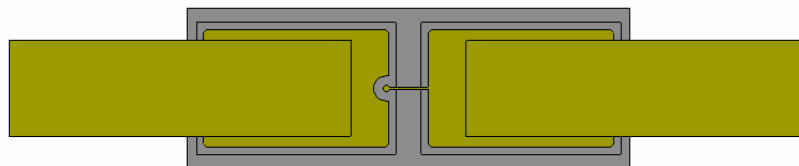


GaAs Schottky diode –Single Beamlead TSC-SB-01020



Features


- ◆ Junction capacitance as low as 1fF allowing cutoff frequency >2THz
- ◆ Very low parasitic capacitance < 9fF
- ◆ Ultra low series resistance
- ◆ Airbridged anode contact for low parasitic operation
- ◆ Fully passivated by SiN
- ◆ Flip chip and beamlead geometry
- ◆ Anode metalization optimized for reliable optimization
- ◆ MMIC backend process available for integrated passives and vias
- ◆ Unique gold stand-off platforms for ruggedness in flip-chip applications

| Description | Symbol | Part Number | Condition | Min | Max |
|---------------------------|--------|--------------|-----------|--------|----------|
| Ideality | N | TSC-SB-01020 | | 1.1 | 1.2 |
| Junction Capacitance | Cj | | | 1.1 fF | 1.1 fF |
| Capacitance Total | Ct | | | 16 fF | 20 fF |
| Series Resistance | Rs | | | | 16.5 ohm |
| Forward Voltage | VF | | IF @ 1mA | 0.73 V | 0.95 V |
| Reverse Breakdown Voltage | VBr | | IR @ -5uA | -5 V | |
| Saturation Current | Is | | | | 1e-14 A |

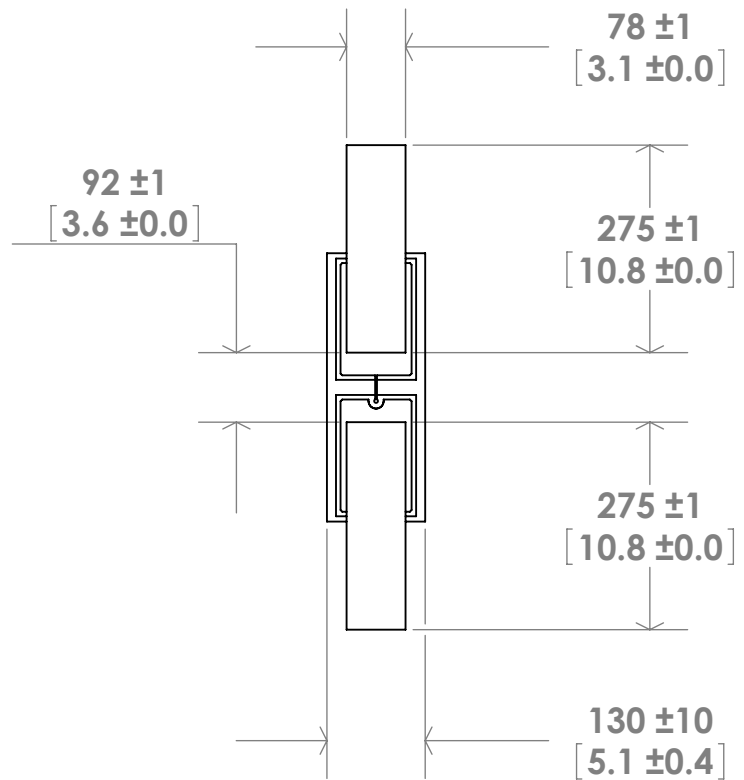
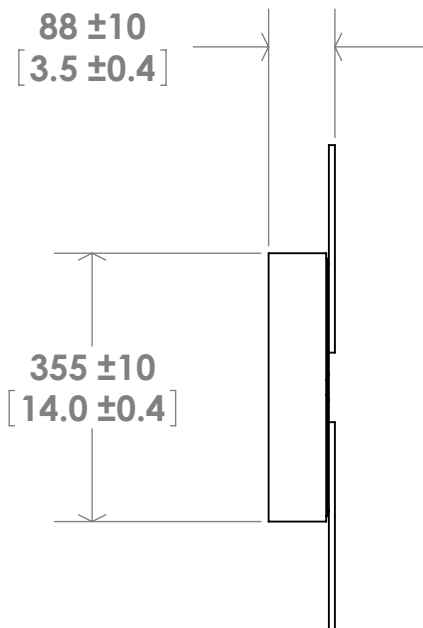
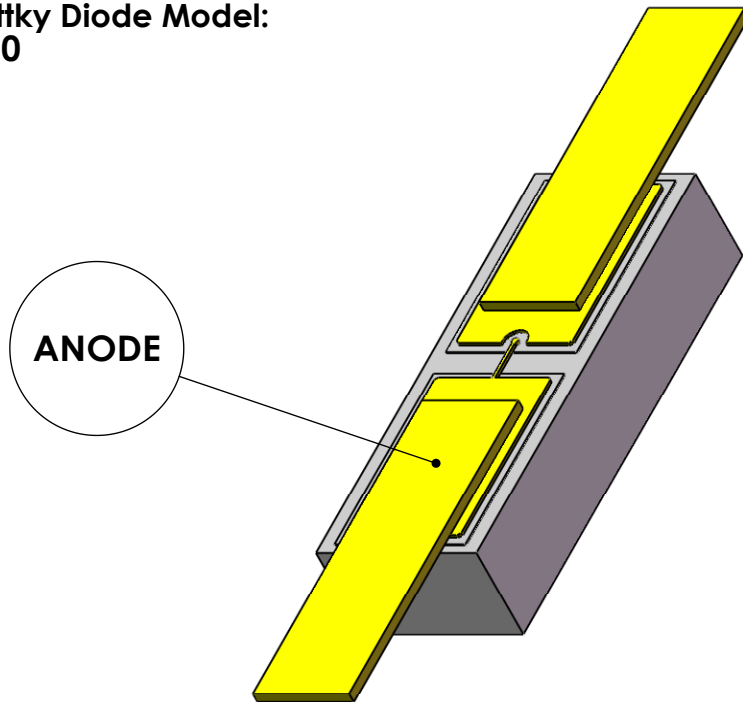
Product Description

- ◆ Ideality(N) is measured using $N=1/(V_{th} \cdot \ln(10) \cdot m)$ where $m=I(0.62V)-I(0.48V)/0.62-0.48$ and $V_{th}=K \cdot T/q$
- ◆ Is is measured using $I_s=I(V_0)$
- ◆ VBr is measured at reverse bias current compliance of -5uA
- ◆ VF is measured at forward current of 1mA
- ◆ Rs is measured using $R_s = 111.11 \cdot ((V@5mA - V@500uA) - (V@100uA - V@10uA))$
- ◆ Junction capacitance is calculated based on the device area and a fixed capacitance per unit area

Ordering information

| PART NUMBER | DESCRIPTION | CAUTION |
|--------------|--|---|
| TSC-SB-01020 | Single beamlead diode with Cj = 1.1 fF | CAUTION DEVICE SUSCEPTIBLE TO DAMAGE BY ELECTROSTATIC DISCHARGE (ESD)  |

**Schottky Diode Model:
SBD20**



Dimensions in microns [mils]