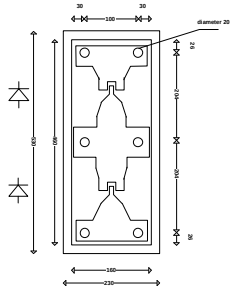
Flip-Chip Dual Diode

GaAs Diode

Description

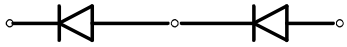
The DBES105a is a dual Schottky diode based on a low cost 1µm stepper process including a bump technology. The parasitic inductances are reduced and result in a very high operating frequency.

This flip-chip dual diode has been designed for high performance mixer applications.



Main Features

- High cut-off frequencies: 3THz
- High breakdown voltage: < -5V@ 20µA
- Good ideality factor: 1.2
- Low parasitic inductances
- Low cost technology
- Dimensions : 0.53 x 0.23 x 0.1mm



Main Characteristics

Tamb. = 25℃

Symbol	Parameter	Typ	Unit
Wu	Gate Width	5	µm
Fco	Cut-off frequency	3	THz
n	Ideality factor	1.2	
BVak	Anode-cathode break-down voltage	< -5	V

ESD Protection: Electrostatic discharge sensitive device. Observe handling precautions!

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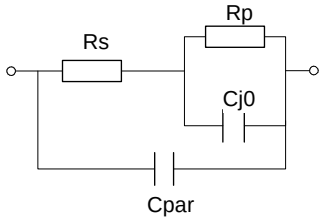
Equivalent Circuit



Rs(Ω)	Cjo(fF) (0V)	Cpar(fF)	Fco(THz)
4.4	9.5	5.8	2.4

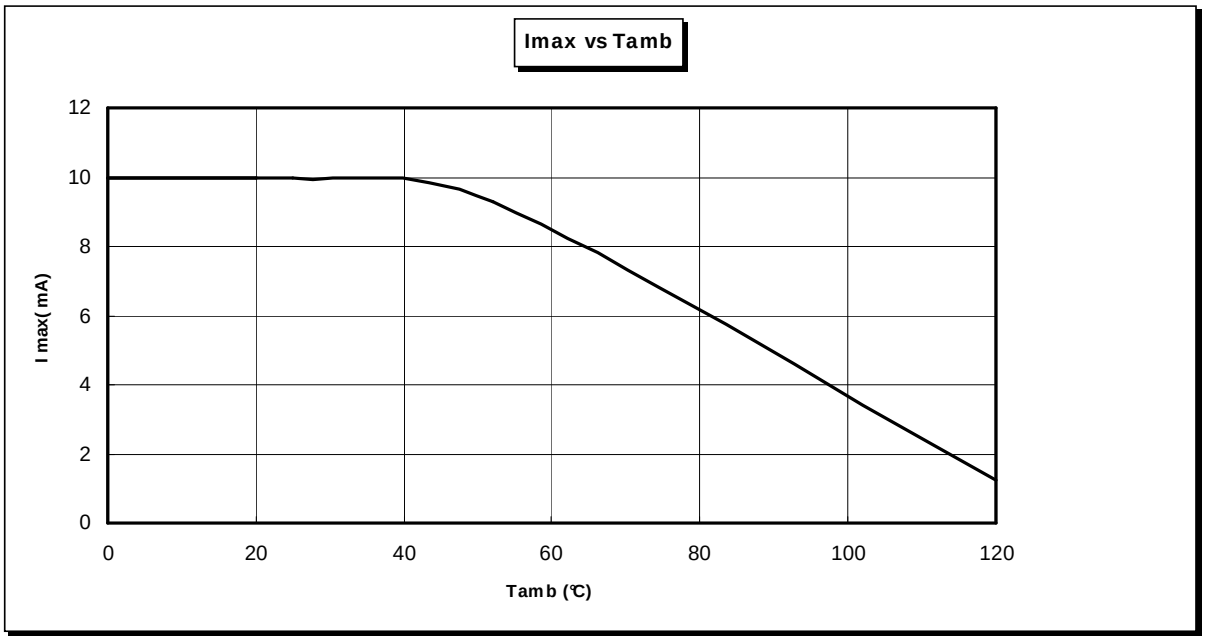
Fco = 1/(2π Rs [Cpar + Cjo])
Rp can be neglected

Absolute Maximum Ratings (1)

Tamb. = 25℃

Symbol	Parameter	Typ. values	Unit
Vak	Reverse anode-cathode voltage	-5	V
Iak	Forward anode-cathode current	10	mA

(1) Operation of this device above anyone of these parameters may cause permanent damage.



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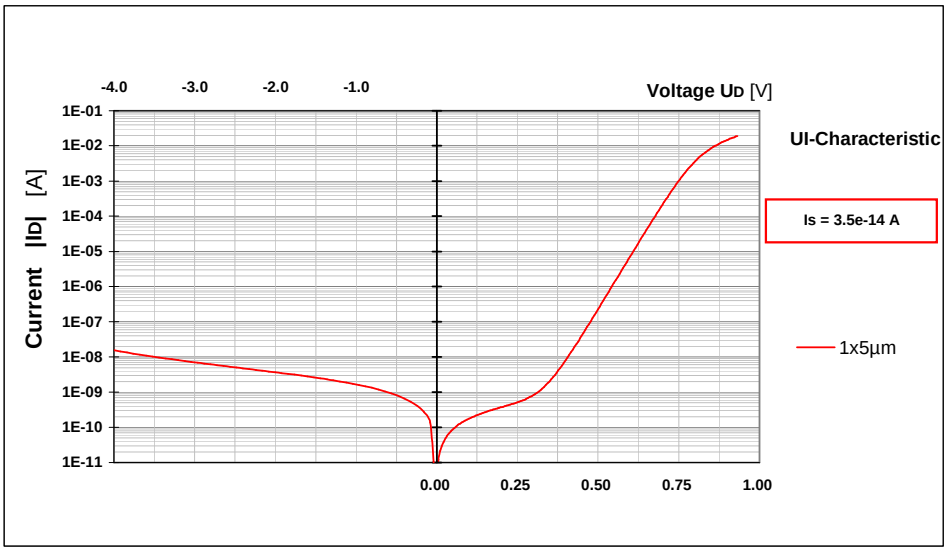
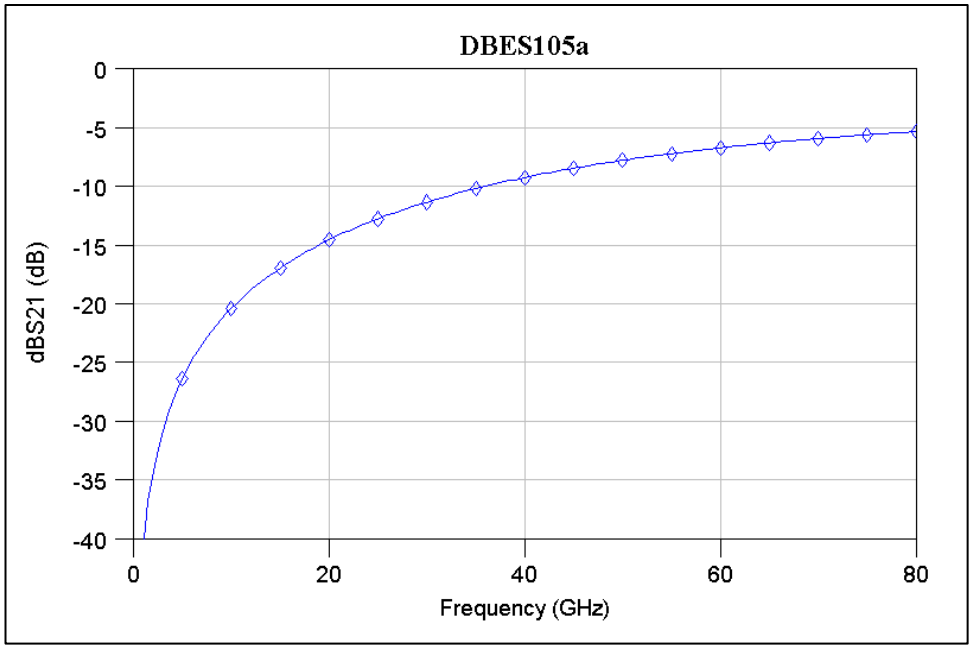
Typical DC Measurements



Typical On-Wafer Measurements

Bias Conditions Vak = 0V



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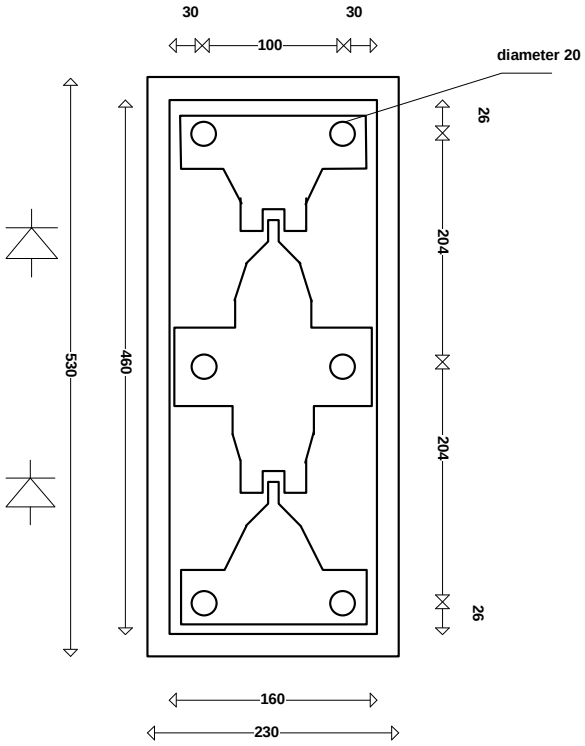
Mechanical data



Dimensions in µm

Dimensions: 230 ± 35 x 530 ± 35 µm
Thickness= 100µm ± 10 µm

Ordering Information

Chip form : DBES105a99F/00

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