

HVL396CM

Variable Capacitance Diode for VCO

REJ03G0013-0300

Rev.3.00

Mar 21, 2006

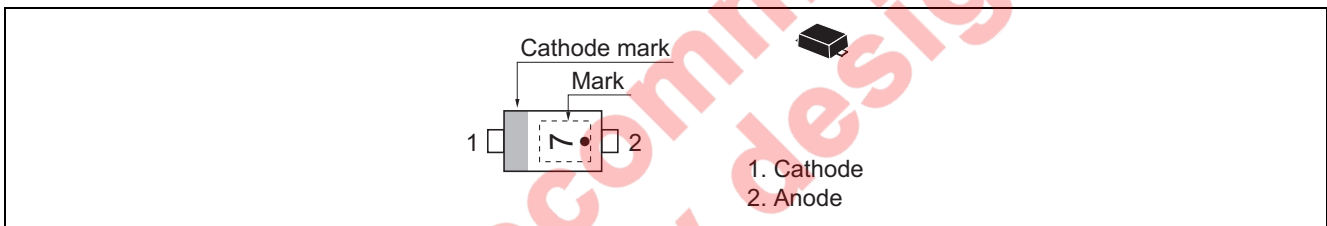
Features

- High capacitance ratio. ($n = 2.62 \text{ min}$)
- Low series resistance. ($r_s = 0.40 \Omega \text{ max}$)
- Thin Extremely small Flat Lead Package (TEFP) is suitable for surface mount design.

Ordering Information

| Type No. | Laser Mark | Package Name | Package Code |
|----------|------------|--------------|--------------|
| HVL396CM | 7 | TEFP | PUSF0002ZA-A |

Pin Arrangement



Absolute Maximum Ratings

(Ta = 25°C)

| Item | Symbol | Value | Unit |
|----------------------|------------------|-------------|------|
| Reverse voltage | V _R | 10 | 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 = 10 V |
| | I _{R2} | — | — | 50 | | V _R = 10 V, Ta = 60°C |
| Capacitance | C ₁ | 14.6 | — | 15.8 | pF | V _R = 1 V, f = 1 MHz |
| | C ₄ | 5.20 | — | 5.80 | | V _R = 4 V, f = 1 MHz |
| Capacitance ratio | n | 2.62 | — | — | — | C ₁ / C ₄ |
| Series resistance | r _s | — | — | 0.40 | Ω | V _R = 1 V, f = 470 MHz |

Note: For TEFP 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.

Not recommended
for new design

Main Characteristic

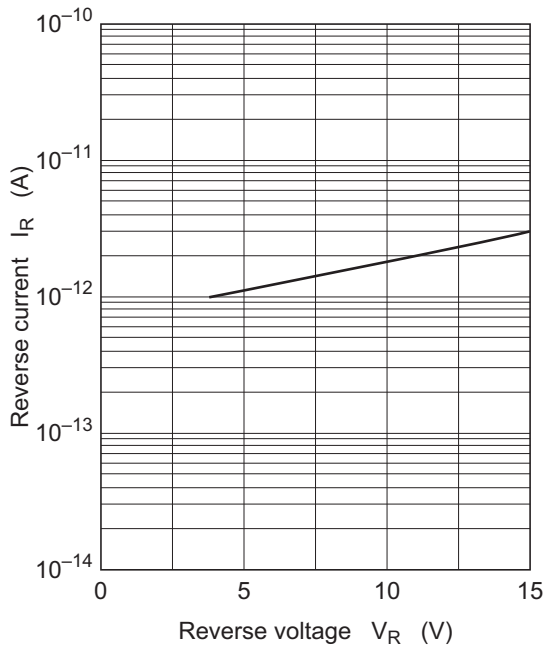


Fig.1 Reverse current vs. Reverse voltage

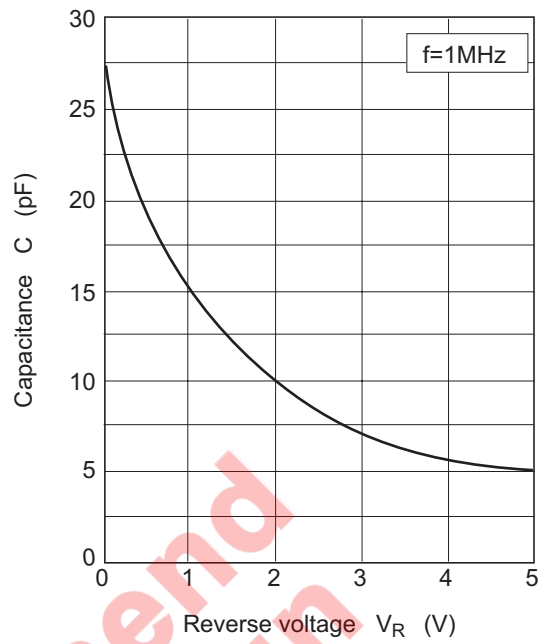


Fig.2 Capacitance vs. Reverse voltage

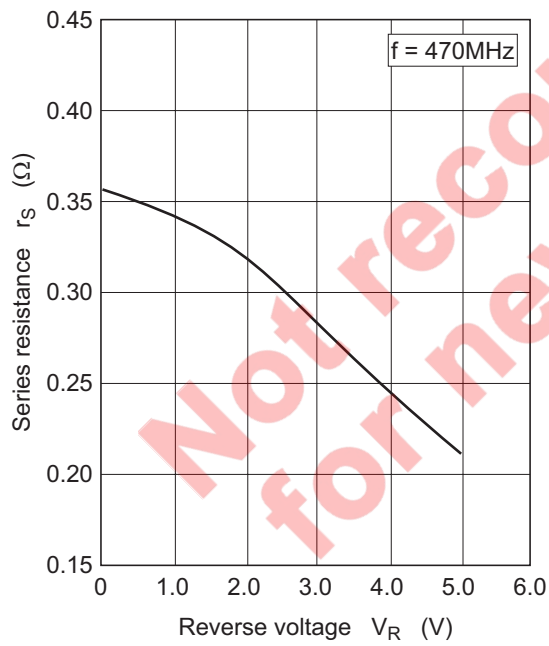
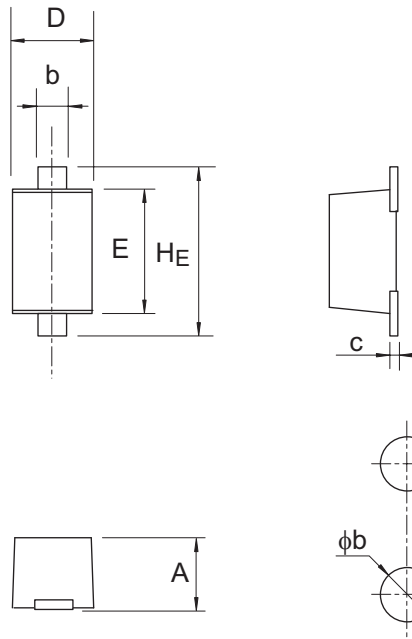


Fig.3 Series resistance vs. Reverse voltage

Package Dimensions

| | | | | |
|----------------------|-------------------------|------------------------------|-------------------------------|-----------------------|
| Package Name TEFP | JEITA Package Code — | RENESAS Code PUSF0002ZA-A | Previous Code TEFP / TEFPV | MASS[Typ.] 0.0006g |
|----------------------|-------------------------|------------------------------|-------------------------------|-----------------------|



Pattern of terminal position areas

| Reference Symbol | Dimension in Millimeters | | |
|------------------|--------------------------|------|------|
| | Min | Nom | Max |
| A | - | - | 0.40 |
| b | 0.25 | 0.30 | 0.35 |
| c | 0.08 | 0.13 | 0.18 |
| D | 0.55 | 0.60 | 0.65 |
| E | 0.75 | 0.80 | 0.90 |
| HE | 0.95 | 1.00 | 1.05 |
| phi b | - | 0.40 | - |
| e1 | - | 1.00 | - |

Not recommend for new design

Keep safety first in your circuit designs!

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