

25Gbps 1310/1550nm APD Chip on Submount

TYPE NAME: L-QR-IA99-01

Product Description:

L-QR-IA99-01 is a bottom-illuminated flip-chip 25 Gbps APD. It features high sensitivity at 1310/1550nm wavelength range.

Application Note:

- 100G BASE-ER4 / 5G wireless

Product Specifications:

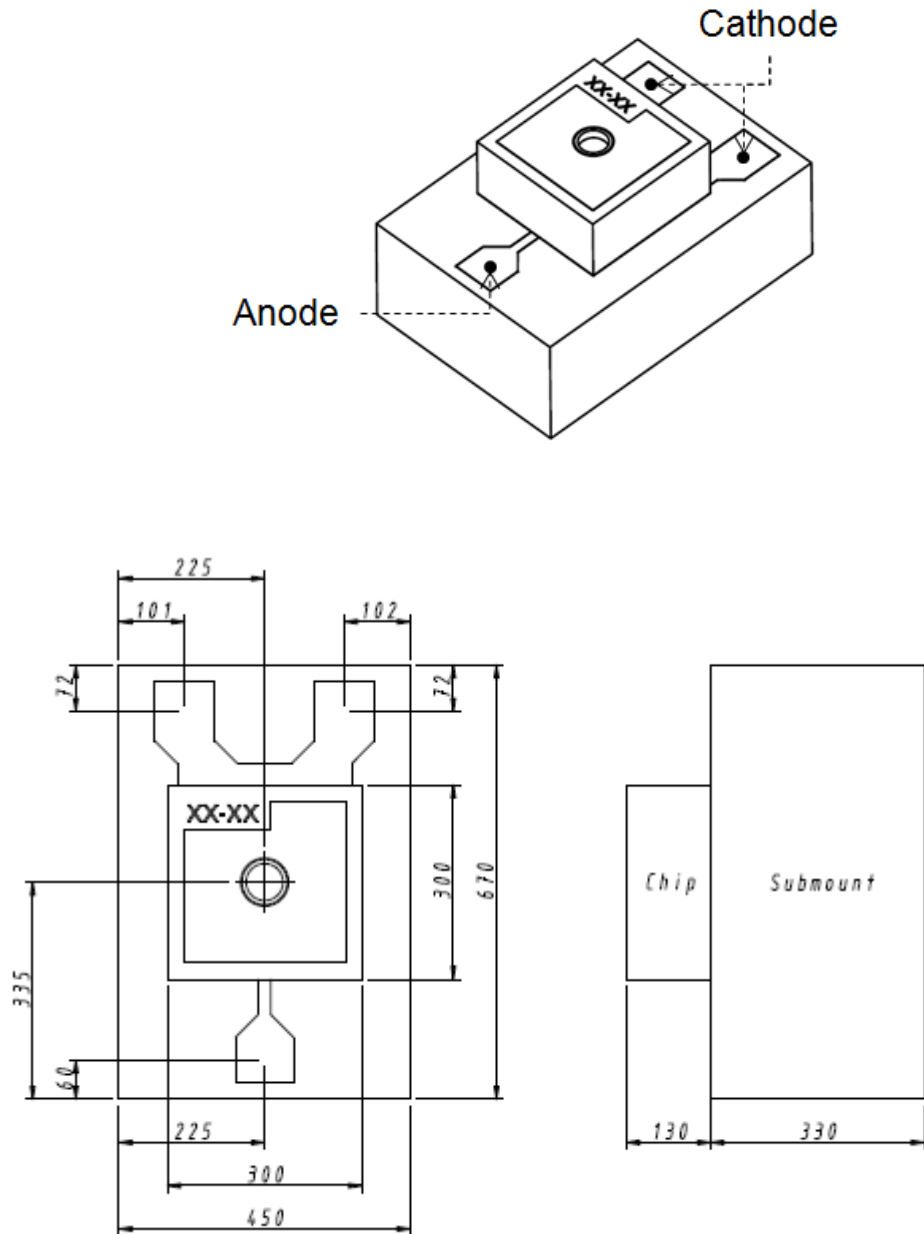
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$):

Parameter	Symbol	Unit	Min.	Max.	Note
Forward Current	I_F	mA		10	
Reverse Voltage	V_R	V		V_B	
Reverse Current	I_R	mA		2	
Operating Temperature	T_{op}	$^\circ\text{C}$	-40	85	
Storage Temperature	T_{stg}	$^\circ\text{C}$	-40	100	
Optical Damage Threshold	P_{in}	dBm		-3	

Electro-optical Characteristics ($T_a = 25^\circ\text{C}$, unless noted otherwise):

Parameter	Symbol	Unit	Min.	Typ	Max.	Test Condition
Aperture	D	μm		24		
Responsivity	R	A/W	0.6	0.7		$\lambda = 1310 \text{ nm}$
Dark current	I_D	nA			200	$V_{op} = V_B - 4$
Breakdown voltage	V_B	V	23	26	29	$I_R = 10\mu\text{A}$
Operating Voltage	V_{op}	V		$V_B - 4$		
V_B temperature coefficient	Γ	$\text{V}/^\circ\text{C}$		0.02		
Capacitance	C	pF		0.08		$V_R = V_{op}, f = 1 \text{ MHz}$
Bandwidth	BW	GHz		16		-3dB, $R_L = 50\Omega$

Outline and Dimensions:



Unit: μm

Chip configuration:

1. Contact: GSG Co-planar
2. Dimension:

Chip: $300\ \mu\text{m}$ (width) x $300\ \mu\text{m}$ (length) x $130\ \mu\text{m}$ (thickness)

Submount: $450\ \mu\text{m}$ (width) x $670\ \mu\text{m}$ (length) x $330\ \mu\text{m}$ (thickness)

Tolerance: $\pm 15\ \mu\text{m}$ (Chip thickness); $\pm 30\ \mu\text{m}$ (Chip Width, Length)

$\pm 20\ \mu\text{m}$ (Submount thickness); $\pm 30\ \mu\text{m}$ (Submount Width, Length)