ADE-208-088B(Z)

HVM25
Variable Capacitance Diode for FM tuner

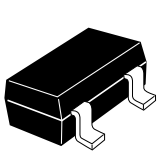
HITACHI

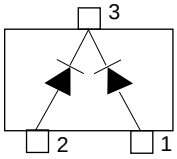
Preliminary
Rev. 2
May. 1993

Features

- Good linearity of C-V curve.
- To be usable at low voltage.
- High figure of merit. (Q=60 min)
- MPAK package is suitable for high density surface mounting and high speed assembly.

Pin Arrangement





(Top View)

1 Anode
2 Anode
3 Cathode

Ordering Information

Type No.	Laser Mark	Package Code
HVM25	T 8	MPAK

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V_R	16	V
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}	-55 to +125	°C

Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse voltage	V_R	16	—	—	V	I_R = 10 µA
Reverse current	I_R	—	—	50	nA	V_R = 10 V
Capacitance	C_3	36.0	—	45.0	pF	V_R = 3 V , f = 1 MHz
	C_8	12.0	—	17.0		V_R = 8 V , f = 1 MHz
Capacitance ratio	n	2.5	—	—	—	C_3 / C_8
Figure of merit	Q	60	—	—	—	V_R = 3 V , f = 100 MHz
Matching error	ΔC/C*	—	—	3.0	%	V_R = 3~8V

* A set of HVM25 is of uniform C-V characteristics.
Measure max. value and min. value of capacitance at each bias point of V_R=3V through 8V.
Calculate Matching Error, $\Delta C/C = \frac{(Cmax-Cmin)}{Cmin} \times 100\ (\%)$

** Each group shall uniform a multiple of 3 diodes.

HVM25

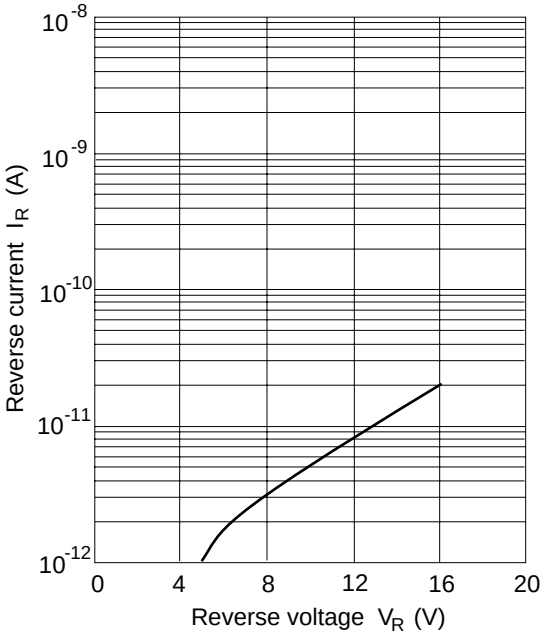


Fig.1 Reverse current Vs. Reverse voltage

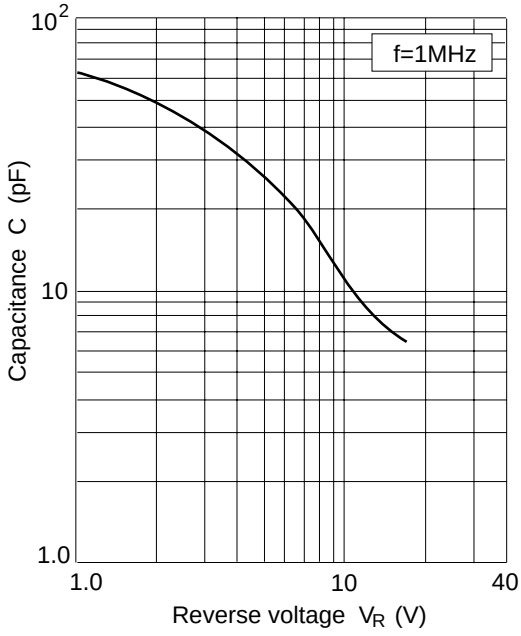
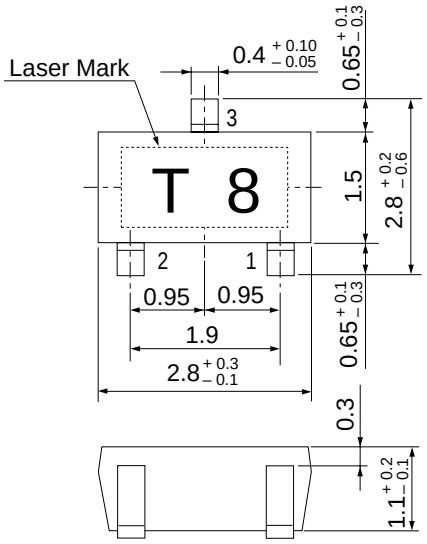
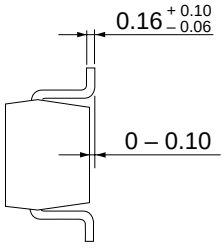


Fig.2 Capacitance Vs. Reverse voltage

Package Dimensions

Unit: mm





1 Anode
2 Anode
3 Cathode

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

ADE-208-060C(Z)

HVM27WK
Variable Capacitance Diode for FM tuner

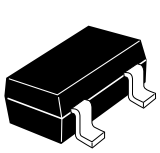
HITACHI

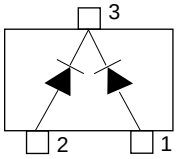
Preliminary
Rev. 3
Apr. 1993

Features

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

Pin Arrangement





(Top View)

1 Anode
2 Anode
3 Cathode

Ordering Information

Type No.	Mark	Package Code
HVM27WK	T 5	MPAK

Absolute Maximum Ratings (Ta = 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

Electrical Characteristics (Ta = 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	1.80	—	—	—	C_1 / C_8
	n_2	1.70	—	—		C_2 / C_8
Series resistance	r_s	—	—	0.4	Ω	V_R = 2 V , f = 100 MHz
Matching error	ΔC/C*	—	—	3.0	%	V_R = 1~8V

* 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,

$$\Delta C/C = \frac{(Cmax-Cmin)}{Cmin} \times 100\ (\%)$$

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

HVM27WK

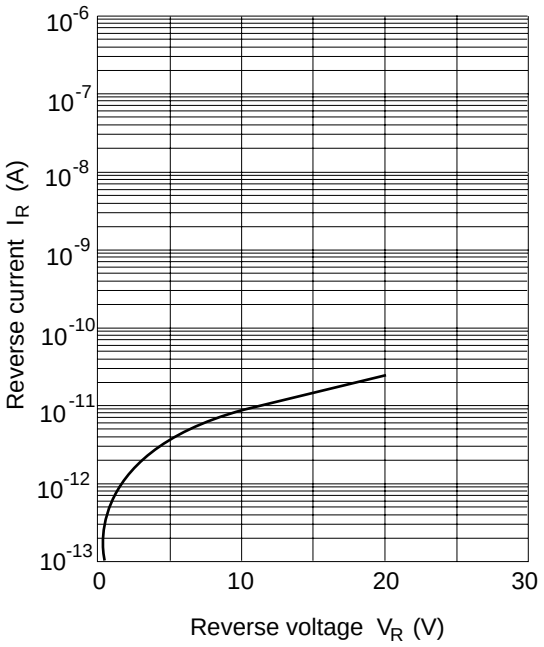


Fig.1 Reverse current Vs. Reverse voltage

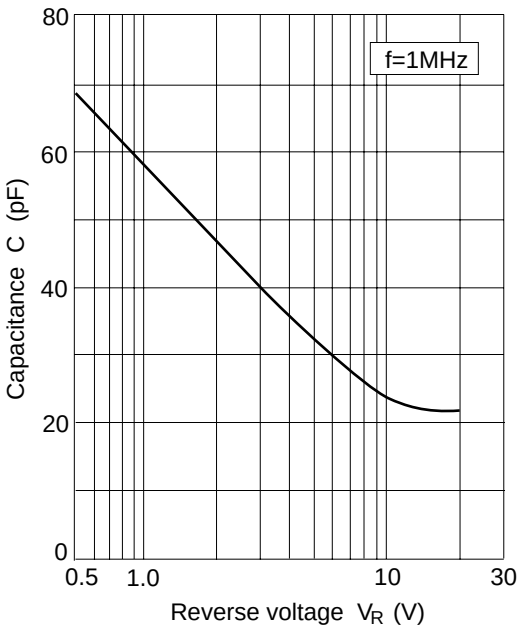
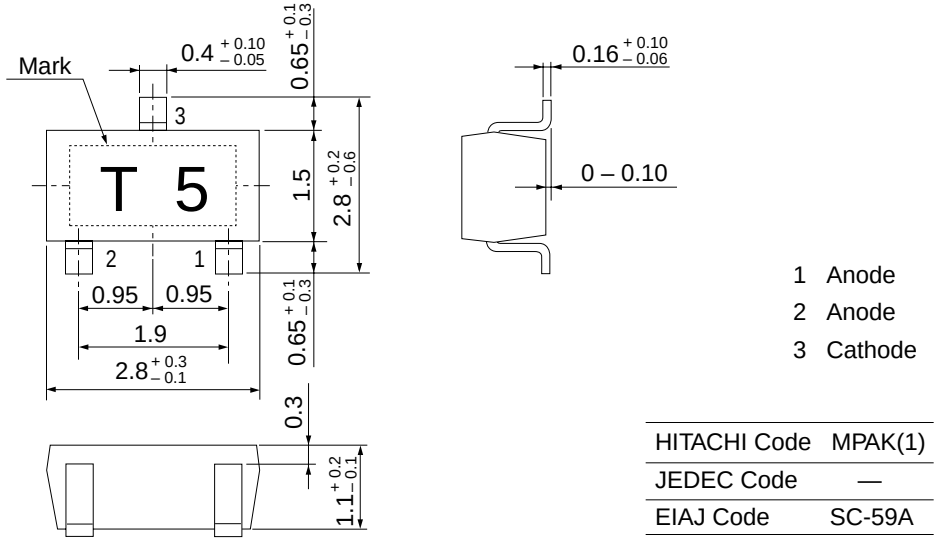


Fig.2 Capacitance Vs. Reverse voltage

Package Dimensions

Unit: mm



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