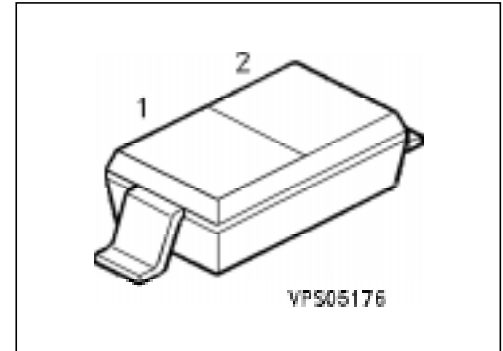


## Silicon Variable Capacitance Diode

**BB 515**

- For UHF and VHF TV/VTR tuners
- Large capacitance ratio
- Low series resistance



Type	Ordering Code (tape and reel)	Pin Configuration		Marking	Package
		1	2		
BB 515	Q62702-B607	C	A	white S	SOD-123

### Maximum Ratings

Parameter	Symbol	Values	Unit
Reverse voltage	$V_R$	30	V
Reverse voltage ( $R \geq 5 \text{ k}\Omega$ )	$V_{RM}$	35	
Forward current, $T_A \leq 60 \text{ }^\circ\text{C}$	$I_F$	20	mA
Operating temperature range	$T_{op}$	- 55 ... + 150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	- 55 ... + 150	

### Thermal Resistance

Junction - ambient	$R_{th \text{ JA}}$	$\leq 450$	K/W
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### Electrical Characteristics

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Reverse current $V_R = 30\text{ V}$ $V_R = 30\text{ V}, T_A = 85\text{ }^\circ\text{C}$	$I_R$	– –	– –	10 200	nA
Diode capacitance, $f = 1\text{ MHz}$ $V_R = 1\text{ V}$ $V_R = 28\text{ V}$	$C_T$	17.5 1.9	18.7 2.1	20 2.3	pF
Capacitance ratio $V_R = 1\text{ V}, 28\text{ V}; f = 1\text{ MHz}$	$\frac{C_{T1}}{C_{T28}}$	8.2	8.9	9.8	–
Capacitance matching $V_R = 1\text{ V} \dots 28\text{ V}; f = 1\text{ MHz}$	$\frac{\Delta C_T}{C_T}$	–	–	2.5	%
Series resistance $C_T = 9\text{ pF}, f = 470\text{ MHz}$	$r_s$	–	0.5	–	$\Omega$
Series inductance	$L_s$	–	2	–	nH

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

$f = 1\text{ MHz}$

