

Microwave InGaAs Photodiode Module With 50Ω Matching Circuit

Features

– Electro-optical

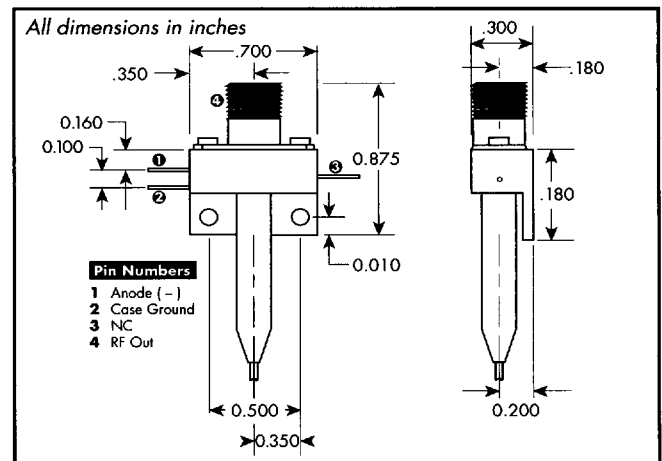
- High speed InGaAs PIN photodiode
- Responsivity ≥ 0.5 A/W at 1330 nm or 1550 nm
- Bandwidth of ≥ 10 GHz
- Ripple $< \pm 1.5$ dB from DC to 5 GHz
- Optical return loss ≥ 40 dB

– Packaging

- Rugged kovar module
- Singlemode fiber pigtail
 - 9/125 μ m core
 - 900 μ m jacket
- K-connector RF output
- DC bias input
- Reliable, hermetic package

Applications

- Microwave optical receivers
 - Digital transmission systems
 - Test & Measurement instruments



Preliminary Specifications

Conditions @ 1300 nm (unless noted): 50Ω, 25°C, $V_R = -9V$

MODEL	EPM820FJ-S			
Parameter	Min.	Typ.	Max.	Units
Active Diameter		25		μ m
RF Responsivity @ 1300 nm	0.50	0.55		A/W
RF Responsivity @ 1550 nm	0.58	0.63		A/W
3 dB Bandwidth ¹	8	10		GHz
Flatness (DC-5GHz)		1.0	1.5	dB
RF Output Electrical (0.2-5GHz)	9	10		dB
Return Loss ² (5-10GHz)	3	6		dB
Dark Current		0.1	0.5	nA
Optical Back Reflection		-45	-40	dB

Maximum Ratings

MODEL	EPM820FJ-S	
Parameter	Rating	Units
Reverse Voltage	-20	V
Reverse Current ³	10	mA
Forward Current ⁴	10	mA
Optical Power	+6	dBm
Power Dissipation	100	mW
Operating Temperature	-40 / +85	°C
Storage Temperature	-40 / +85	°C

Notes:

- 1) Measured at 0 dBm.
- 2) Typical and minimum values specified within the ranges indicated.
- 3) Under reverse bias, current at which device may be damaged.
- 4) Under forward bias, current at which device may be damaged.

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