

60GHz Fiber-Coupled Photodetector Module (400-1600 nm)

Product Code: D60M FC



Sample image. Actual product may vary.

Product Description

Top-illuminated InP-based pin photodetector chip sensitive in the 400 – 1600nm range. In the SWDM spectral range 840-960 nm the device offers 60GHz modulation bandwidth. 50Ω-matched HF modules are coupled to single mode or multimode fiber.

Features

- Optional:
 - MMF Pigtail (50 μm core, 1 m length)
 - SMF Pigtail (9μm core, 1 m length)
- FC/PC optical output connector
- Anritsu V electrical connector
- f_{-3dB_e} bandwidth ≥ 40 GHz
- f_{-3dB_o} bandwidth ~ 60 GHz***

Applications

- Fiber optics system tests
- PAM-4 IEEE802.3ds 200G
- SWDM datacom tests
- On board waveguide tests

Parameter	Typical	Notes
Operating Wavelength*	840 - 960 nm*	400-1600nm**
Data Rate	up to 200 Gbaud	PAM-4
Responsivity	min 0.4 A/W	at 850 nm
Small signal f_{-3dB_o} bandwidth	> 60 GHz	typ.

*reflectivity < -20dB

**Outside of the 840-960nm range the reflectivity is above > -20dB, and the bandwidth may deviate

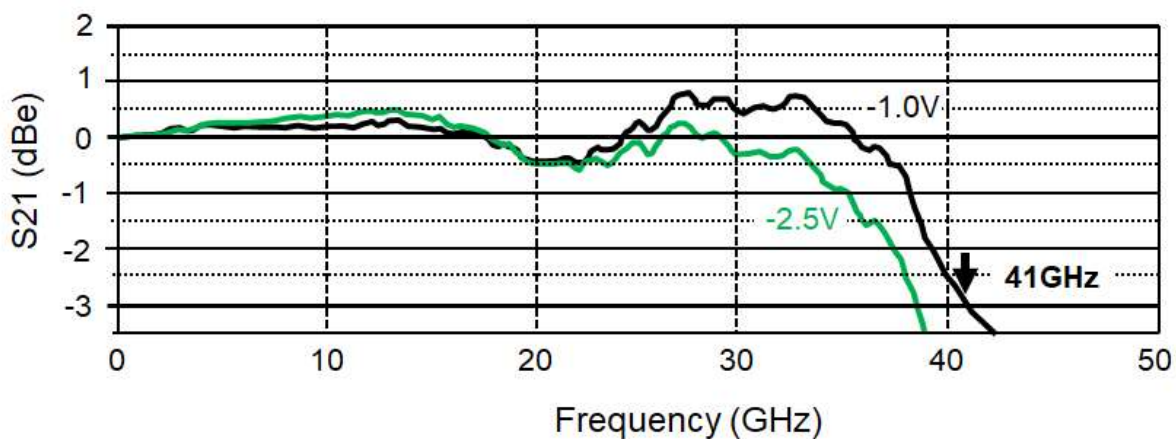
*** under proper connectors and bias T

Electro-Optical Specifications (module based on D400G-C1)

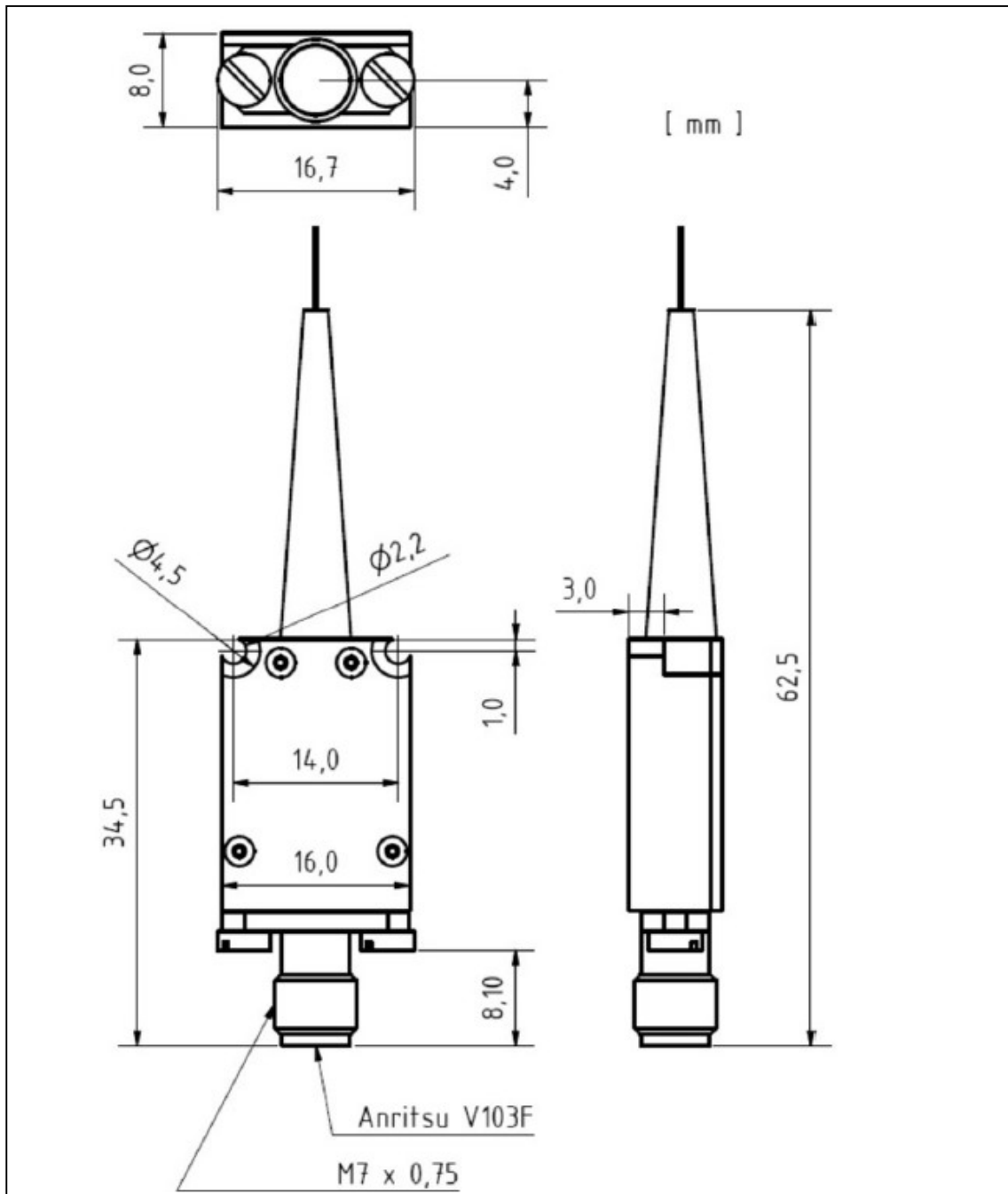
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Dark current	I_d	$V_{Bias} = -2.5 V$			1	nA
f_{-3dB_e} Bandwidth*	$BW_{f_{3dB_e}}$	50Ω load		41		GHz
f_{-3dB_o} (optical) Bandwidth*	$BW_{f_{3dB_o}}$	50Ω load		60		GHz
Operating wavelength**	λ		840		960	nm
Responsivity***	R	850 nm	0.35	0.4	0.6	A/W
	R	880 nm		0.4		A/W
	R	910 nm		0.6		A/W
	R	940 nm		0.6		A/W
	R	1310nm		0.6		A/W
	R_s	1550nm			0.6	
Maximum power					4mW	mW

* At -1V bias. The optimal bandwidth depends on the bias voltage. At -2.5V $f_{-3dB_e} \sim 38GHz$
 ** Reflectivity range of AR coating <1%. Quantum responsivity >50% within 400-1600nm range
 ***for single mode fiber, coupling to 50μm core multimode fiber can result in 20% lower responsivity

Modulation response at 50Ω (module based on PIN D400G-C1)

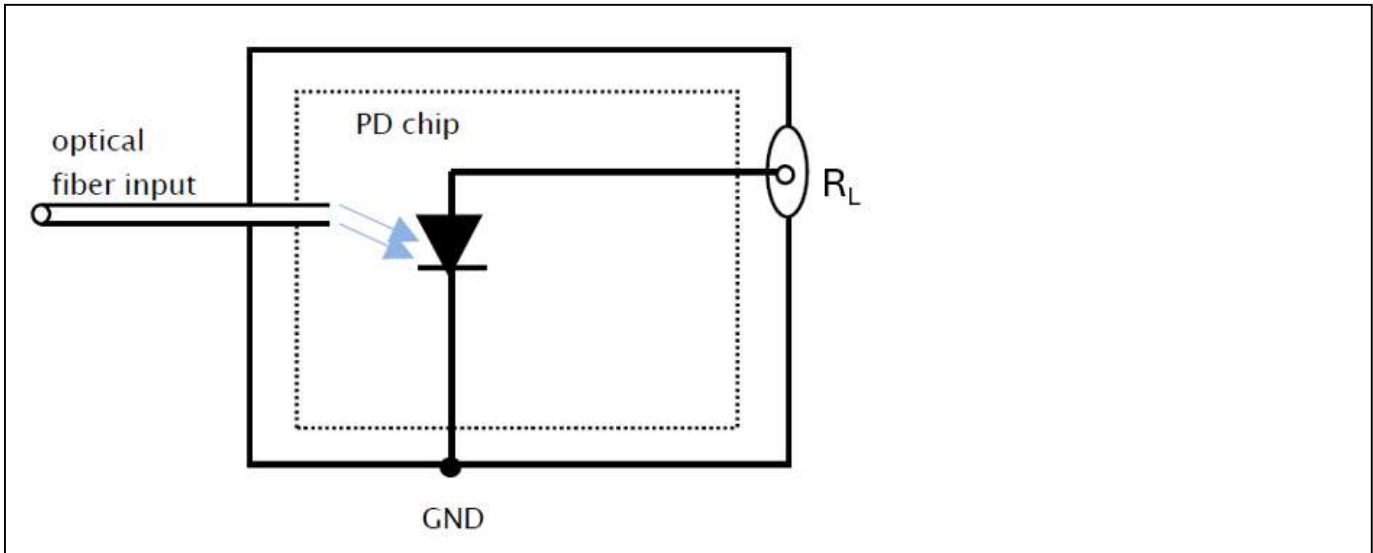


Mechanical Dimensions



All product specifications and descriptions are subject to change without notice.

Schematic Diagram



Qualification Notification

The D60M FC photodetector module is based on D400G PIN chips which have been tested to meet the specifications outlined in this datasheet. A reliability assessment report for the PD chip material is available as a separate document.



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