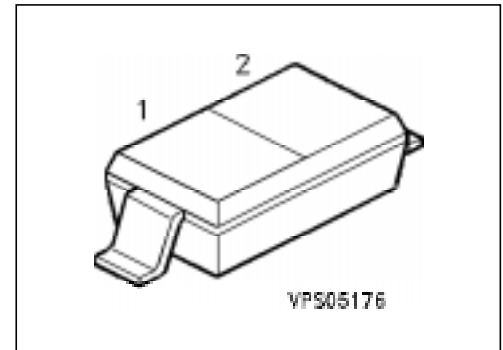


## Silicon Variable Capacitance Diode

**BB 811**

- Frequency range up to 2 GHz;  
special design for use in TV-sat indoor units



Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package <sup>1)</sup>
BB 811	white T	Q62702-B478		SOD-123

### Maximum Ratings

Parameter	Symbol	Values	Unit
Reverse voltage	$V_R$	30	V
Forward current, $T_A \leq 60 \text{ }^\circ\text{C}$	$I_F$	20	mA
Operating temperature range	$T_{op}$	- 55 ... + 125	°C
Storage temperature range	$T_{stg}$	- 55 ... + 150	

### Thermal Resistance

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

<sup>1)</sup> 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 $V_R = 30\text{ V}$ $V_R = 30\text{ V}, T_A = 85\text{ }^\circ\text{C}$	$I_R$	–	–	20 500	nA
Diode capacitance, $f = 1\text{ MHz}$ $V_R = 1\text{ V}$ $V_R = 28\text{ V}$	$C_T$	7.8 0.85	8.8 1.02	9.8 1.2	pF
Capacitance ratio $f = 1\text{ MHz}, V_R = 1\text{ V}/28\text{ V}$	$\frac{C_{T1}}{C_{T28}}$	7.8	8.6	9.5	–
Series resistance $f = 100\text{ MHz}, C_T = 9\text{ pF}$	$r_s$	–	1	–	$\Omega$
Case capacitance $f = 1\text{ MHz}$	$C_C$	–	0.1	–	pF
Capacitance matching $f = 1\text{ MHz}, V_R = 0.5 \dots 28\text{ V}$	$\frac{\Delta C_T}{\bar{C}}$	–	–	3	%
Series inductance	$L_s$	–	2.8	–	nH

### Diode capacitance $C_T = f(V_R)$

$f = 1\text{ MHz}$

