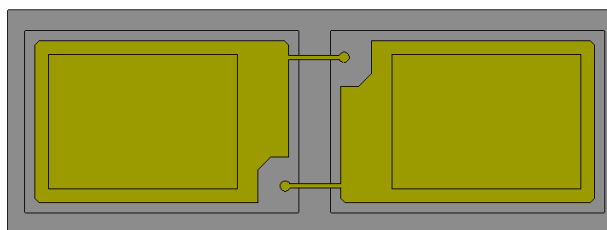


## GaAs Schottky diode –Antiparallel TSC-AP-02020



### 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-AP-02020		1.1	1.2
Junction Capacitance	Cj			4 fF	4 fF
Capacitance Total	Ct			20 fF	26 fF
Series Reistance	Rs				8.5 ohms
Forward Voltage	VF		IF @ 1mA	0.7 V	0.85 V
Reverse Breakdown Voltage	VBr		IR @ -5uA	-5 V	
Saturation Current	Is				1e-14 A

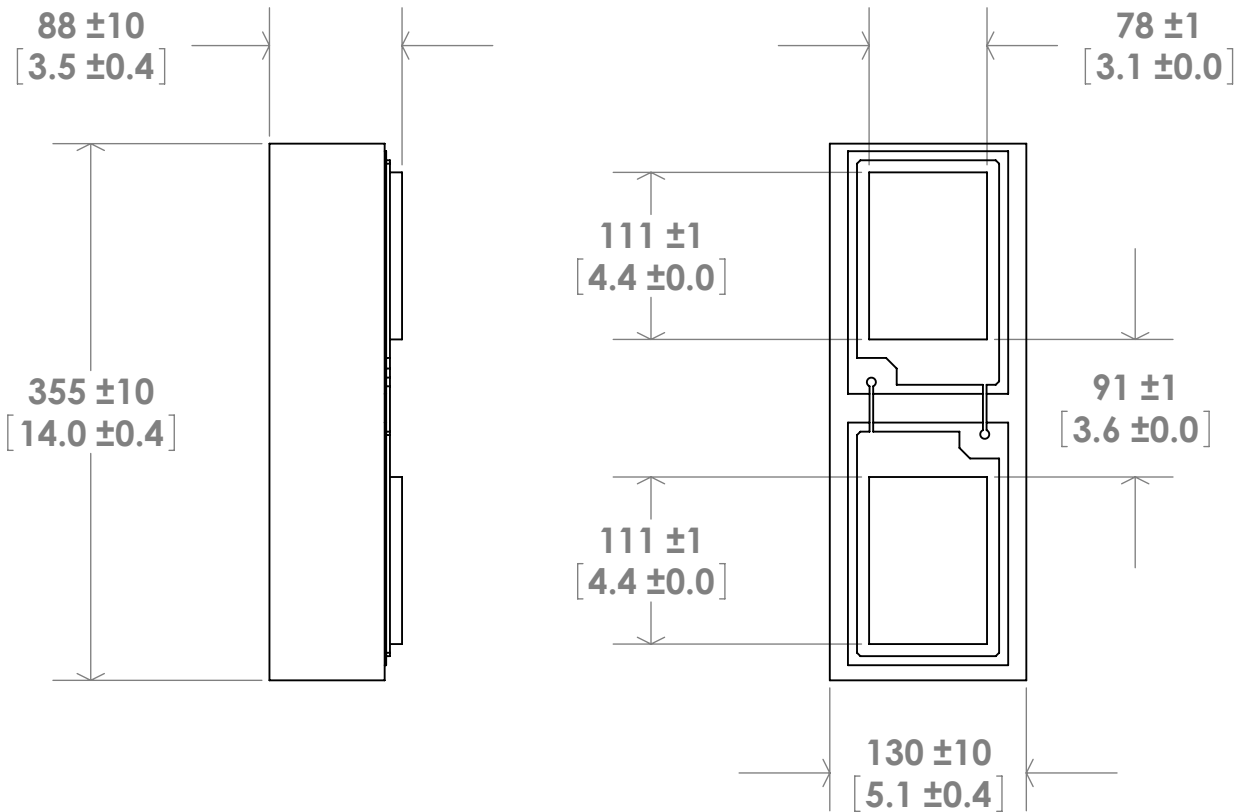
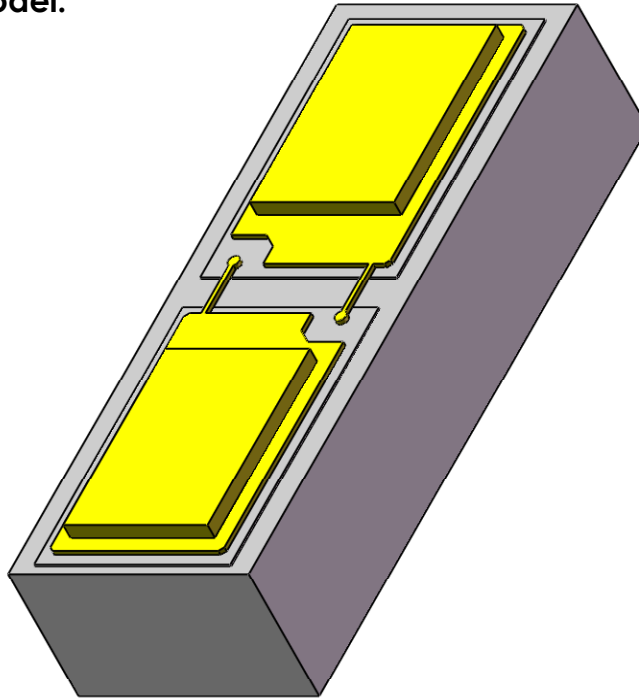
### Product Description

- ◆ 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	
TSC-AP-02020	Antiparallel diode with Cj = 9.8 fF	

**Schottky Diode Model:**  
**APD20**



**Dimensions in microns [mils]**