

SILICON PLANAR VARIABLE CAPACITANCE DOUBLE DIODES

The BB204B and BB204G are double diodes with common cathode in a plastic TO-92 variant, primarily intended for electronic tuning in band II (f.m.). They are recommended for stages where large signals occur (e.g. oscillator circuits).

QUICK REFERENCE DATA

For each diode:

Continuous reverse voltage	V_R	max.	30 V
Junction temperature	T_j	max.	100 °C
Reverse current at $V_R = 30$ V	I_R	<	50 nA

Diode capacitance at $f = 1$ MHz

$V_R = 3$ V
 $V_R = 8$ V

	BB204G	BB204B
C_d	34 – 39	37 – 42 pF
C_d	22 – 27	24 – 29 pF

Capacitance ratio at $f = 1$ MHz

$\frac{C_d (V_R = 3 \text{ V})}{C_d (V_R = 30 \text{ V})}$
2,5 to 2,8

Series resistance at $f = 100$ MHz

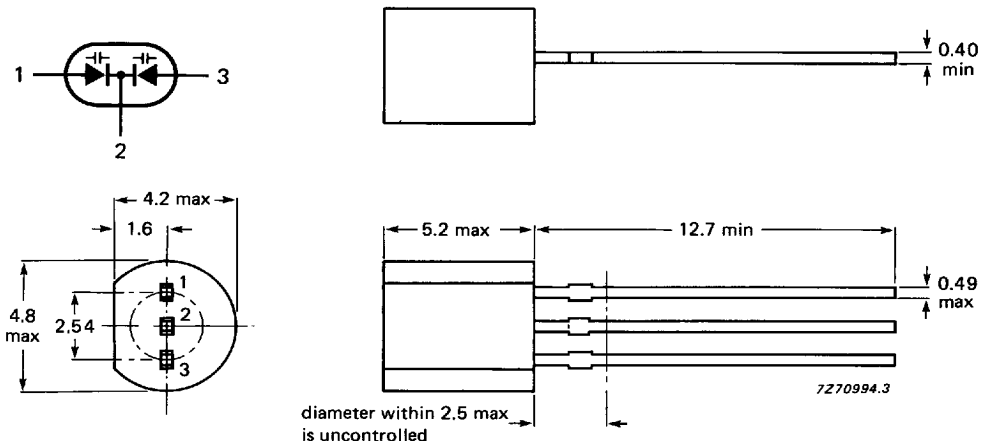
V_R is that value at which $C_d = 38$ pF

r_D	typ.	0,2	Ω
	<	0,4	Ω

MECHANICAL DATA

Dimensions in mm

Fig. 1 TO-92 variant.



RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

For each diode:

Continuous reverse voltage	V_R	max.	30 V
Forward current (d.c.)	I_F	max.	100 mA
Storage temperature	T_{stg}		-55 to +100 °C
Junction temperature	T_j	max.	100 °C

CHARACTERISTICS

For each diode:

$T_j = 25\text{ °C}$

Reverse current at $V_R = 30\text{ V}$ $I_R < 50\text{ nA}$

Diode capacitance at $f = 1\text{ MHz}$

$V_R = 3\text{ V}$

$V_R = 8\text{ V}$

$V_R = 30\text{ V}$

I_R	<	50 nA								
C_d										
		<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <th>BB204G</th> <th>BB204B</th> </tr> <tr> <td>34 – 39</td> <td>37 – 42 pF</td> </tr> <tr> <td>22 – 27</td> <td>24 – 29 pF</td> </tr> <tr> <td colspan="2" style="text-align: center;">14</td> </tr> </table>	BB204G	BB204B	34 – 39	37 – 42 pF	22 – 27	24 – 29 pF	14	
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C_d	typ.	pF								

Capacitance ratio at $f = 1\text{ MHz}$

$$\frac{C_d(V_R = 3\text{ V})}{C_d(V_R = 30\text{ V})} \quad 2,5 \text{ to } 2,8$$

Series resistance at $f = 100\text{ MHz}$

V_R is that value at which $C_d = 38\text{ pF}$

r_D	typ.	0,2	Ω
	<	0,4	Ω

NAPC/PHILIPS SEMICON

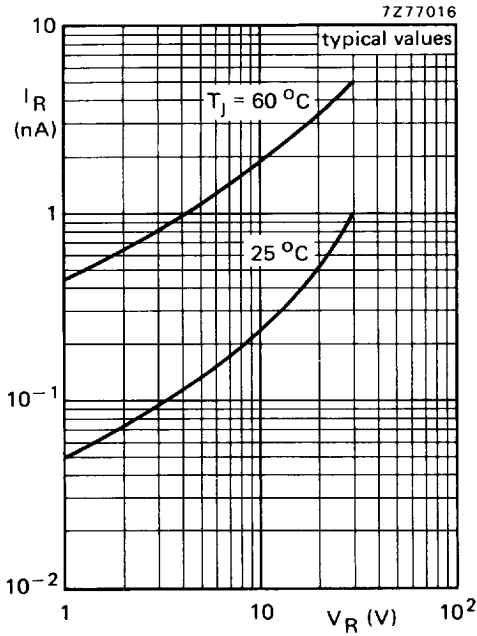


Fig. 2.

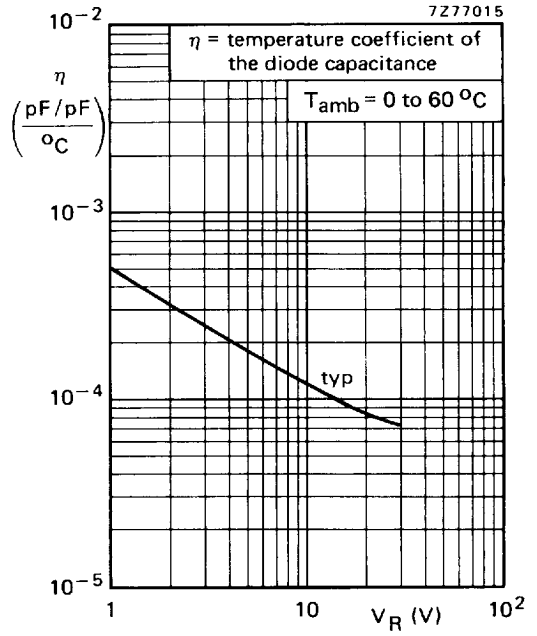


Fig. 3.

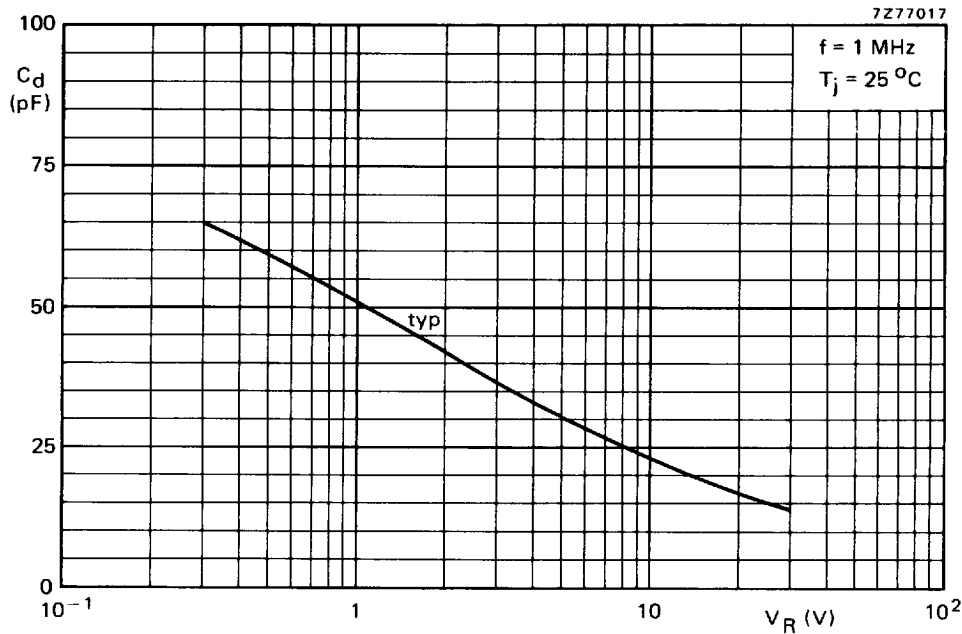


Fig. 4.

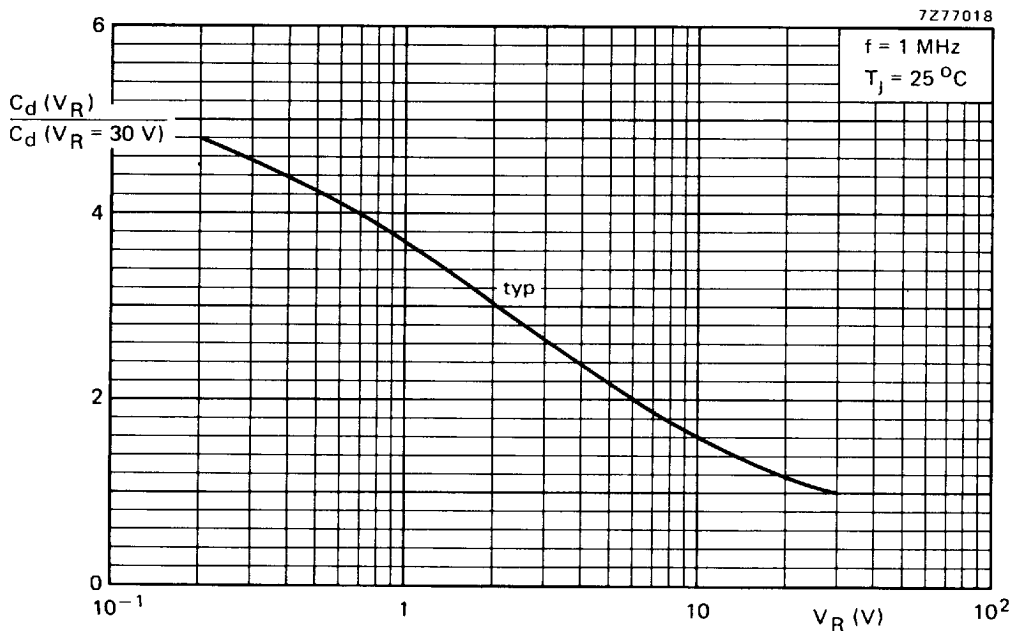


Fig. 5.