

HVD388C

Variable Capacitance Diode for VCO

REJ03G0362-0200
Rev.2.00
Mar 30, 2006

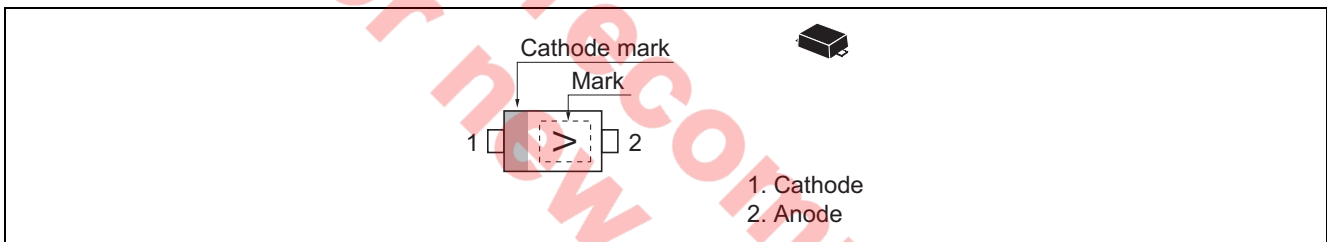
Features

- High capacitance ratio. ($n = 1.88$ min)
- Low series resistance. ($r_s = 0.75 \Omega$ max)
- Super small Flat Lead Package (SFP) is suitable for surface mount design.

Ordering Information

| Type No. | Laser Mark | Package Name | Package Code |
|----------|------------|--------------|--------------|
| HVD388C | V | SFP | PUSF0002ZB-A |

Pin Arrangement



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 current | I_{R1} | — | — | 10 | nA | $V_R = 15\text{ V}$ |
| | I_{R2} | — | — | 50 | | $V_R = 15\text{ V}, T_a = 60^\circ\text{C}$ |
| Capacitance | C_1 | 3.162 | — | 3.465 | pF | $V_R = 1\text{ V}, f = 1\text{ MHz}$ |
| | C_3 | 1.570 | — | 1.720 | | $V_R = 3\text{ V}, f = 1\text{ MHz}$ |
| Capacitance ratio | n | 1.880 | — | 2.150 | — | C_1 / C_3 |
| Series resistance | r_s | — | — | 0.75 | Ω | $V_R = 1\text{ V}, f = 470\text{ MHz}$ |

Note: For SFP package, the material of lead is exposed for cutting plane. There for, soldering nature of lead tip part is considered as unquestioned. Please kindly consider soldering nature.

Main Characteristic

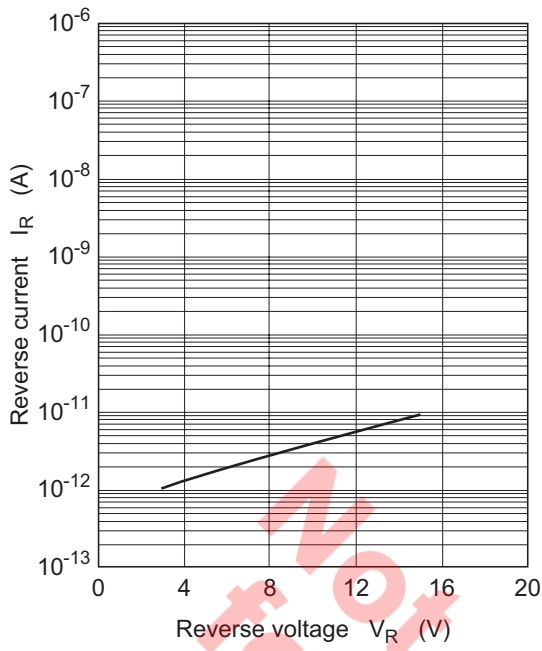


Fig.1 Reverse current vs. Reverse voltage

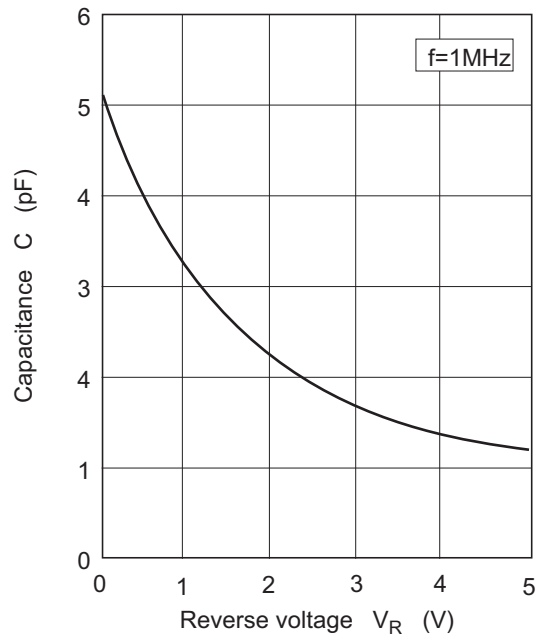


Fig.2 Capacitance vs. Reverse voltage

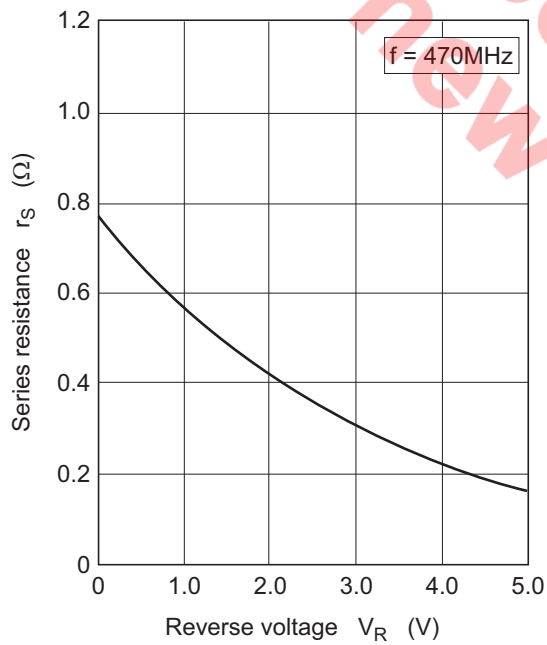


Fig.3 Series resistance vs. Reverse voltage

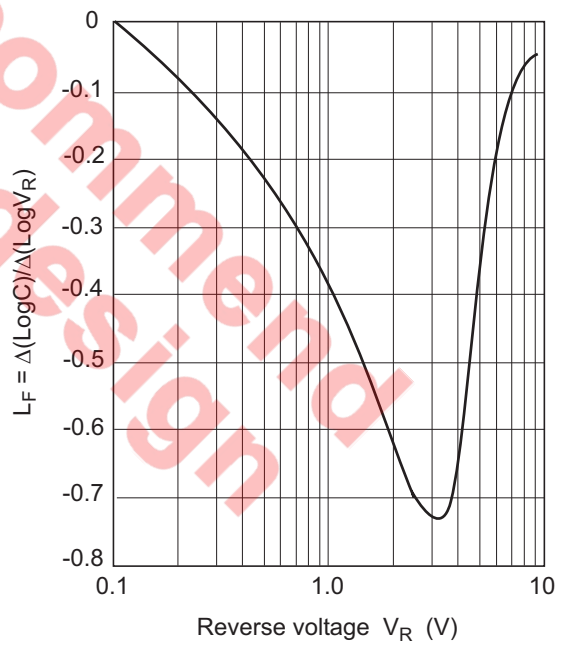
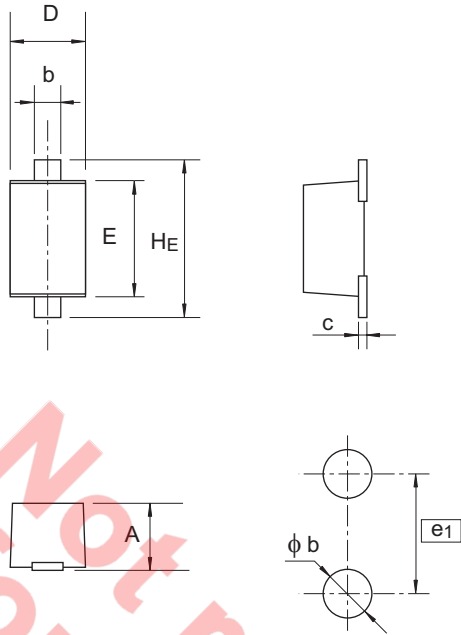


Fig.4 L_F vs. Reverse voltage

Package Dimensions

| | | | | |
|--------------|--------------------|--------------|---------------|------------|
| Package Name | JEITA Package Code | RENESAS Code | Previous Code | MASS[Typ.] |
| SFP | — | PUSF0002ZB-A | SFP / SFPV | 0.0010g |



Pattern of terminal position areas

| Reference Symbol | Dimension in Millimeters | | |
|------------------|--------------------------|------|------|
| | Min | Nom | Max |
| A | 0.50 | — | 0.55 |
| b | 0.25 | 0.30 | 0.35 |
| c | 0.08 | 0.13 | 0.18 |
| D | 0.55 | 0.60 | 0.65 |
| E | 0.90 | 1.00 | 1.10 |
| H_E | 1.30 | 1.40 | 1.50 |
| ϕb | — | 0.50 | — |
| e_1 | — | 1.40 | — |

Not recommend for new design

Keep safety first in your circuit designs!

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