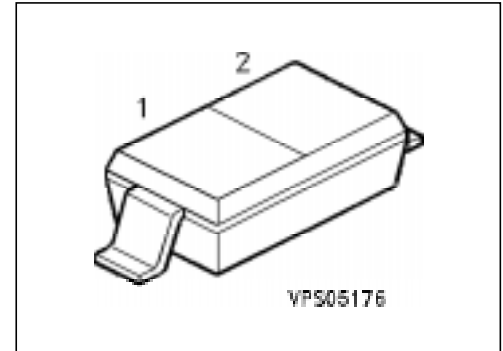


Silicon Variable Capacitance Diode

BB 439

Preliminary Data

- For VHF tuned circuit applications
- High figure of merit



| Type | Marking | Ordering Code (tape and reel) | Pin Configuration | Package ¹⁾ |
|--------|---------|-------------------------------|-------------------|-----------------------|
| BB 439 | white 2 | Q62702-B577 | | SOD-323 |

Maximum Ratings

| Parameter | Symbol | Values | Unit |
|-----------------------------|-----------|----------------|------|
| Reverse voltage | V_R | 28 | V |
| Peak reverse voltage | V_{RM} | 30 | |
| Forward current | I_F | 20 | mA |
| Operating temperature range | T_{op} | - 55 ... + 125 | °C |
| Storage temperature range | T_{stg} | - 55 ... + 150 | |

Thermal Resistance

| | | | |
|--------------------|-------------|-------|-----|
| Junction - ambient | $R_{th JA}$ | ≤ 450 | K/W |
|--------------------|-------------|-------|-----|

¹⁾ For detailed information see chapter Package Outlines.

Electrical Characteristics

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

| Parameter | Symbol | Values | | | Unit |
|---|--------------------|-----------|------------|-----------|----------|
| | | min. | typ. | max. | |
| Reverse current $V_R = 28\text{ V}$ $V_R = 28\text{ V}, T_A = 60\text{ }^\circ\text{C}$ | I_R | – – | – – | 20 200 | nA |
| Diode capacitance, $f = 1\text{ MHz}$ $V_R = 3\text{ V}$ $V_R = 25\text{ V}$ | C_T | 26 4.3 | – – | 32 6 | pF |
| Capacitance ratio, $f = 1\text{ MHz}$ $V_R = 3\text{ V}, 25\text{ V}$ | C_{T3} / C_{T25} | 5 | – | 6.5 | – |
| Capacitance matching $V_R = 3\text{ V} \dots 25\text{ V}, f = 1\text{ MHz}$ | $\Delta C_T / C_T$ | – | – | 3 | % |
| Series resistance $f = 100\text{ MHz}, C_T = 12\text{ pF}$ | r_s | – | 0.35 | 0.5 | Ω |
| Figure of merit $f = 50\text{ MHz}, V_R = 3\text{ V}$ $f = 200\text{ MHz}, V_R = 25\text{ V}$ | Q | – – | 280 600 | – – | – |

Diode capacitance $C_T = f(V_R)$

$f = 1\text{ MHz}$

