

# Silicon - Diode

## **BB204G**

34 - 39pF

Dual FM Varactor - Diode

# DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

## BB204B • BB204G • MV104

### DUAL FM VARACTOR DIODES

DIFFUSED SILICON PLANAR

- C...37–42 pF (BB204B, MV104)
- C...34–39 pF (BB204G)
- Q...100 (MIN) (MV104)

#### ABSOLUTE MAXIMUM RATINGS (Note 1)

##### Temperatures

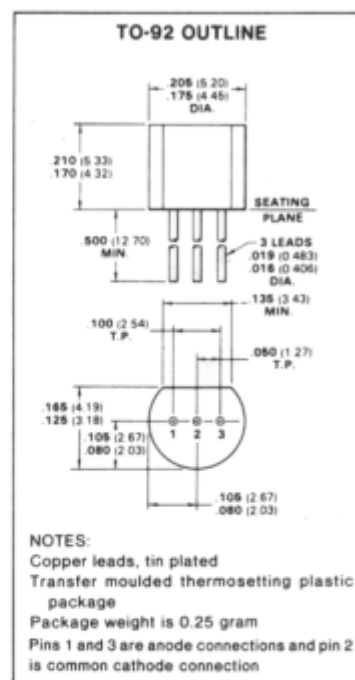
Storage Temperature Range	-55°C to +150°C
Maximum Junction Operating Temperature	+150°C
Lead Temperature	+280°C

##### Power Dissipation (Note 2)

Maximum Total Power Dissipation at 25°C Ambient	280 mW
Linear Power Derating Factor	2.24 mW/°C

##### Maximum Voltage and Currents

WIV Working Inverse Voltage	30 V
I <sub>F</sub> Continuous Forward Current	200 mA



#### ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC (each diode)	MIN	TYP	MAX	UNITS	TEST CONDITIONS
BV	Breakdown Voltage	32				I <sub>R</sub> = 10 μA
I <sub>R</sub>	Reverse Current		5.0 50	50 500	nA nA	V <sub>R</sub> = 30 V V <sub>R</sub> = 30 V, T <sub>A</sub> = 60°C
C	Capacitance	BB204B, MV104 BB204G	37 34	42 39	pF pF	V <sub>R</sub> = 3 V, f = 1 MHz V <sub>R</sub> = 3 V, f = 1 MHz
C <sub>3</sub> /C <sub>30</sub>	Capacitance Ratio	BB204B, BB204G MV104	2.4 2.5	2.6 2.65 2.8		V <sub>R</sub> = 3 V, f = 1 MHz V <sub>R</sub> = 3 V, f = 1 MHz
L <sub>S</sub>	Series Inductance		6.0		nH	f = 250 MHz, 1.5m/m leads
R <sub>D</sub>	Dynamic Resistance	MV104 BB204B, BB204G	0.2 0.2	0.4	Ω Ω	V <sub>R</sub> @ 38 pF, f = 100 MHz V <sub>R</sub> @ 38 pF, f = 100 MHz
C <sub>C</sub>	Case Capacitance		0.18		pF	f = 1 MHz, 1.5m/m leads
TC <sub>C</sub>	Capacitance Temperature Coefficient		280	400	ppm/°C	
Q	Figure of Merit	MV104	100	125		V <sub>R</sub> = 3 V, f = 100 MHz

#### NOTES:

1. These ratings are limiting values above which the serviceability of the diode may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
3. For product family characteristic curves, refer to Chapter 4, D9.