

RKV501KG

Variable Capacitance Diode for VHF tuner

REJ03G1282-0100

Rev.1.00

Oct 13, 2005

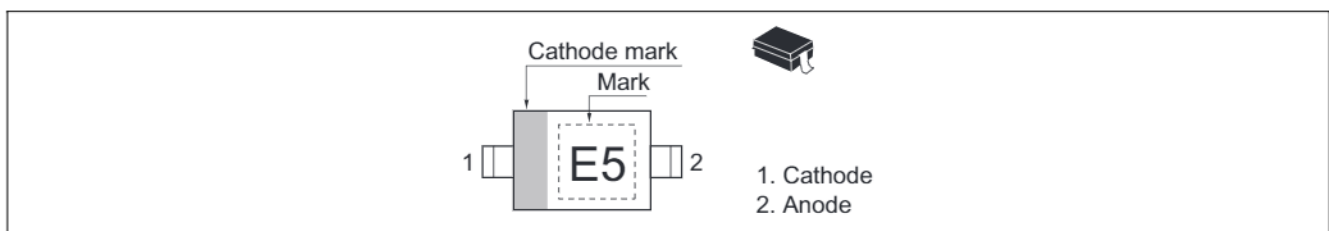
Features

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

Ordering Information

Type No.	Laser Mark	Package Name	Package Code (Previous Code)
RKV501KG	E5	URP	PTSP0002ZA-A (URP)

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	29.5	—	34.0	pF	$V_R = 2\text{ V}, f = 1\text{ MHz}$
	C_{25}	2.45	—	2.78		$V_R = 25\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	n	11.0	—	—	—	C_2 / C_{25}
Series resistance	r_s	—	—	0.75	Ω	$V_R = 5\text{ V}, f = 470\text{ MHz}$
Matching error	$\Delta C/C^*$	—	—	1.8	%	$V_R = 2\text{ to }25\text{ V}, f = 1\text{ MHz}$

Note: 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,

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

Main Characteristic

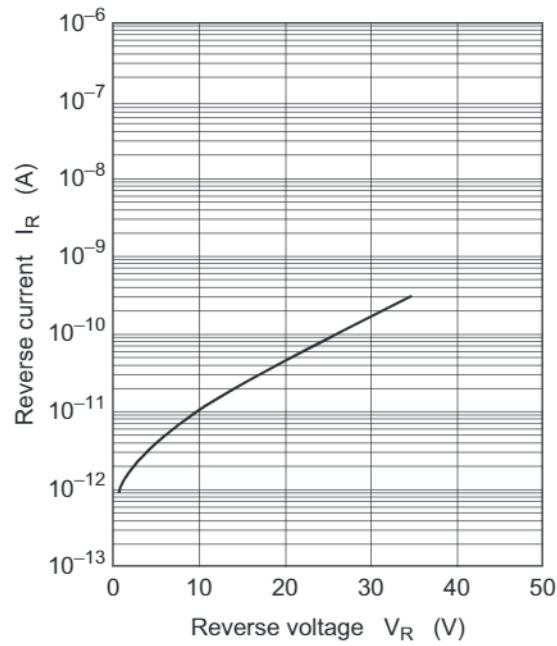


Fig.1 Reverse current vs. Reverse voltage

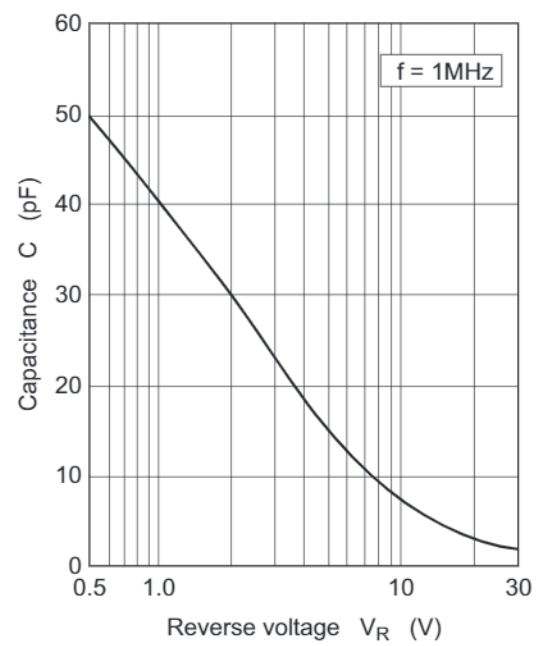


Fig.2 Capacitance vs. Reverse voltage

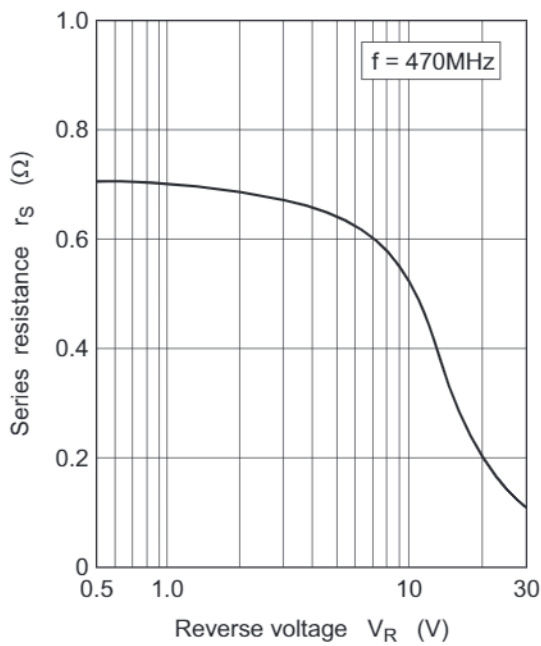


Fig.3 Series resistance vs. Reverse voltage

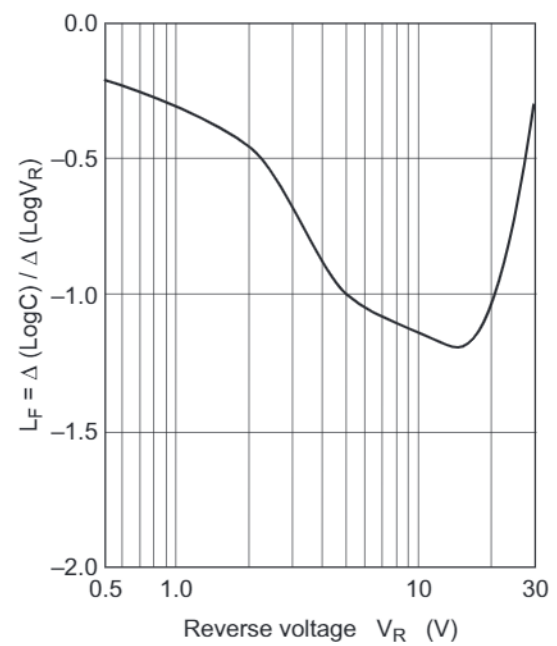
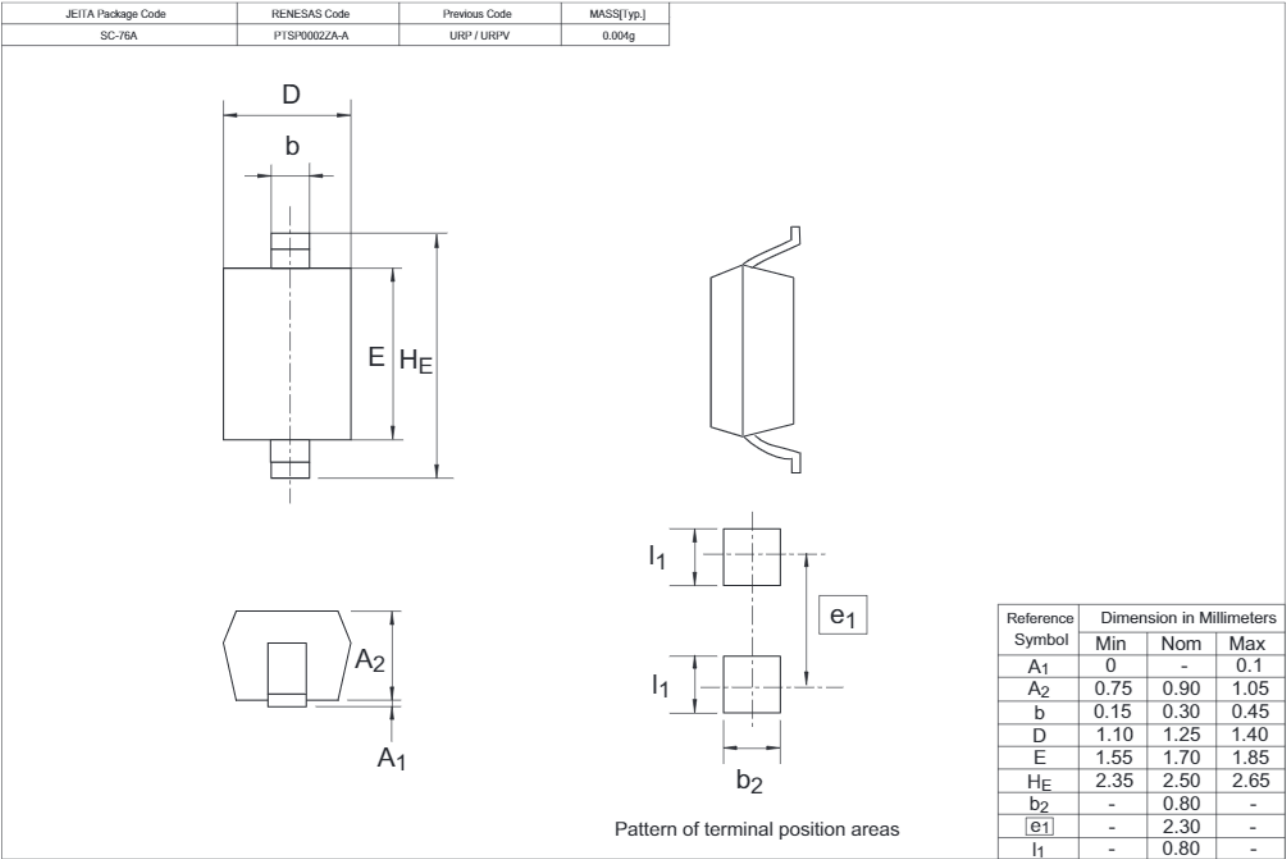


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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