

RKV502KJ

Variable Capacitance Diode for VHF tuner

REJ03G1284-0100

Rev.1.00

Oct 13, 2005

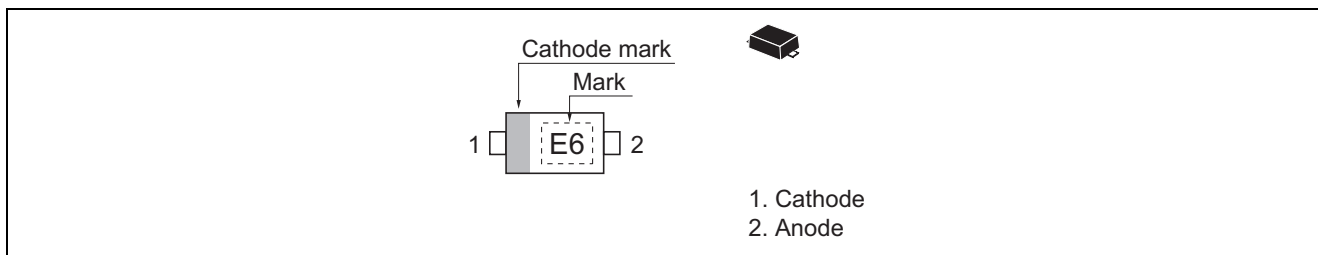
Features

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

Ordering Information

Type No.	Laser Mark	Package Name	Package Code (Previous Code)
RKV502KJ	E6	UFP	PWSF0002ZA-A (UFP)

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	41.5	—	47.0	pF	$V_R = 2\text{ V}$, $f = 1\text{ MHz}$
	C_{25}	2.60	—	3.00		$V_R = 25\text{ V}$, $f = 1\text{ MHz}$
Capacitance ratio	n	14.5	—	—	—	C_2 / C_{25}
Series resistance	r_s	—	—	1.1	Ω	$V_R = 5\text{ V}$, $f = 470\text{ MHz}$
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 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

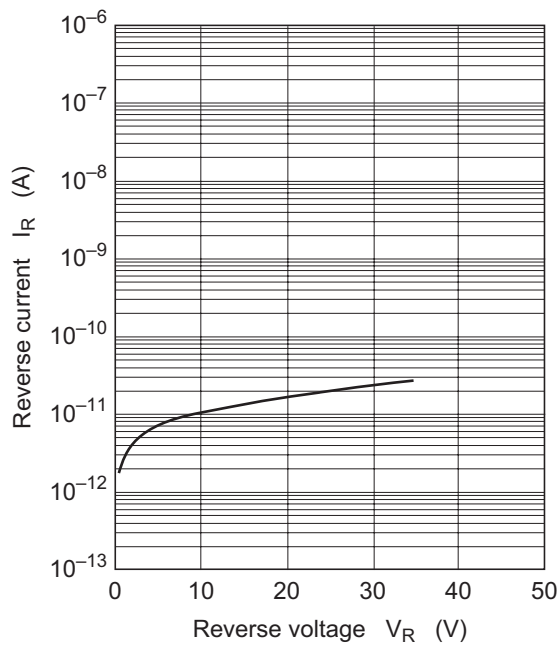


Fig.1 Reverse current vs. Reverse voltage

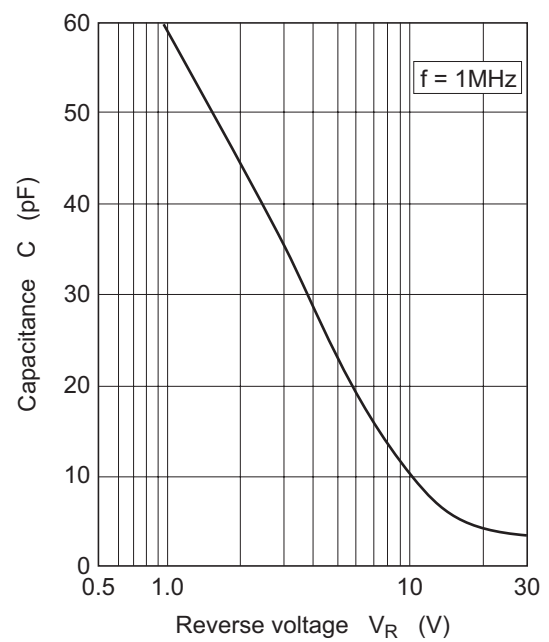


Fig.2 Capacitance vs. Reverse voltage

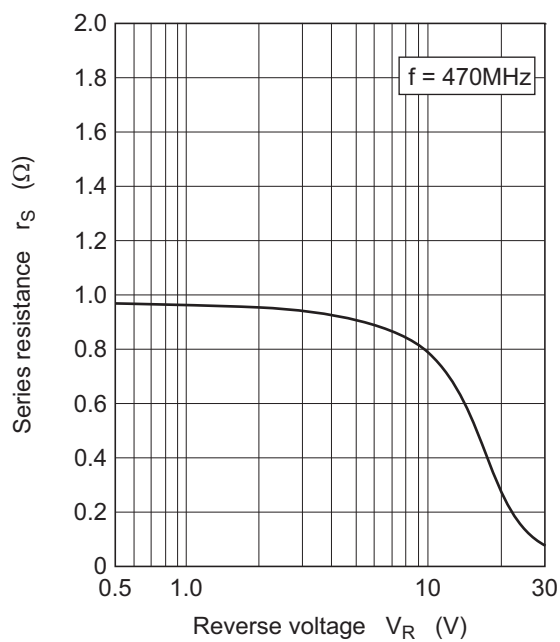


Fig.3 Series resistance vs. Reverse voltage

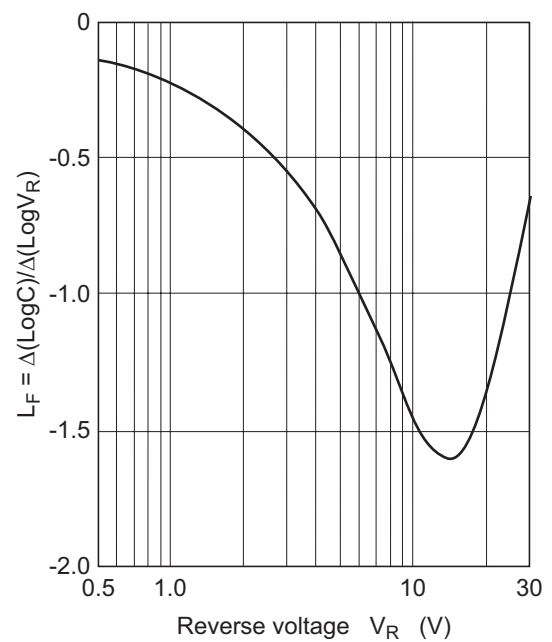
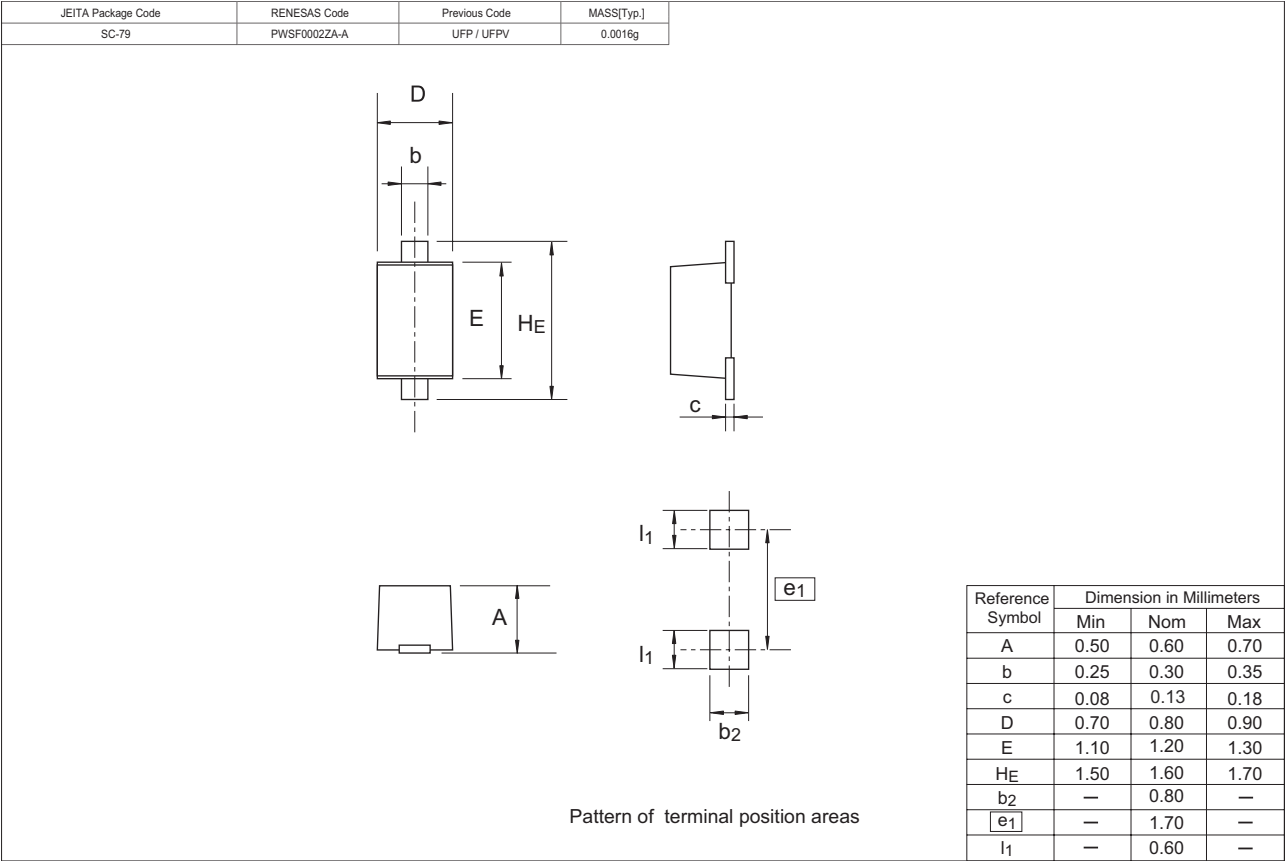


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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