

# HVM27WK

Variable Capacitance Diode for FM tuner

# HITACHI

ADE-208-060C (Z)

Rev. 3

Apl. 1993

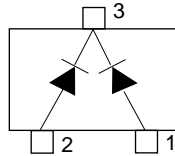
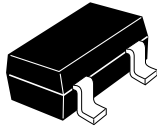
## Features

- 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 ( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Value	Unit
Reverse voltage	$V_R$	20	V
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 to +125	$^\circ\text{C}$

## Electrical Characteristics (Ta = 25°C)

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

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  $V_R = 1\text{V}$  through  $8\text{V}$ .

Calculate Matching Error,  $\Delta C/C = \frac{(C_{\text{max}} - C_{\text{min}})}{C_{\text{min}}} \times 100 (\%)$

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

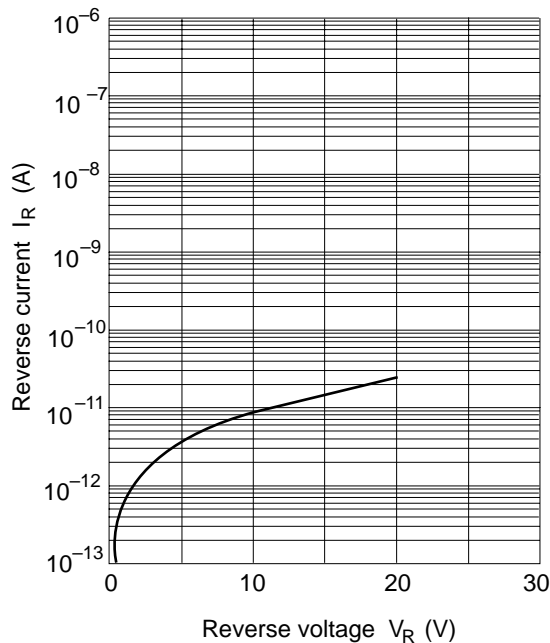


Fig.1 Reverse current Vs. Reverse voltage

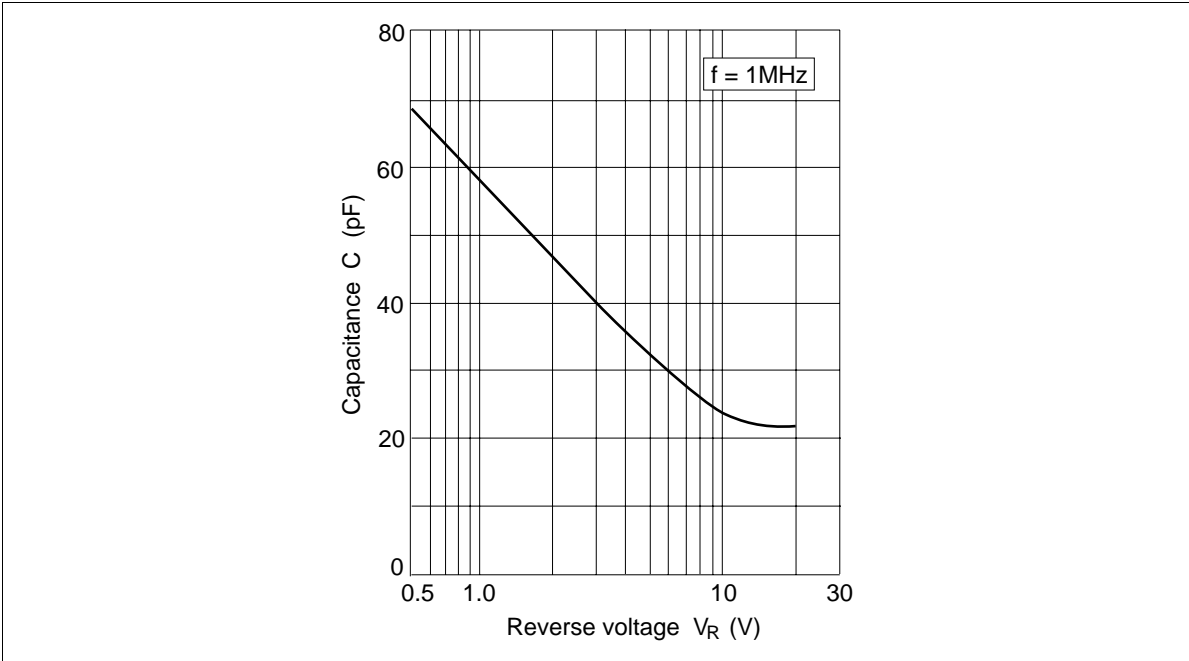
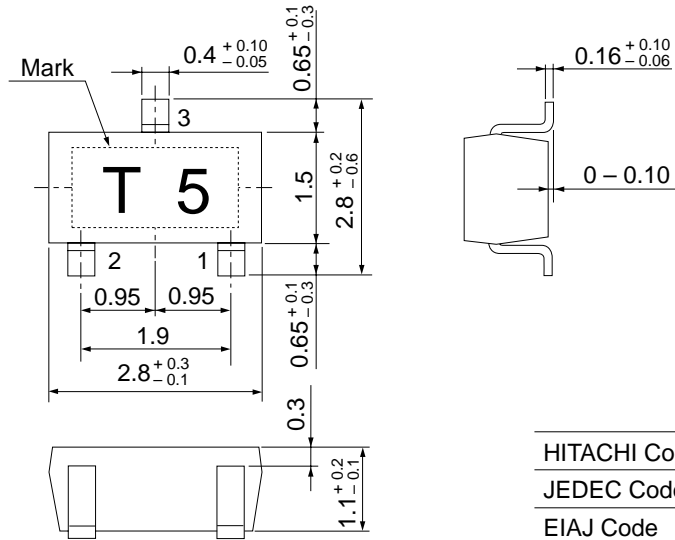


Fig.2 Capacitance Vs. Reverse voltage

## Package Dimensions

Unit: mm



- 1 Anode
- 2 Anode
- 3 Cathode

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

## Cautions

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