# SIEMENS

Silicon Variable Capacitance Diode   **BB 804**

● For FM tuners

● Monolithic chip with common cathode for perfect tracking of both diodes

● Uniform "square law" characteristics

● Ideal Hifi tuning device when used in low-distortion, back-to-back configuration

VP505161
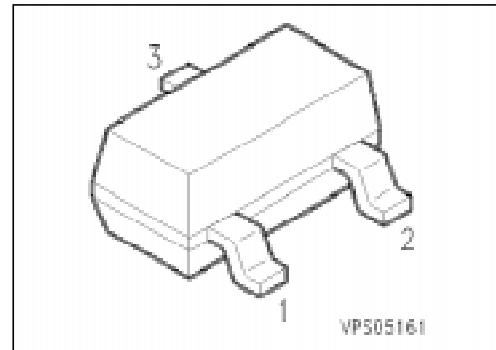
Type	Ordering Code (tape and reel)	Pin Configuration	Marking	Package
BB 804	Q62702-B372	EHA07004	SF (see Characteristics for marking of capacitance subgroups)	SOT-23

Maximum Ratings per Diode

Parameter	Symbol	Values	Unit
Reverse voltage	V_R	18	V
Peak reverse voltage	V_{RM}	20	
Forward current, $T_A \leq 60\ ^\circ C$	I_F	50	mA
Operating temperature	T_{op}	100	$^\circ C$
Storage temperature range	T_{stg}	$-65 \ldots +150$	

Thermal Resistance

Parameter	Symbol	Values	Unit
Junction - ambient	$R_{th\ JA}$	≤ 600	K/W

Electrical Characteristics per Diode

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

Parameter	Symbol	Values			Unit
		min.	**typ.**	**max.**	
Reverse current V_R = 16 V V_R = 16 V, T_A = 60 $^\circ$C	I_R	 – –	 – –	 20 200	nA
Diode capacitance V_R = 2 V, f = 1 MHz	C_T	42	–	47.5	pF
Capacitance ratio V_R = 2 V, 8 V, f = 1 MHz	$\dfrac{C_{T2}}{C_{T8}}$	1.65	1.71	–	–
Series resistance V_R = 2 V, f = 100 MHz	r_s	–	0.18	–	Ω
Q factor V_R = 2 V, f = 100 MHz	Q	–	200	–	–
Temperature coefficient of diode capacitance V_R = 2 V, f = 1 MHz	TC_C	–	330	–	ppm/K
Diode capacitance[1] V_R = 2 V, f = 1 MHz Subgroups: 0 1 2 3 4	C_T	 42 43 44 45 46	 – – – – –	 43.5 44.5 45.5 46.5 47.5	pF

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[1] The capacitance subgroup is marked by the subgroup number printed on the component and the package label. A packaging unit (e.g. 8-mm tape) contains diodes of one subgroup only. Delivery of different capacitance subgroups requires a special agreement.

Diode capacitance $C_T = f\,(V_R)$
per diode, $f = 1$ MHz

EHD07050
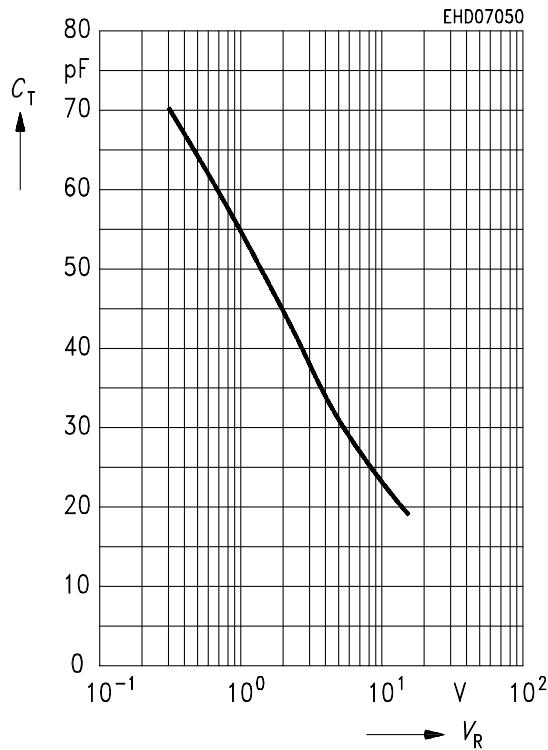
Capacitance ratio $C_{Tref}\,/\,C_T = f\,(V_R)$
per diode; $V_{ref} = 1$ V, 2 V, $f = 1$ MHz

EHD07051
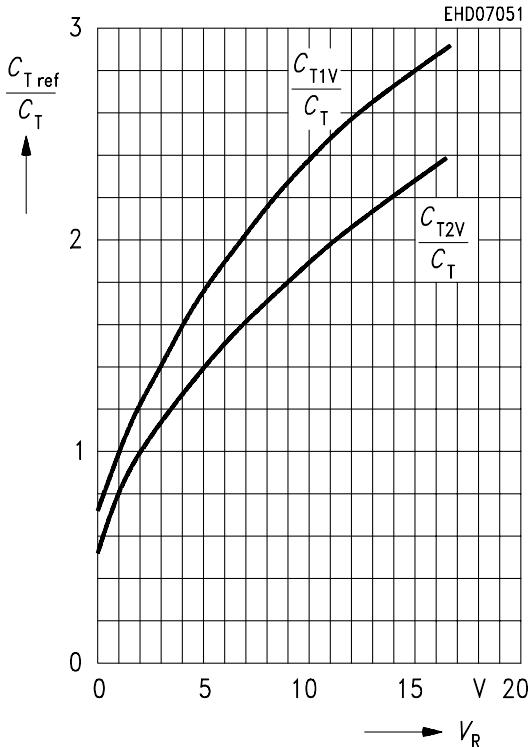
Temperature coefficient $TC_C = f\,(V_R)$
per diode, $f = 1$ MHz

EHD07052