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April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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Not recommended
for new design

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HVM27WK

Variable Capacitance Diode for FM tuner

REJ03G0101-0400Z
(Previous: ADE-208-060C)
Rev.4.00
Sep.29.2003

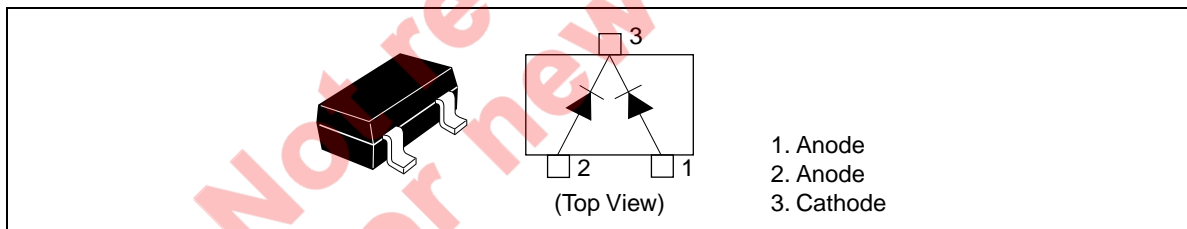
Features

- High capacitance ratio to wide tuning band width. ($C_1/C_8 = 1.8 \text{ min}$)
- Low series resistance.
- MPAK package is suitable for high density surface mounting and high speed assembly.

Ordering Information

Type No.	Laser Mark	Package Code
HVM27WK	T5	MPAK

Pin Arrangement



HVM27WK

Absolute Maximum Ratings *¹

(T_a = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V _R	20	V
Junction temperature	T _j	125	°C
Storage temperature	T _{stg}	-55 to +125	°C

Note: 1. Per one device.

Electrical Characteristics *³

(T_a = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse voltage	V _R	20	—	—	V	I _R = 10 μA
Reverse current	I _R	—	—	50	nA	V _R = 15 V
Capacitance	C ₁	52.0	—	62.0	pF	V _R = 1 V, f = 1 MHz
	C ₂	43.0	—	48.1		V _R = 2 V, f = 1 MHz
	C ₈	24.0	—	28.0		V _R = 8 V, f = 1 MHz
Capacitance ratio	n ₁	1.8	—	—	—	C ₁ /C ₈
	n ₂	1.7	—	—	—	C ₂ /C ₈
Series resistance	r _s	—	—	0.4	Ω	V _R = 2 V, f = 100 MHz
Matching error	ΔC/C * ¹	—	—	3.0	%	V _R = 1 to 8 V, f = 1 MHz

Notes: 1. A set of HVM27WK is of uniform C-V characteristics.

Measure max. value and min. value of capacitance at each bias point of V_R = 1 V through 8 V.

Calculate Matching Error,

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

- Each group shall uniform a multiple of 4 diodes.
- Per one device.

Main Characteristic

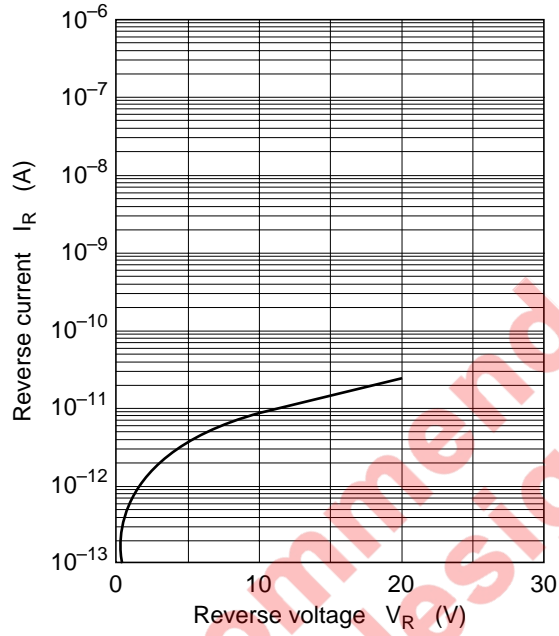


Fig.1 Reverse current vs. Reverse voltage

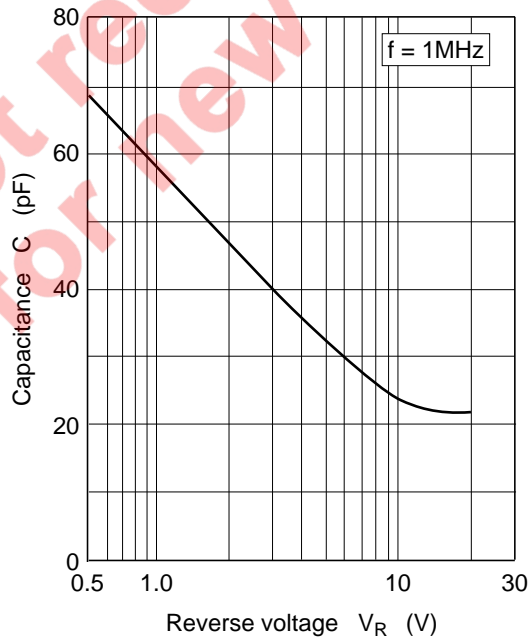
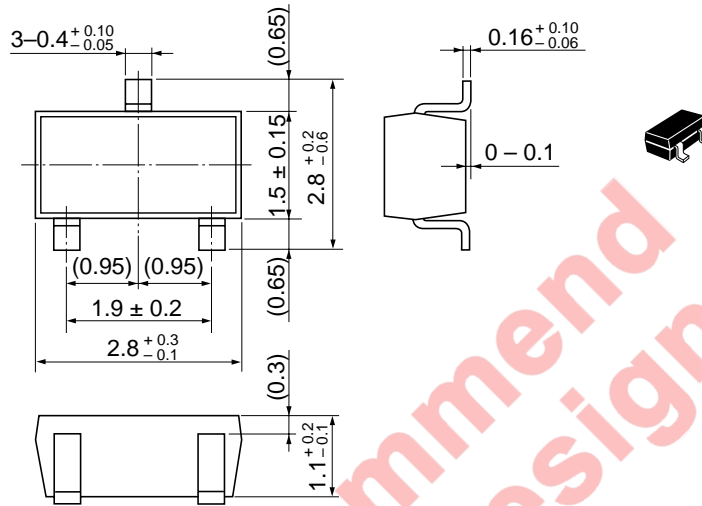


Fig.2 Capacitance vs. Reverse voltage

Package Dimensions

As of January, 2003
Unit: mm



Package Code	MPAK
JEDEC	—
JEITA	Conforms
Mass (reference value)	0.011 g

Not recommend for new design

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