

# RKV5020DKK

Variable Capacitance Diode for VHF tuner

REJ03G0403-0100  
Rev.1.00  
Oct 14, 2004

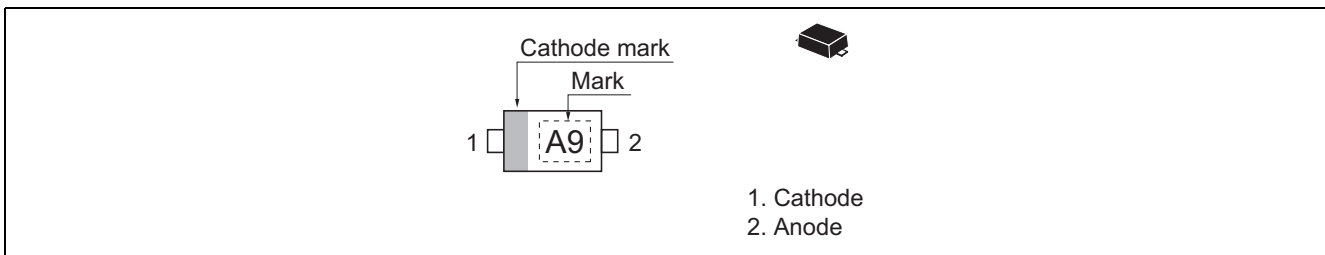
## Features

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

## Ordering Information

Type No.	Laser Mark	Package Code
RKV5020DKK	A9	SFP

## 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	$C_2$	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	$\Omega$	$V_R = 5\text{ V}, f = 470\text{ MHz}$
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,

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

- Please do not use the soldering iron due to avoid high stress to the 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

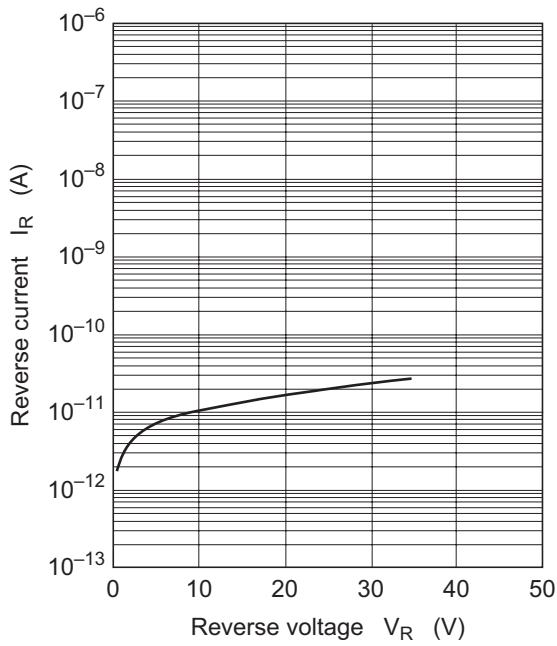


Fig.1 Reverse current vs. Reverse voltage

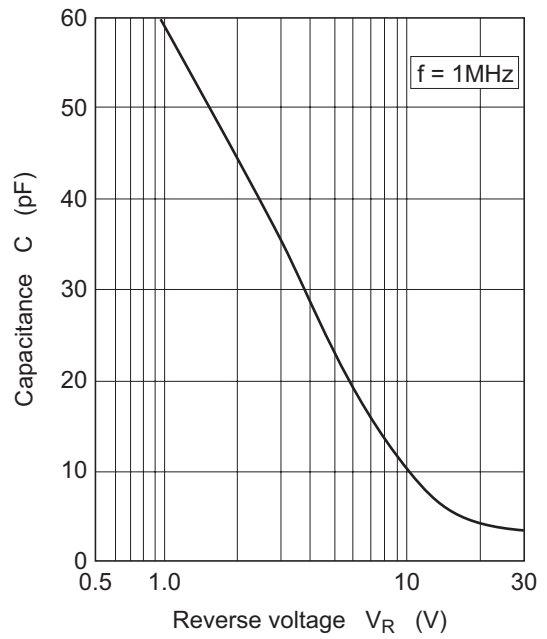


Fig.2 Capacitance vs. Reverse voltage

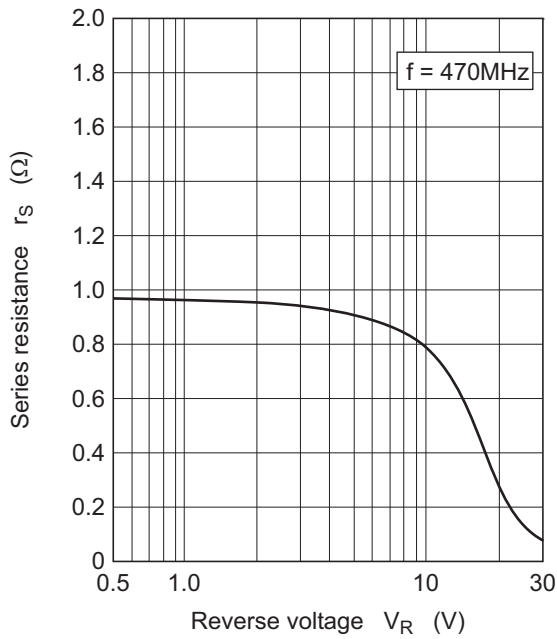


Fig.3 Series resistance vs. Reverse voltage

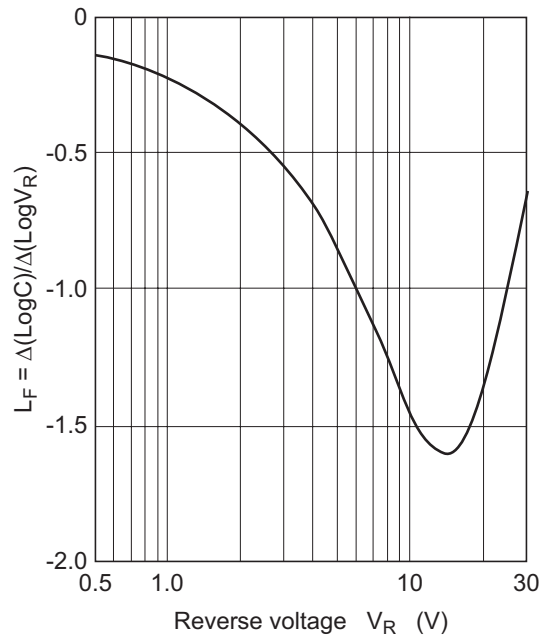
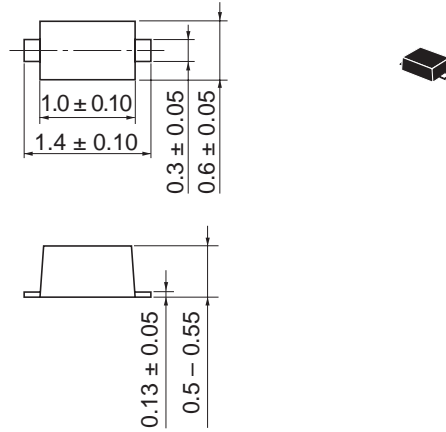


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions

As of January, 2003  
Unit: mm



Package Code	SFP
JEDEC	—
JEITA	—
Mass (reference value)	0.0010 g

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