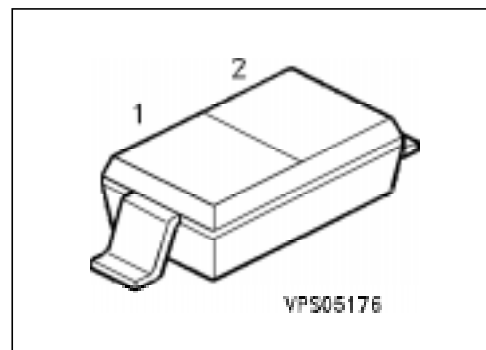


Silicon Variable Capacitance Diode

BB 640

- For Hyperband TV/VTR tuners, Bd I



Type	Ordering Code (tape and reel)	Pin Configuration			Marking	Package
		1		2		
BB 640	Q62702-B589	C		A	red S	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	
Forward current	I_F	20	mA
Operating temperature range	T_{op}	- 55 ... + 150	°C
Storage temperature range	T_{stg}	- 55 ... + 150	

Thermal Resistance

Junction - ambient	$R_{th JA}$	≤ 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	62 2.9	— —	76 3.4	pF
Capacitance ratio $V_R = 1\text{ V}, 28\text{ V}, f = 1\text{ MHz}$	$\frac{C_{T1}}{C_{T28}}$	19.5	—	25	—
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 $C_T = 30\text{ pF}, f = 100\text{ MHz}$	r_s	—	1.15	—	Ω
Series inductance	L_s	—	2	—	nH

Diode capacitance $C_T = f(V_R)$

$f = 1\text{ MHz}$

