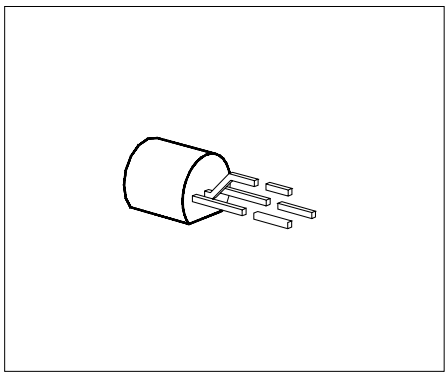
SIEMENS

Silicon Variable Capacitance Diode

BB 304A

Preliminary Data

- 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
- Color-coded capacitance subgroups available (see characteristics)



Type	Ordering Code (tape and reel)	Pin Configuration 1	2	3	Marking	Package
BB 304A	Q62702-B118	A1	C1/C2	A2	color coded capacitance groups	TO-92

Maximum Ratings

Parameter	Symbol	Values	Unit
Reverse voltage	V_R	18	V
Peak reverse voltage ($R \geq 10\ \Omega$)	V_{RM}	20	V
Forward current $T_A \leq 60$ °C	I_F	50	mA
Storage temperature range	T_{stg}	– 55 … + 150	°C

Thermal Resistance

Junction-ambient	$R_{th\ JA}$	≤	K/W

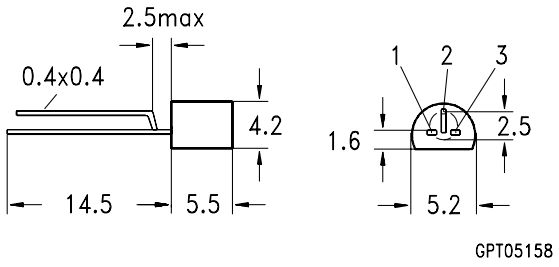
Electrical Characteristics

at T_A = 25 °C, unless otherwise specified.

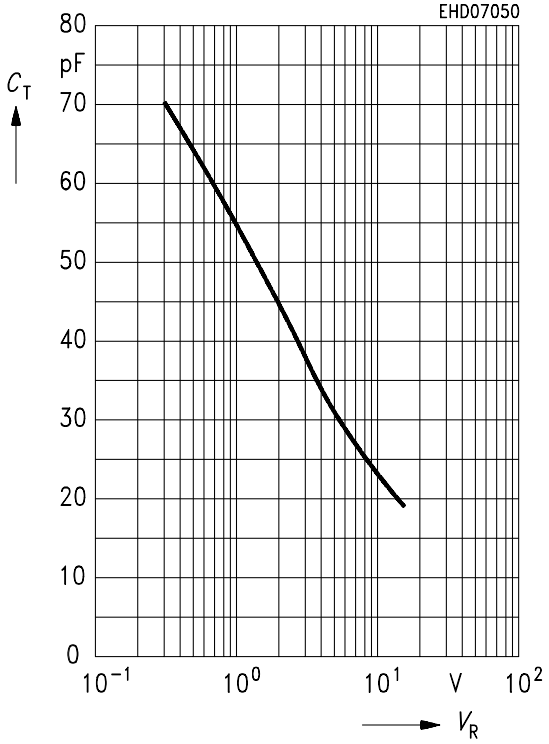
Parameter	Symbol	Value			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
V_R = 16 V		–	–	20	
V_R = 16 V, T_A = 60 °C		–	–	200	
Diode capacitance	C_T				pF
V_R = 2 V, f = 1 MHz		42	–	47.5	
Capacitance ratio	C_{T2}/C_{T8}				–
V_R = 2 V … 8V, f = 1 MHz		1.65	–	– 1.75	
Series resistance	r_S				Ω
V_R = 38 V, f = 100 MHz		–	0.25	0.4	
Q factor	Q				–
C_T = 38 pF, f = 100 MHz		100	170	–	
Diode capacitance	C_T				pF
V_R = 2 V, f = 1 MHz					
Subgroup: red		42	–	43.5	
yellow		43	–	44.5	
white		44	–	45.5	
green		45	–	46.5	
blue		46	–	47.5	

Package Outline

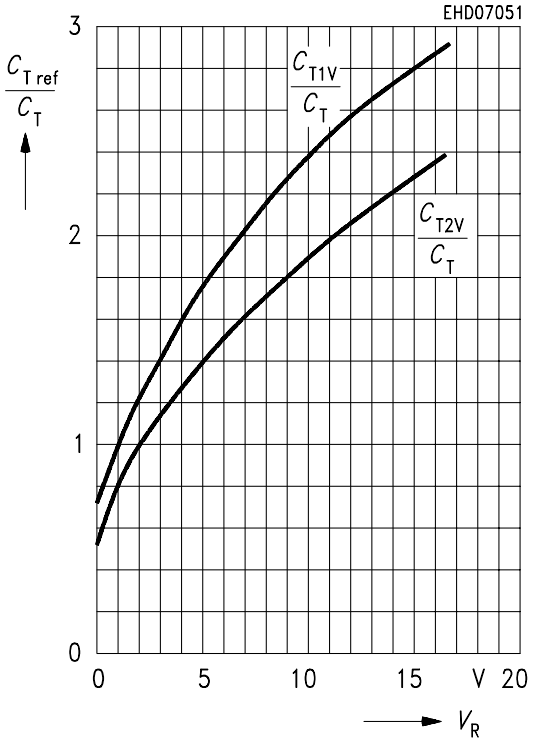
TO-92



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



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



Temperature coefficient $T_{CC} = f(V_R)$
per diode, f = 1 MHz

