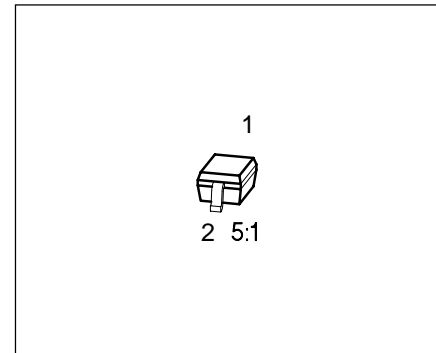


## Silicon Variable Capacitance Diode

BB 641

- For VHF Hyperband TV/TR tuners
- High capacitance ratio
- Low series resistance



| Type   | Ordering Code<br>(tape and reel) | Pin Configuration |  |   | Marking | Package |
|--------|----------------------------------|-------------------|--|---|---------|---------|
|        |                                  | 1                 |  | 2 |         |         |
| BB 641 | Q62702-B792                      | C                 |  | A | red G   | SOD-323 |

### Maximum Ratings

| Parameter                                      | Symbol    | Values         | Unit |
|--|-----------|----------------|------|
| Reverse voltage                                | $V_R$     | 30             | V    |
| Reverse voltage ( $R \geq 5 \text{ k}\Omega$ ) | $V_{RM}$  | 35             | V    |
| Forward current                                | $I_F$     | 20             | mA   |
| Operating temperature range                    | $T_{op}$  | - 55 ... + 150 | °C   |
| Storage temperature range                      | $T_{stg}$ | - 55 ... + 150 | °C   |

### Thermal Resistance

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

## Electrical Characteristics

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

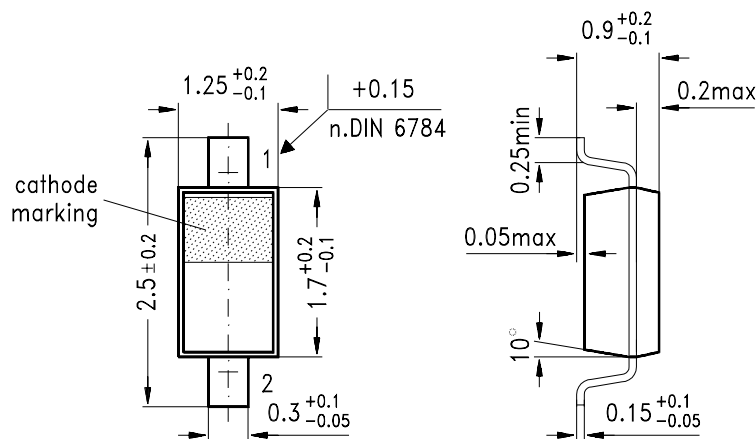
| Parameter | Symbol | Value |      |      | Unit |
|-----------|--------|-------|------|------|------|
|           |        | min.  | typ. | max. |      |

### DC Characteristics

|  |                  |            |            |           |          |
|--|------------------|------------|------------|-----------|----------|
| Reverse current<br>$V_R = 30\text{ V}$<br>$V_R = 30\text{ V}, T_A = 85\text{ °C}$                  | $I_R$            | –<br>–     | –<br>–     | 20<br>200 | nA       |
| Diode capacitance<br>$V_R = 1\text{ V}, f = 1\text{ MHz}$<br>$V_R = 28\text{ V}, f = 1\text{ MHz}$ | $C_T$            | 62<br>2.65 | 69<br>2.88 | 76<br>3.1 | pF       |
| Capacitance ratio<br>$V_R = 1\text{ V}, 28\text{ V}, f = 1\text{ MHz}$                             | $C_{T1}/C_{T28}$ | 22         | 24         | –         | –        |
| Capacitance matching<br>$V_R = 1\text{ V} \dots 28\text{ V}, f = 1\text{ MHz}$                     | $\Delta C_T/C_T$ | –          | –          | 2.5       | %        |
| Series resistance<br>$C_T = 30\text{ pF}, f = 100\text{ MHz}$                                      | $r_s$            | –          | 1.55       | –         | $\Omega$ |
| Series inductance  | $L_s$            | –          | 1.8        | –         | nH       |

### Package Outline

#### SOD-323



Dimensions in mm

GPS05556

Diode capacitance  $C_T = f(V_R)$

$f = 1 \text{ MHz}$

