

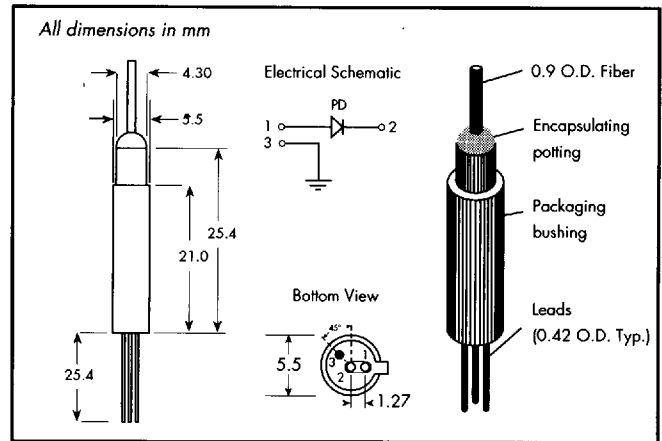
# Low Distortion InGaAs PIN Photodiode for CATV / Return Path Applications

## Features

- Low intermodulation distortion
- High responsivity at 1330 nm or 1550 nm
- Low capacitance
- Low optical back reflection
- Planar, passivated photodiode chip with proprietary structure for AM CATV

## Applications

- AM fiber optic CATV receiver
  - Return path receivers to 200 MHz
  - Systems with low channel loading
- High speed analog receiver



## Specifications

MODEL EPM708FJ-S	Rating		Units
Conditions (Unless noted)	25°C, $V_R = 5V$		
Parameter	Min.	Typ.	Max.
Active Diameter	75		$\mu m$
Responsivity @ 1300 nm <sup>1</sup>	0.80	0.85	A/W
Distortion Product <sup>2</sup>			
– H Grade			-65 dBc
– J Grade			-70 dBc
Back Reflection	-45	-40	dB
Dark Current	3.0	5.0	nA
Total Capacitance <sup>3</sup>	0.55	0.75	pF
Bandwidth <sup>4</sup>	2.0		GHz
Rise Time <sup>5</sup>	175		pS

## Maximum Ratings

MODEL EPM708FJ-S	Rating	Units
Reverse Voltage	25	V
Reverse Current <sup>A</sup>	10	mA
Forward Current <sup>B</sup>	10	mA
Power Dissipation	100	mW
Operating Temperature	-40 / +85	°C
Storage Temperature	-40 / +85	°C

- Notes:** A) Under reverse bias, current at which device may be damaged.  
 B) Under forward bias, current at which device may be damaged.

- Notes:** 1) Responsivity testing @ 1550 nm is also available as an option.  
 2) Second order intermodulation distortion product (IM2)  
 $V_R = 12 V$ ,  $P_{avg} = 0 \text{ dBm}$ , modulation index = 0.7,  $R_{LOAD} = 50\Omega$   
 $f_1 + f_2 = 200 \text{ MHz}$ ,  $f_2 - f_1 = 10 \text{ MHz}$   
 3) Measured with case grounded  
 4) -3dB point into a 50Ω load  
 5)  $R_{LOAD} = 50\Omega$

Figure 1

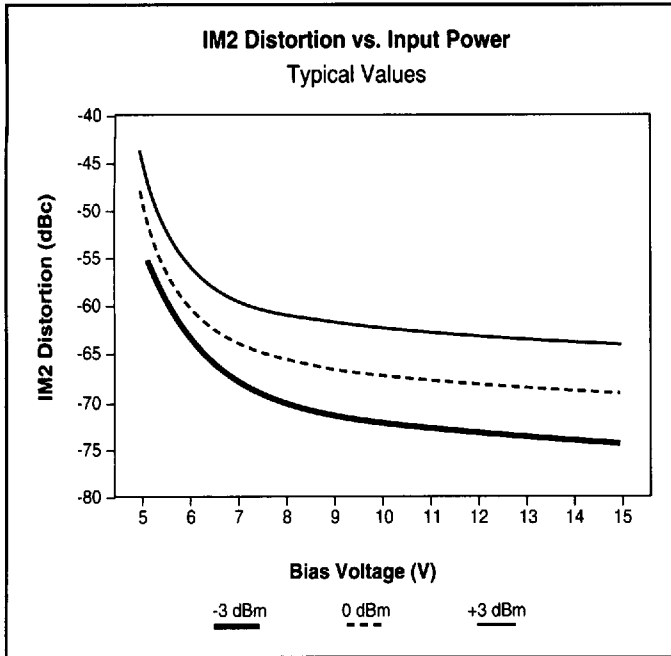


Figure 2

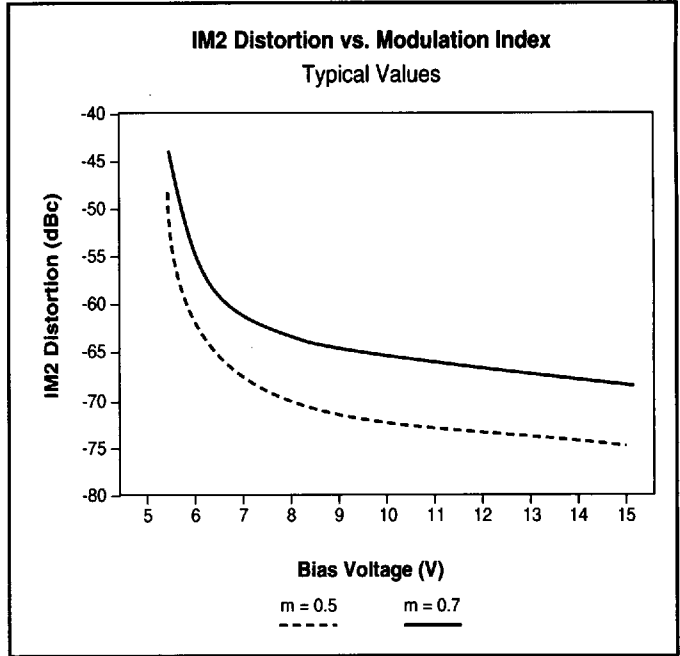


Figure 3

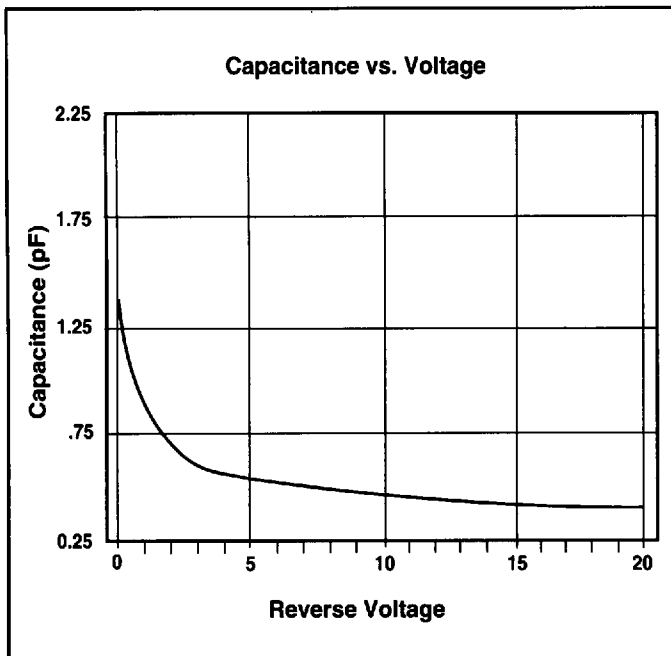
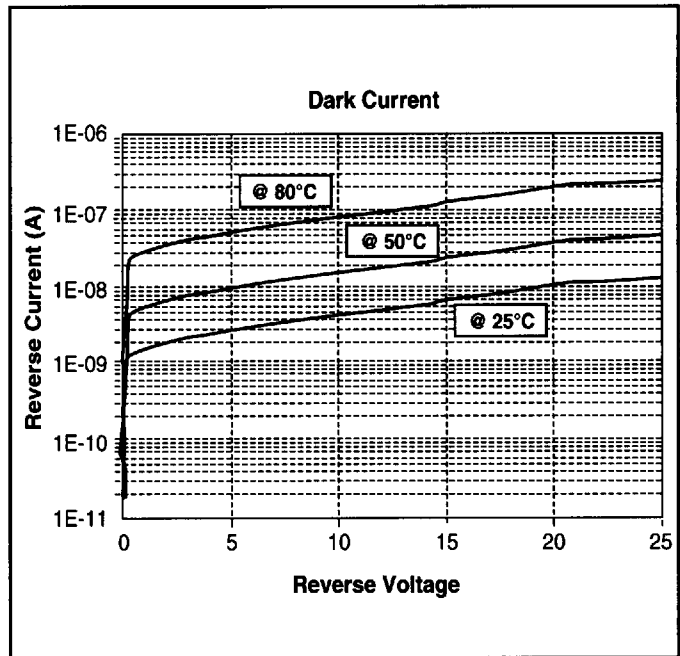


Figure 4



EPITAXX, Inc. believes the information contained in this document to be accurate. However, no responsibility is assumed for its use nor for any infringement of the rights of third parties. EPITAXX, Inc. reserves the right to introduce changes without notice.



**Corporate Headquarters**  
7 Graphics Drive • West Trenton, NJ 08628  
TEL (609) 538-1800 • FAX (609) 538-1684

**West Coast Sales Office**  
Los Angeles, CA 90067  
TELE (310) 551-6507 • FAX (310) 551-6577

3360406 0000326 030

2