

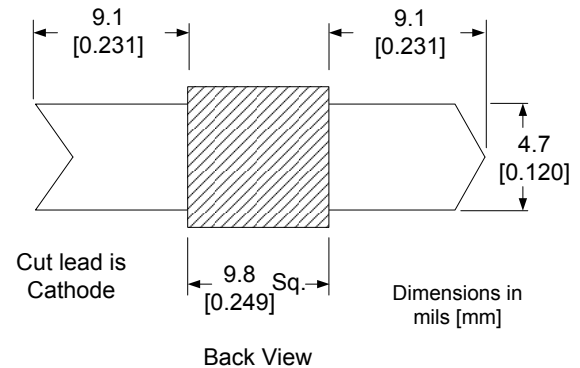
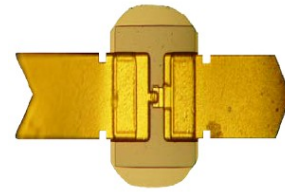
Features

- Low Capacitance
- Low Temperature Coefficient than Silicon
- Operation to 110 GHz
- Rugged Construction
- RoHS* Compliant

Description

The MZBD-9161 is a beam lead detector diode designed for zero bias detecting applications at frequencies through 110 GHz.

These beam lead detector diodes offer superior stability when compared to silicon zero bias Schottky diodes.



Electrical Specifications: $T_A = +25^\circ\text{C}$

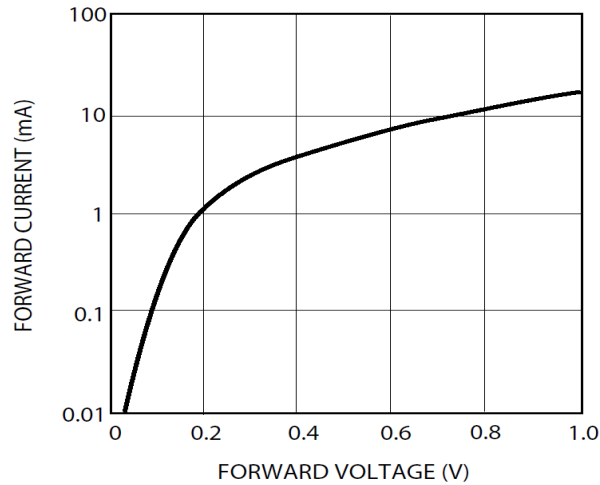
Parameter	Test Conditions	Unit	Min.	Typ.	Max.
Junction Capacitance (C_J)	1 MHz	pF	—	0.035	—
Video Resistance (R_V)	Zero Bias	k Ω	2.5	—	7.5
Voltage Sensitivity (γ)	Zero Bias, 10 GHz, shunt 50 Ω input matching resistor	mV/ μ W	0.5	—	—

Absolute Maximum Ratings

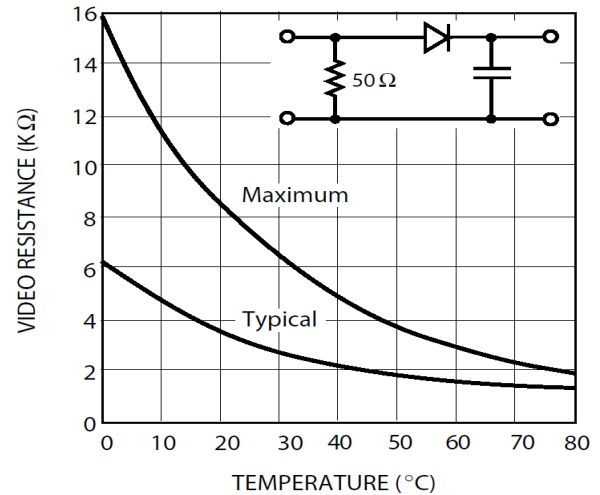
Parameter	Absolute Maximum
Operating Temperature	-65°C to +175°C
Storage Temperature	-65°C to +200°C
Typical Burnout Power	20 dBm
Minimum Lead Strength	3 grams

Typical Performance Curves

Forward Current

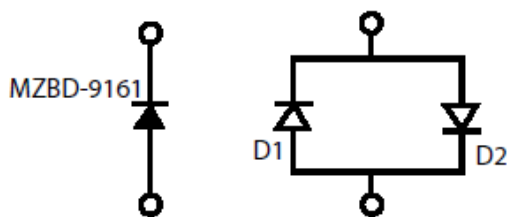


Video Resistance



SPICE Parameters Diagram

Because of the high leakage of this diode under reverse bias, it must be modeled as an anti-parallel pair.



D1 represents the characteristic of the MZBD-9161 under forward bias.
D2 (in the forward direction) gives the V-I curve of the MZBD-9161 under reverse bias.

SPICE Parameters Table

Parameter	Units	D1	D2
B_V	V	10	10
C_{j0}	pF	0.030	0.030
E_G	eV	1.42	1.42
I_{BV}	A	10E-12	10E-12
I_S	A	12x10E-6	84x10E-6
N	-	1.2	10.0
R_S	Ω	50	10
P_S (V _J)	V	0.26	0.26
P_T (XTI)	-	2	3
M	-	0.5	0.5

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