

HVR100

Variable Capacitance Diode for AM tuner

HITACHI

ADE-208-079E (Z)

Rev 5

Dec. 1998

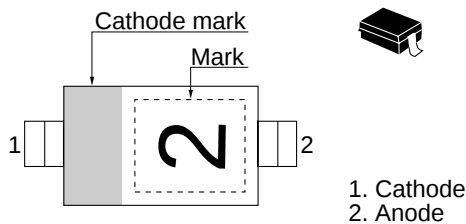
Features

- High capacitance ratio. ($n = 16.0$ min)
- High figure of merit. ($Q = 200$ min)
- To be usable at low voltage.
- Small Resin Package (SRP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVR100	2	SRP

Outline



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V_R	15	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	15	—	—	V	$I_R = 10\mu A$
Reverse current	I_R	—	—	100	nA	$V_R = 9V$
Capacitance	C_1	421.5	—	524.6	pF	$V_R = 1V, f = 1\text{ MHz}$
	C_3	182.0	—	275.7		$V_R = 3V, f = 1\text{ MHz}$
	C_5	73.2	—	121.4		$V_R = 5V, f = 1\text{ MHz}$
	C_6	42.2	—	72.2		$V_R = 6V, f = 1\text{ MHz}$
	C_7	26.2	—	41.6		$V_R = 7V, f = 1\text{ MHz}$
	C_8	20.4	—	28.2		$V_R = 8V, f = 1\text{ MHz}$
Capacitance ratio	n	16	—	—	—	C_1 / C_8
Figure of merit	Q	200	—	—	—	$C = 450pF, f = 1\text{ MHz}$
Matching error	$\Delta C / C^{*1}$	—	—	3.0	%	$V_R = 1\text{ to }8V$
ESD-Capability ^{*1}	—	80	—	—	V	$C = 200pF$, Both forward and reverse direction 1 pulse.

Notes 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of $\Delta C / C$ continuous in a reel , expect extention to another group.
Calculate Matching Error,

(Cmax-Cmin)

$$\Delta C / C = \frac{\hspace{1.5cm}}{Cmin} \times 100 (\%)$$

Notes 2. Failure criterion ; $I_R \geq 100nA$ at $V_R = 9\text{ V}$

Main Characteristic

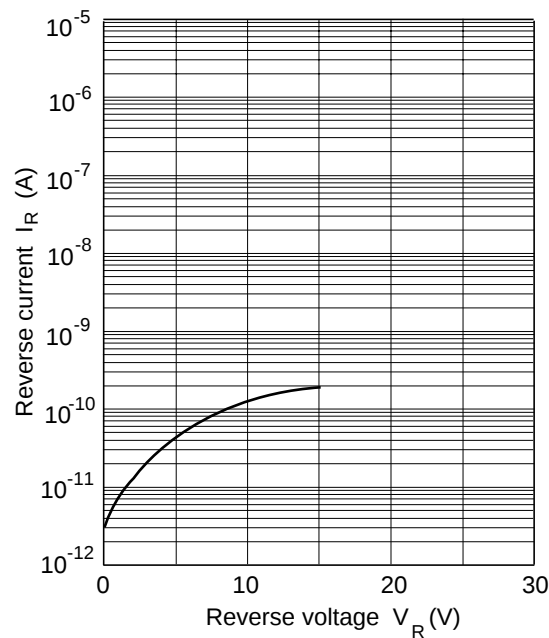


Fig.1 Reverse current Vs. Reverse voltage

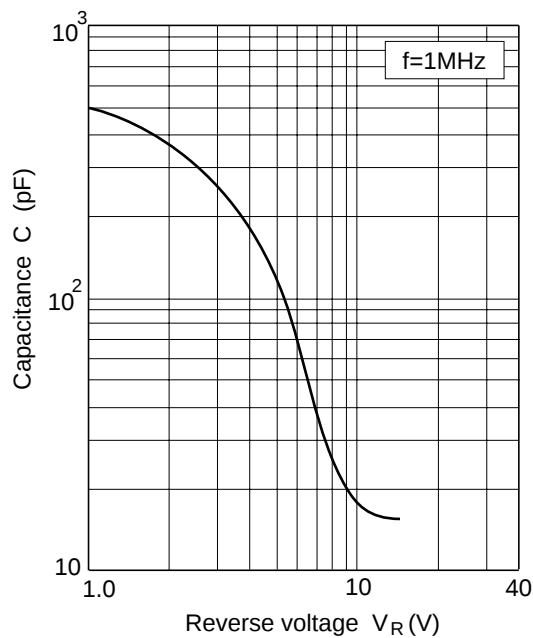
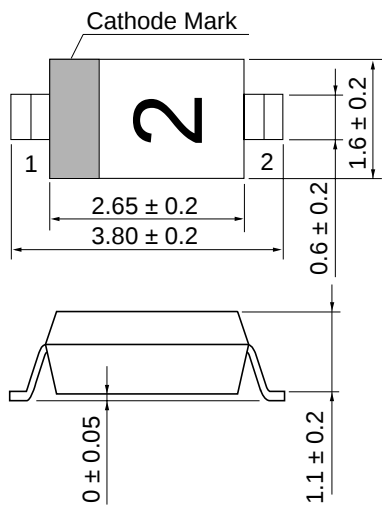


Fig.2 Capacitance Vs. Reverse voltage

Package Dimensions

Unit : mm



- 1. Cathode
- 2. Anode

Hitachi Code	<i>SRP</i>
JEDECCode	—
EIAJCode	—
Weight(g)	0.010

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