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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

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Keep safety first in your circuit designs!

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Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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HVM27WK

Variable Capacitance Diode for FM tuner

RENESAS

ADE-208-060C (Z)

Rev. 3
Apr. 1993

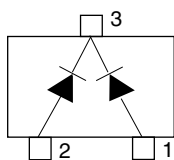
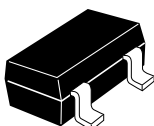
Features

- 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



(Top View)

- 1 Anode
- 2 Anode
- 3 Cathode

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V_R	20	V
Junction temperature	T_j	125	°C
Storage temperature	Tstg	-55 to +125	°C

Electrical Characteristics

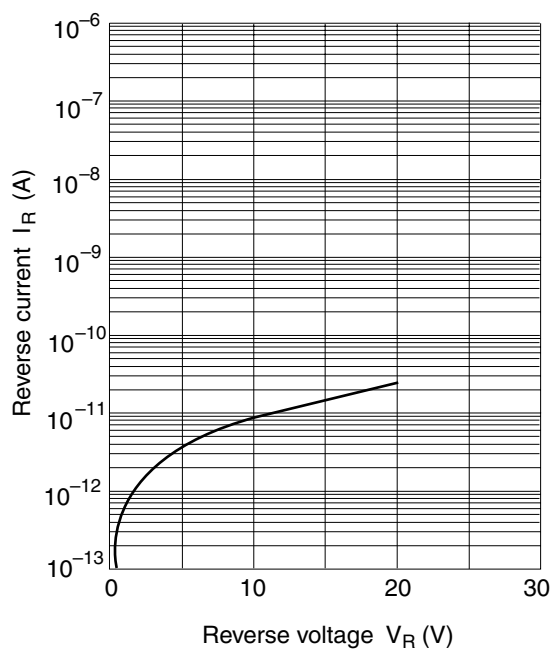
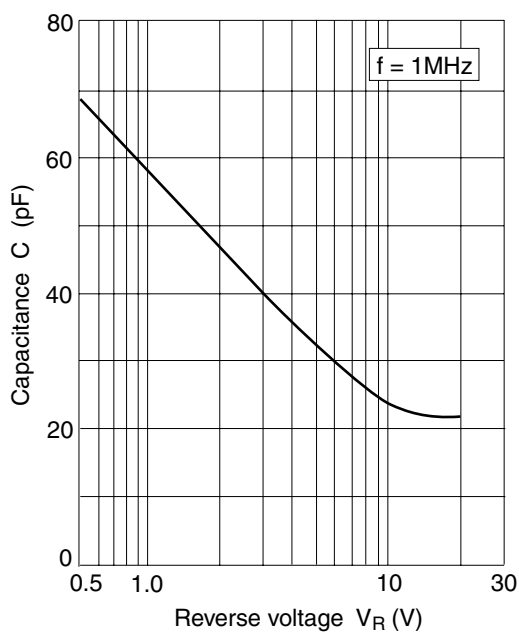
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse voltage	V_R	20	—	—	V	$I_R = 10\mu A$
Reverse current	I_R	—	—	50	nA	$V_R = 15V$
Capacitance	C_1	52.0	—	62.0	pF	$V_R = 1V, f = 1MHz$
	C_2	43.0	—	48.1		$V_R = 2V, f = 1MHz$
	C_8	24.0	—	28.0		$V_R = 8V, f = 1MHz$
Capacitance ratio	n_1	1.80	—	—	—	C_1/C_8
	n_2	1.70	—	—		C_2/C_8
Series resistance	r_s	—	—	0.4	Ω	$V_R = 2V, f = 100MHz$
Matching error	$\Delta C/C^{*1}$	—	—	3.0	%	$V_R = 1 \text{ to } 8V$

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

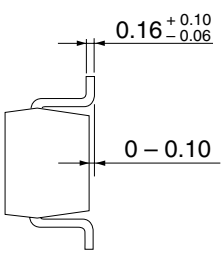
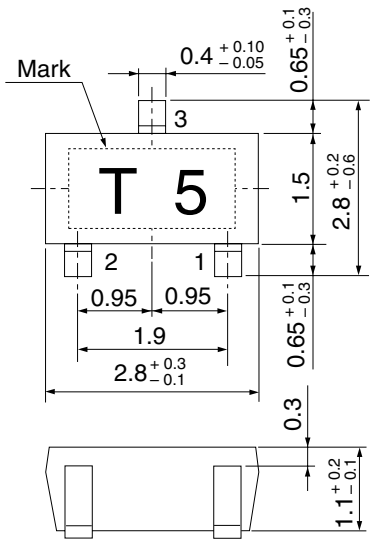
Measure max. value and min. value of capacitance at each bias point of $V_R = 1V$ through $8V$.Calculate Matching Error, $\Delta C/C = \frac{(C_{max} - C_{min})}{C_{min}} \times 100 (\%)$

2. Each group shall uniform a multiple of 4 diodes.

**Fig.1 Reverse current Vs. Reverse voltage****Fig.2 Capacitance Vs. Reverse voltage**

Package Dimensions

Unit: mm



- 1 Anode
- 2 Anode
- 3 Cathode

HITACHI Code	MPAK(1)
JEDEC Code	—
EIAJ Code	SC-59A
Weight (g)	0.011

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