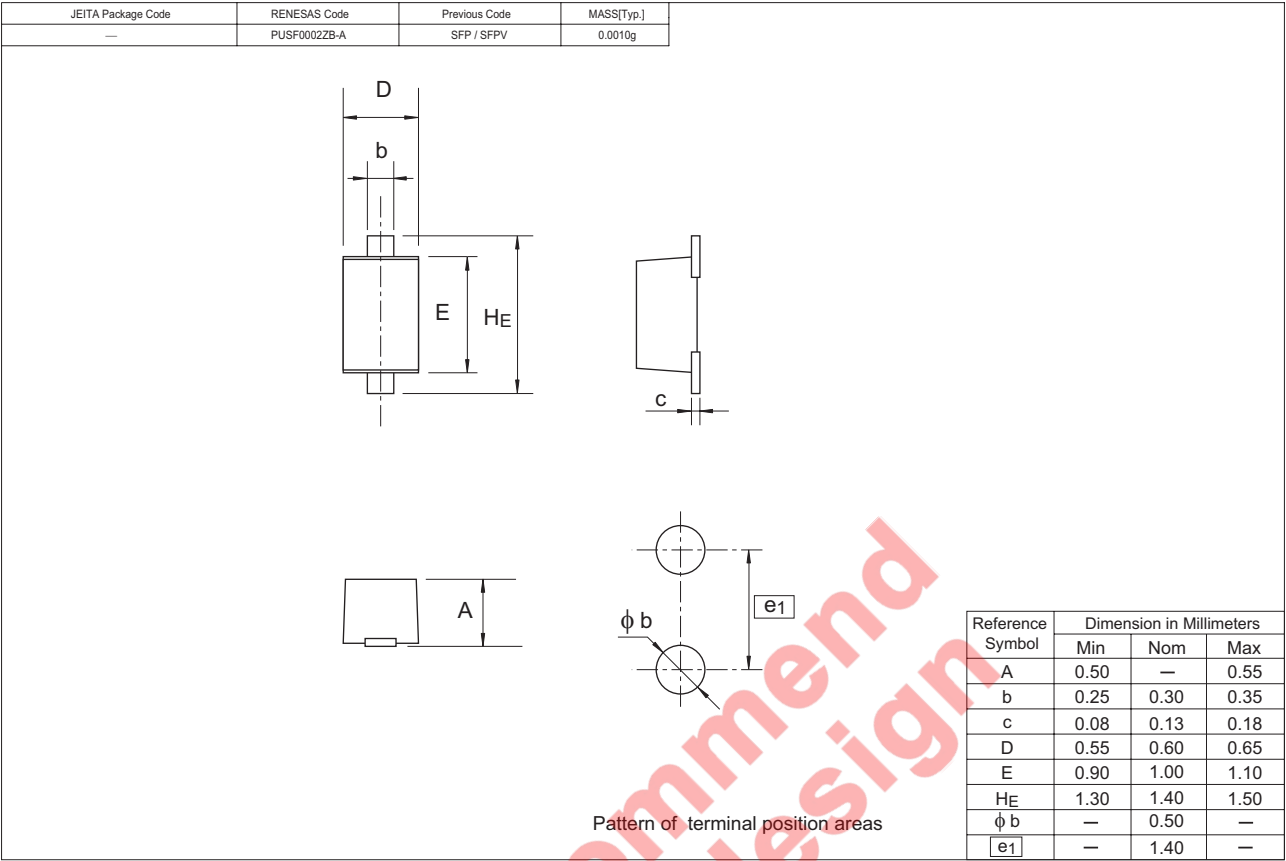


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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