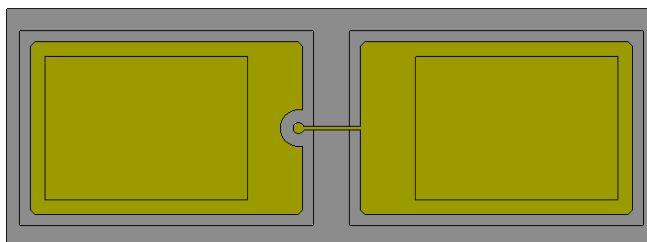


GaAs Schottky diode –Single TSC-S-01020



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-S-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	V _F		I _F @ 1mA	0.73 V	0.95 V
Reverse Breakdown Voltage	V _{Br}		I _R @ -5uA	-5 V	
Saturation Current	I _s				1e-14 A

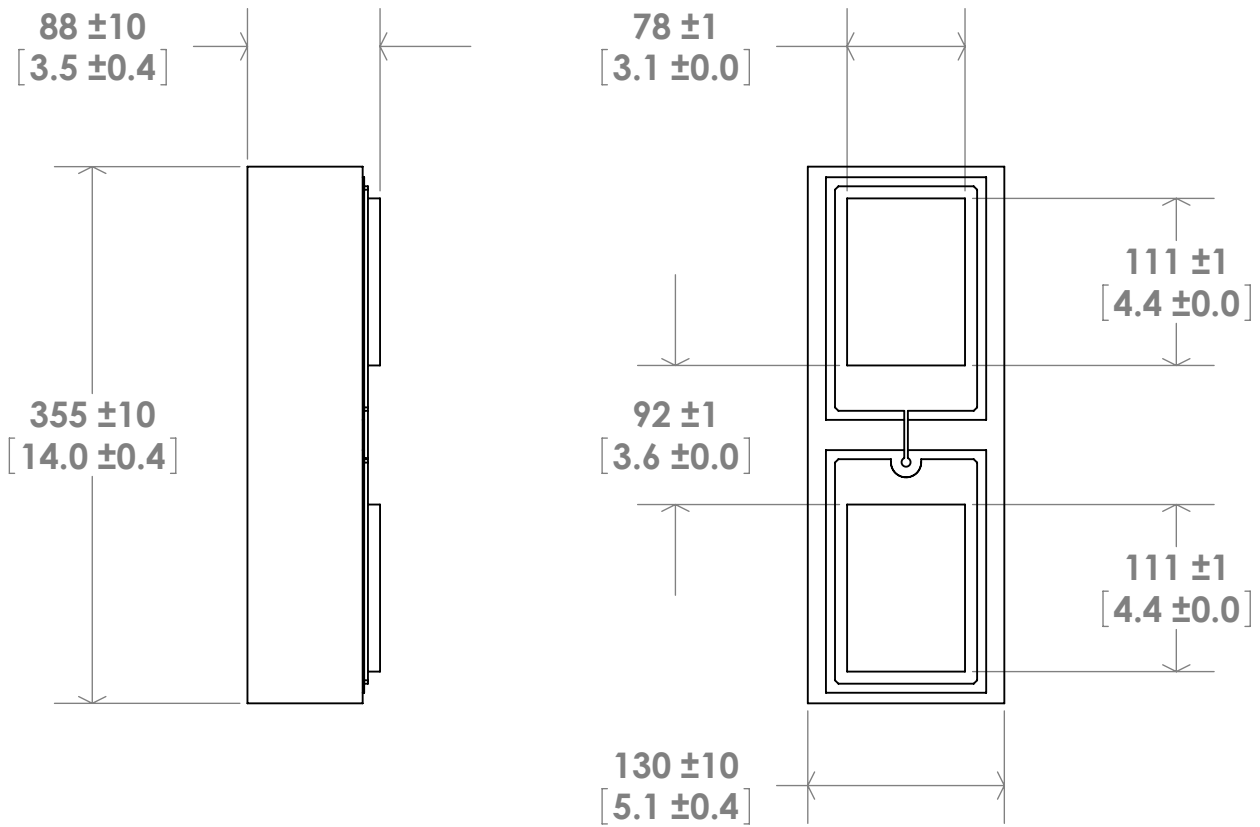
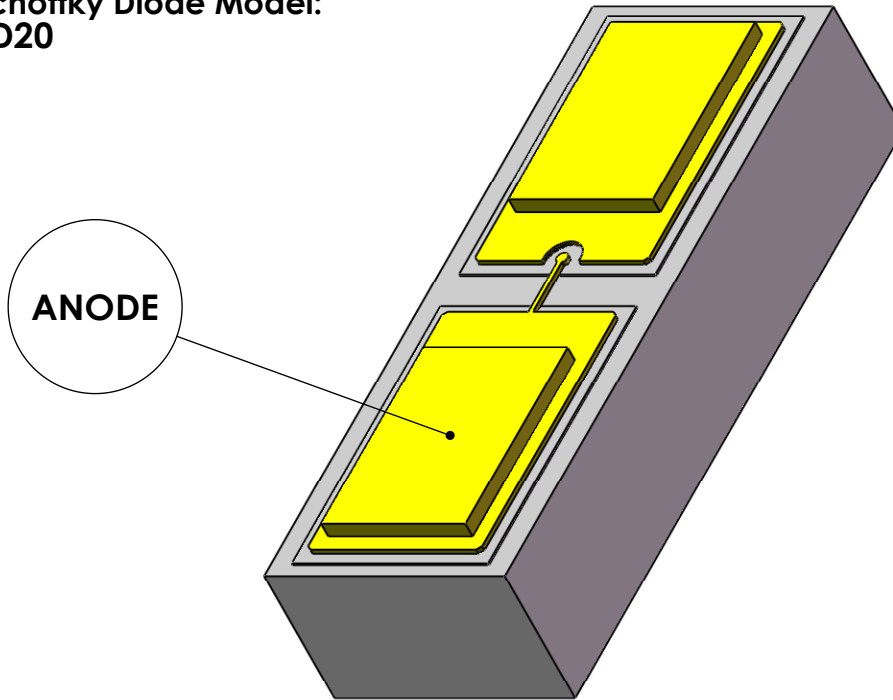
Product Description

- ◆ 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 $V_{th}=K \cdot T/q$
- ◆ I_s is measured using $I_s=I(V_0)$
- ◆ V_{Br} is measured at reverse bias current compliance of -5uA
- ◆ V_F is measured at forward current of 1mA
- ◆ R_s 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-S-01020	Single diode with C _j = 1.1 fF	

**Schottky Diode Model:
SD20**



Dimensions in microns [mils]