

## Schottky Diode Type 3MAS1.5

### Product Description

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

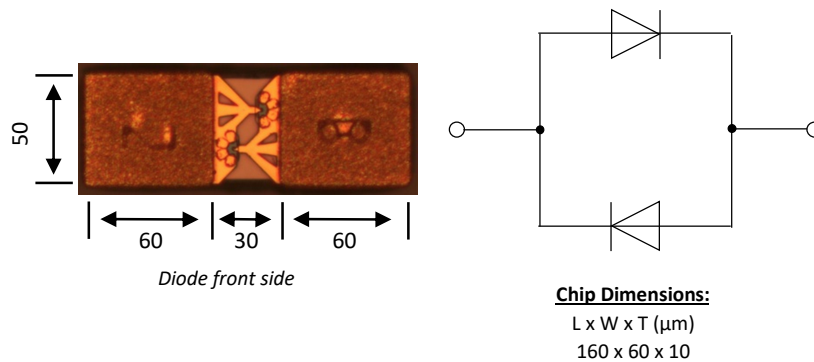


Fig. 1: Optical view of the product

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 [ $\mu\text{m}$ ]	L	150	160	170
Chip width [ $\mu\text{m}$ ]	W	50	60	70
Chip thickness [ $\mu\text{m}$ ]	T	8	10	15
Total capacitance [fF]	$C_{\text{tot}}$	7.4	8	8.6
Junction capacitance per anode [fF]	$C_{j0}$	1.2	1.5	1.8
Series resistance per anode [ $\Omega$ ]	$R_s$	8	18	25
Difference between two anti-parallel anodes [ $\Omega$ ]	$ R_{s\_left} - R_{s\_right} $			6
Ideality factor per anode	$\eta$	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]	$V_{f@1\mu\text{A}}$	0.69	0.73	0.77
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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