

Fairchild	Diode BB139	Datasheet
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Silicon - Diode

BB139

5.1 - 29pF

VHF/FM Varactor - Diode

DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

BB139

VHF / FM VARACTOR DIODE

DIFFUSED SILICON PLANAR

- $C_3/C_{25} \dots 5.0-6.5$
- **MATCHED SETS** (Note 2)

ABSOLUTE MAXIMUM RATINGS (Note 1)

Temperatures

Storage Temperature Range

Maximum Junction Operating Temperature

Lead Temperature

-55°C to +150°C

+150°C

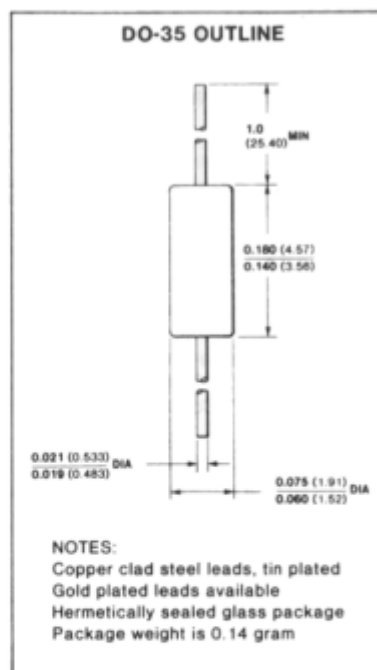
+260°C

Maximum Voltage

WIV

Working Inverse Voltage

30 V



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

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	TEST CONDITIONS
BV	Breakdown Voltage	30			V	$I_R = 100 \mu A$
I_R	Reverse Current		10 0.1	50 0.5	nA μA	$V_R = 28 V$ $V_R = 28 V, T_A = 60^\circ C$
C	Capacitance	4.3	29 5.1	6.0	pF pF	$V_R = 3.0 V, f = 1 MHz$ $V_R = 25 V, f = 1 MHz$
C_3/C_{25}	Capacitance Ratio	5.0	5.7	6.5		$V_R = 3 V/25 V, f = 1 MHz$
Q	Figure of Merit		150			$V_R = 3.0 V, f = 100 MHz$
R_S	Series Resistance		0.35		Ω	$C = 10 pF, f = 600 MHz$
L_S	Series Inductance		2.5		nH	1.5 mm from case
f_o	Series Resonant Frequency		1.4		GHz	$V_R = 25 V$

NOTES:

- These ratings are limiting values above which the serviceability of the diode may be impaired.
- The capacitance difference between any two diodes in one set is less than 3% over the reverse voltage range of 0.5 V to 28 V.
- For product family characteristic curves, refer to Chapter 4, D12.