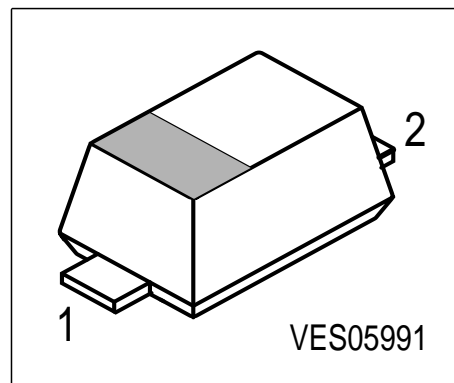


Silicon Tuning Diode

Preliminary data

- High Q hyperabrupt tuning diode
- Designed for low tuning voltage operation for VCO's in mobile communications equipment
- High ratio at low reverse voltage



| Type | Marking | Ordering Code | Pin Configuration | | Package |
|------------|---------|---------------|-------------------|-------|---------|
| BBY 53-02W | L | Q62702-B0862 | 1 = C | 2 = A | SCD-80 |

Maximum Ratings

| Parameter | Symbol | Value | Unit |
|-----------------------------|-----------|-------------|------|
| Diode reverse voltage | V_R | 6 | V |
| Forward current | I_F | 20 | mA |
| Operating temperature range | T_{op} | -55 ...+150 | °C |
| Storage temperature | T_{stg} | -55 ...+150 | |

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified.

| Parameter | Symbol | Values | | | Unit |
|---|-----------------|-------------|------------|------------|----------|
| | | min. | typ. | max. | |
| DC characteristics | | | | | |
| Reverse current $V_R = 4\text{ V}$ | I_R | - | - | 10 | nA |
| Reverse current $V_R = 4\text{ V}, T_A = 65^\circ\text{C}$ | I_R | - | - | 200 | |
| AC characteristics | | | | | |
| Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$ | C_T | 4.8 1.85 | 5.3 2.4 | 5.8 3.1 | pF |
| Capacitance ratio $V_R = 1\text{ V}, V_R = 3\text{ V}, f = 1\text{ MHz}$ | C_{T1}/C_{T3} | 1.8 | 2.2 | 2.6 | - |
| Series resistance $V_R = 1\text{ V}, f = 1\text{ GHz}$ | r_s | - | 0.37 | - | Ω |
| Case capacitance $f = 1\text{ MHz}$ | C_C | - | 0.12 | - | pF |
| Series inductance chip to ground | L_s | - | 1.8 | - | nH |

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

