

Photo Detector Chip Diode Output

MFODC1100WP

**FIBER OPTICS
PHOTO DETECTOR
CHIP
DIODE OUTPUT**

The MFODC1100WP is designed for infrared radiation detection in high frequency Fiber Optic Systems.

- Fast Response – 1 ns Max
- Anode/Cathode Metallization Compatible with Conventional Wire and Die Bonding Techniques
- Available in Chip or Wafer Form

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V _R	50	Volts
Power Dissipation ⁽¹⁾	P _D	50	mW
Operating Junction Temperature Range	T _J	-65 to +125	°C
Storage Temperature Range	T _{stg}	-65 to +200	°C

STATIC ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Dark Current (V _R = 5 V, R _L = 1 MΩ, H = 0)	I _D	—	—	1	nA
Reverse Breakdown Voltage (I _R = 10 μA)	V _{(BR)R}	50	—	—	Volts
Forward Voltage (I _F = 50 mA)	V _F	—	0.7	1	Volts
Junction Capacitance (V _R = 5 V, f = 1 MHz)	C _j	—	—	2	pF

OPTICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Radiation Responsivity (V _R = 5 V, λ = 850 nm, P = 10 μW)	R	0.3	0.4	—	μA/μW
Response Time (V _R = 5 V, λ = 850 nm)	t _r , t _f	—	0.5	1	ns

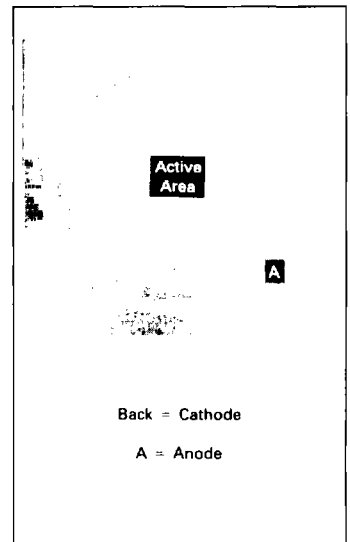
DIE SPECIFICATIONS

Die Size Mils	Die Thickness Mils	Bond Pad Size Mils		Metallization		Active Area Square Mils
		Anode	Cathode	Front ⁽²⁾	Back ⁽³⁾	
30 x 30	8-10	4 dia.	30 x 30	Al	Au	154

NOTES: 1. Maximum power dissipation rating is determined with chip mounted on a header or lead frame using conventional Motorola Semiconductor assembly techniques.

2. Thickness — a minimum of 10,000 Å.

3. Thickness — a minimum of 15,000 Å.



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TYPICAL CHARACTERISTICS

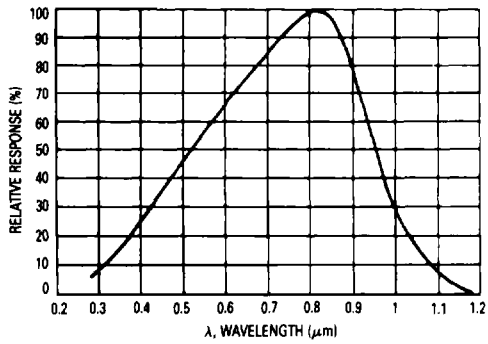


Figure 1. Relative Spectral Response

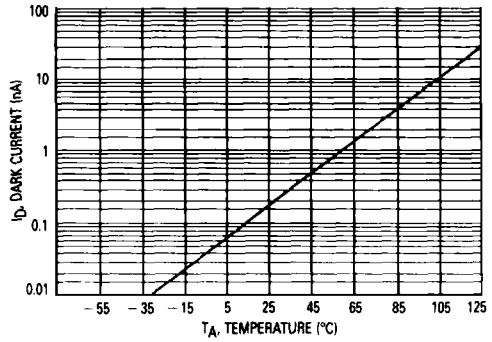


Figure 2. Dark Current versus Temperature

ORDERING INFORMATION

This die is available with the packaging and visual inspection listed below.

TABLE 1

Die Type Suffix	Packaging	Description	Visual Inspection
WP	Wafer Pak	Wafer-probed, unscribed, unbroken and heat sealed in plastic bag (rejects are inked)	Visual inspected by sample to a LTPD = 10