SILICON PLANAR VARIABLE CAPACITANCE DIODES

The BB105A is intended for use in u.h.f. tuners up to frequencies of 790 MHz.
The BB105B is meant for u.h.f. tuners up to frequencies of 860 MHz.
The BB105G is meant for v.h.f. tuners.
Twelve matched diodes are delivered together, thus containing 4 triplets or 3 quadruplets.
The capacitance difference between any two of the twelve diodes is less than 3% for the BB105A and BB105B and less than 6% for the BB105G over the voltage range from 0.5 to 28 V.

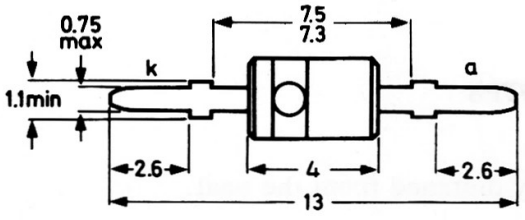
QUICK REFERENCE DATA

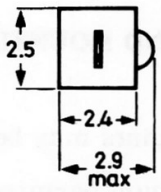
Reverse voltage	V_R	max.		28		V
Reverse current at V_R = 28 V	I_R	<		100		nA
			BB105A	BB105B	BB105G	
Diode capacitance at f = 1 MHz V_R = 25 V	C_d	>	2.3	2.0	1.8	pF
		<	2.8	2.3	2.8	pF
Capacitance ratio at f = 1 MHz	$\frac{C_d(V_R = 3\ V)}{C_d(V_R = 25\ V)}$	>	4	4.5	4	
		<	5	6	6	
Series resistance at f = 470 MHz V_R is that value at which C_d = 9 pF	r_D	typ.	0.6	0.6	0.9	Ω
		<	0.7	0.7	1.2	Ω

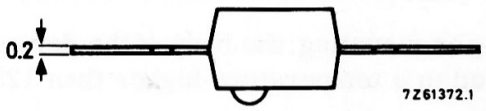
MECHANICAL DATA

Dimensions in mm

12-BB105A and B: marked on packing
12-BB105G : green dot on the envelope







The white band indicates the cathode side

The sealing of the plastic envelope withstands the accelerated damp heat test of IEC recommendation 68-2 (test D, severity IV, 6 cycles).

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

Continuous reverse voltage	V_R	max. 28	V
Reverse voltage (peak value)	V_{RM}	max. 30	V
Forward current (d.c.)	I_F	max. 20	mA
Storage temperature	T_{stg}	−55 to +100	°C
Junction temperature	T_j	max. 60	°C

THERMAL RESISTANCE

From junction to ambient in free air $R_{th\ j\text{-}a}$ = 0.4 °C/mW

CHARACTERISTICS T_j = 25 °C unless otherwise specified

			BB105A	BB105B	BB105G	
Reverse current						
V_R = 28 V	I_R	<	100	100	100	nA
V_R = 28 V; T_j = 60 °C	I_R	<	0.5	0.5	0.5	μA
Diode capacitance at f = 1 MHz						
V_R = 1 V	C_d	typ.	17	17.5	17.5	pF
V_R = 3 V	C_d	typ.	11.5	11.5	11.5	pF
V_R = 25 V	C_d	>	2.3	2.0	1.8	pF
		<	2.8	2.3	2.8	pF
Capacitance ratio at f = 1 MHz $\frac{C_d(V_R = 3\ V)}{C_d(V_R = 25\ V)}$		>	4	4.5	4	
		<	5	6	6	
Series resistance						
at f = 470 MHz and at that value of V_R at which C_d = 9 pF	r_D	typ.	0.6	0.6	0.9	Ω
		<	0.7	0.7	1.2	Ω
at f = 200 MHz and I_F = 5 mA	r_D	typ.	0.4	0.4	0.4	Ω

SOLDERING AND MOUNTING NOTES

1. Soldered joints may be at any distance from the seal.
2. The maximum permissible temperature of the soldering iron or bath is 300 °C; it must be in contact with the joint for no more than 3 seconds.
3. Avoid hot spots due to handling or mounting; the body of the device must not come into contact with or be exposed to a temperature higher than 125 °C.
4. Leads should not be bent less than 0.5 mm from the seal; exert no axial pull when bending.