

# RKV500KG

Variable Capacitance Diode for UHF/VHF tuner

REJ03G0622-0100  
Rev.1.00  
Apr 01, 2005

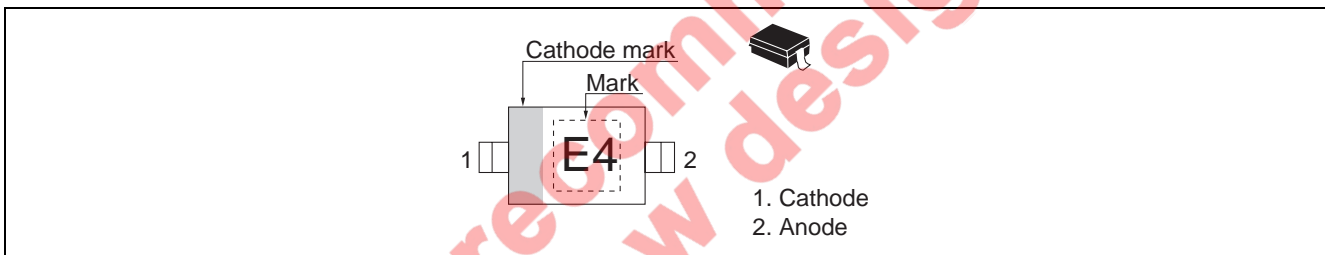
## Features

- Low series resistance and good C-V linearity.
- Ultra small Resin Package (URP) is suitable for high density surface mounting and high speed assembly.

## Ordering Information

Type No.	Laser Mark	Package Name	Package Code (Previous Code)
RKV500KG	E4	URP	PTSP0002ZA-A (URP)

## Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Peak reverse voltage	$V_{RM}^{*1}$	35	V
Reverse voltage	$V_R$	34	V
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

Note: 1.  $R_L = 10\text{ k}\Omega$

## 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	%	$V_R = 2\text{ to }25\text{ V}, f = 1\text{ MHz}$

Note: 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of  $\Delta C/C$  continuous in a reel, expect extention to another group.

Calculate Matching Error,

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

Not recommended for new designs

Main Characteristic

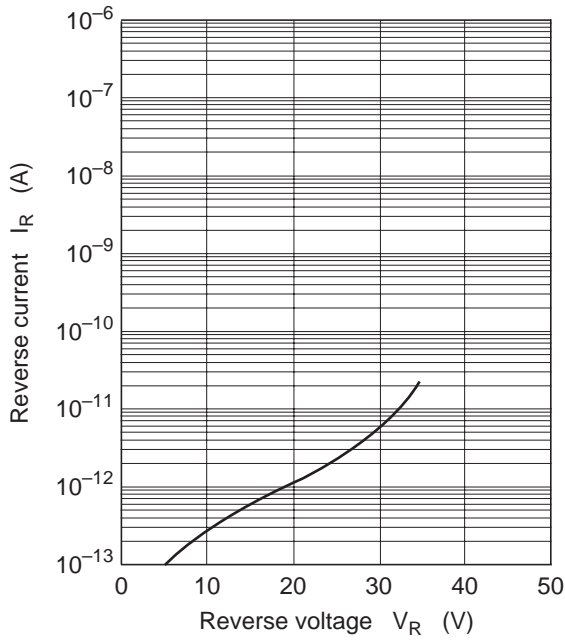


Fig.1 Reverse current vs. Reverse voltage

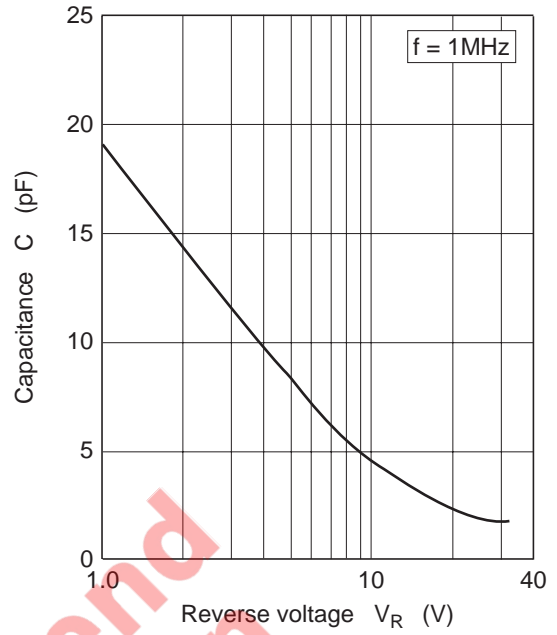


Fig.2 Capacitance vs. Reverse voltage

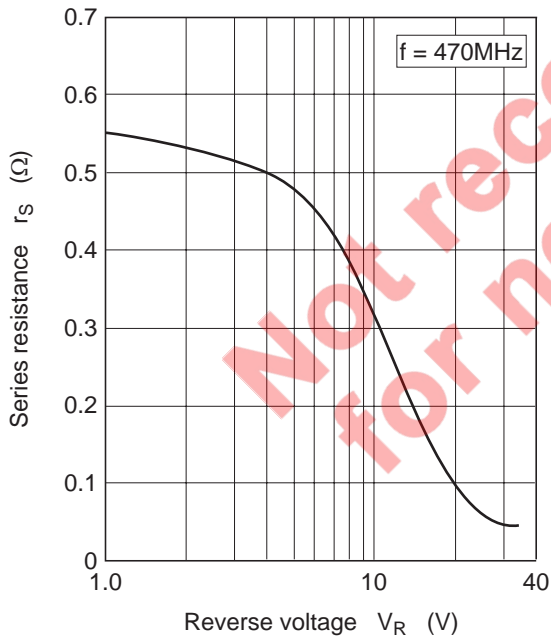


Fig.3 Series resistance vs. Reverse voltage

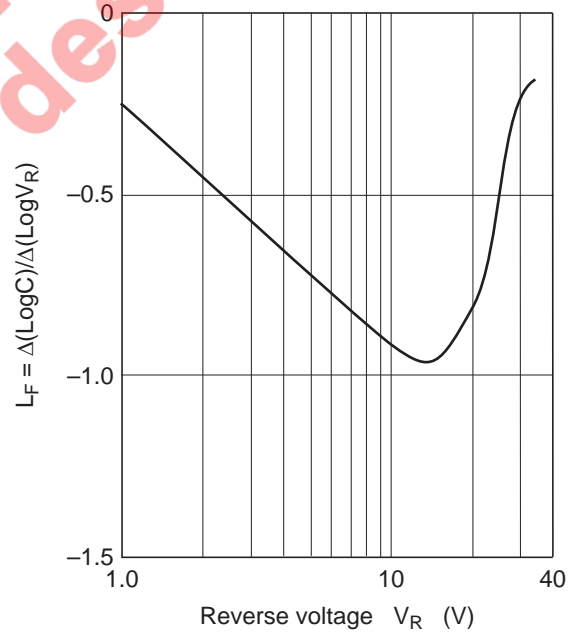
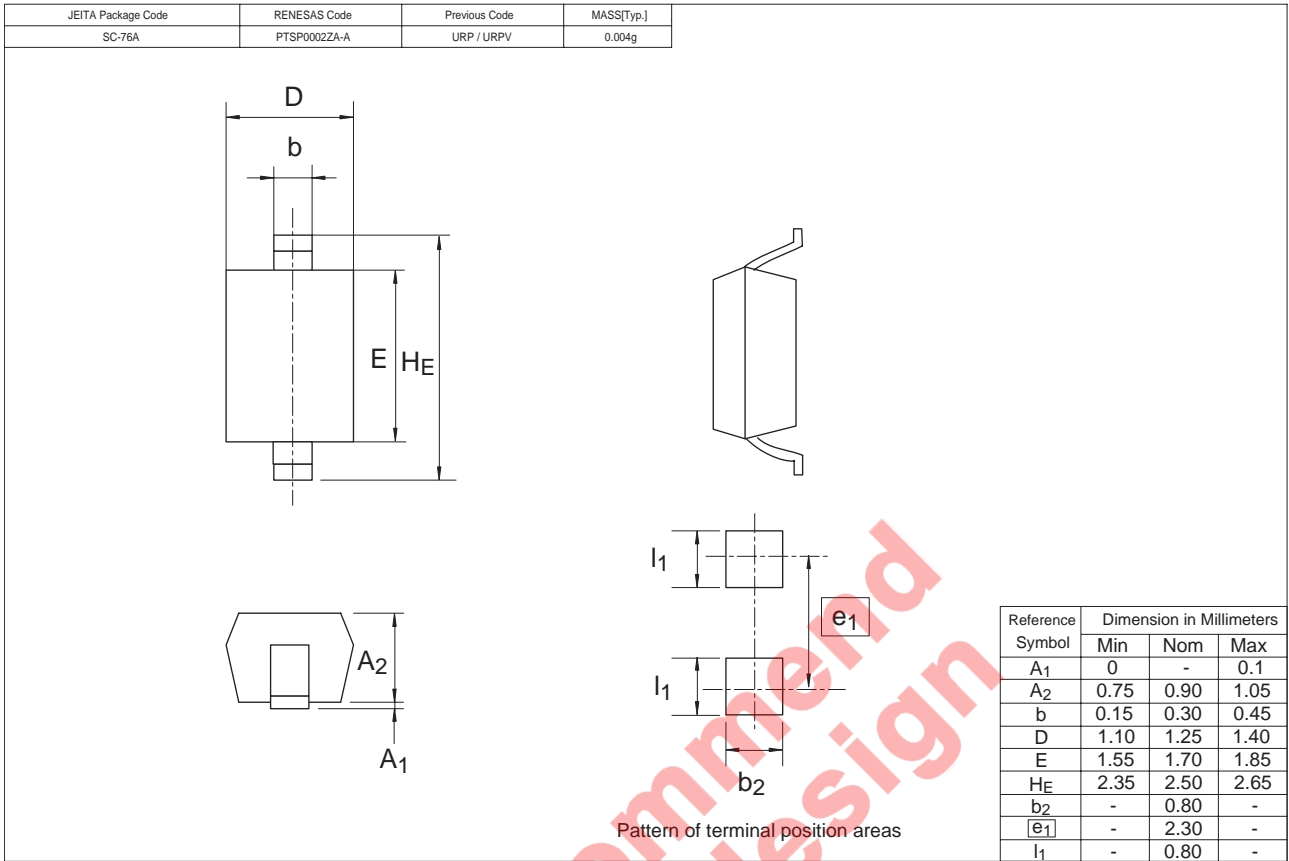


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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