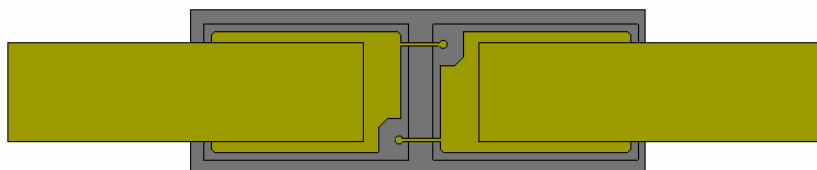


## GaAs Schottky diode –Antiparallel Beamlead TSC-APB-01020



### 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-APB-01020		1.1	1.2
Junction Capacitance	C <sub>j</sub>			1.1 fF	1.1 fF
Capacitance Total	C <sub>t</sub>			16 fF	20 fF
Series Resistance	R <sub>s</sub>				16.5 ohm
Forward Voltage	V <sub>F</sub>		I <sub>F</sub> @ 1mA	0.73 V	0.95 V
Reverse Breakdown Voltage	V <sub>Br</sub>		I <sub>R</sub> @ -5uA	-5 V	
Saturation Current	I <sub>s</sub>				1e-14 A

### Product Description

- ◆ Ideality(N) is measured using  $N=1/(V_{th} \cdot \ln(10) \cdot m)$  where  $m=(0.62v)-(0.48v)/0.62-0.48$  and  $V_{th}=K \cdot T/q$
- ◆ I<sub>s</sub> is measured using  $I_s=I(V_{-0})$
- ◆ V<sub>Br</sub> is measured at reverse bias current compliance of -5uA
- ◆ V<sub>F</sub> is measured at forward current of 1mA
- ◆ R<sub>s</sub> 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
- ◆ C<sub>t</sub> is based on a single diode capacitance measurement

### Ordering information

PART NUMBER	DESCRIPTION	CAUTION
TSC-APB-01020	Antiparallel beamlead diode with C <sub>j</sub> = 1.1 fF	DEVICE SUSCEPTIBLE TO DAMAGE BY ELECTROSTATIC DISCHARGE (ESD) 