

Schottky Diode Type 3MAS2.3

Product Description

Type 3MASx family of structures are fabricated by ACST planar process on thinned s.i. GaAs substrate.

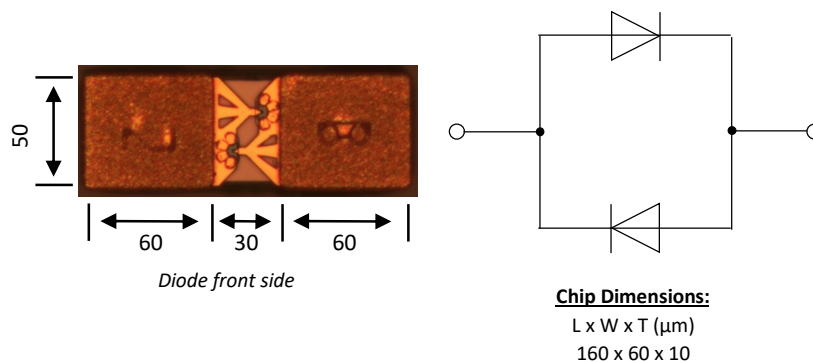


Fig. 1: Optical view of the product

The 3MASx structure represents two anti-parallel Schottky diodes, optimized for operation in varistor mode.

Application Areas

- Sub-harmonically-pumped frequency mixers
- Wideband frequency multipliers

Product Features

- Strongly reduced shunt (pad-to-pad) capacitance
- Low junction capacitance
- Low RF series resistance
- Suitable for flip-chip mounting approach
- Structure geometry optimized for Sub/MM-Waves applications

Tab. 1: Electrical parameters at room temperature

Parameter	Symbol	Specified Range		
		Minimum	Nom.	Maximum
Chip length [μm]	L	150	160	170
Chip width [μm]	W	50	60	70
Chip thickness [μm]	T	8	10	15
Total capacitance [fF]	C_{tot}	8.7	9.6	10.5
Junction capacitance per anode [fF]	C_{j0}	1.8	2.3	2.8
Series resistance per anode [Ω]	R_s	8	16	22
Difference between two anti-parallel anodes [Ω]	$ R_{s_left} - R_{s_right} $			6
Ideality factor per anode	η	1.15	1.2	1.25
Difference between two anti-parallel anodes	$ \eta_{left} - \eta_{right} $			0.05
Forward voltage at current level of $1\mu\text{A}$ [V]	$V_{f@1\mu\text{A}}$	0.67	0.71	0.75
Difference between two anti-parallel anodes	$ V_{f@1\mu\text{A_left}} - V_{f@1\mu\text{A_right}} $			0.02

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