



HIGH SENSITIVITY APD OPTICAL RECEIVER

- **OUTSTANDING LOW NEP**
- **BANDWIDTH: 40 MHz**
- **LINEAR DYNAMIC RANGE – 30 dB ABOVE NEP**
- **HERMETIC LOW-PROFILE TO-8 PACKAGE, 0.1 in³**
- **200 μ m InGaAs APD DETECTOR**
- **OPERATION FROM 800 nm to 1.7 μ m WAVELENGTH**



DESCRIPTION:

The **7511A** is a high gain, low noise, APD-preamp, optical receiver. The compact construction (modified TO-8 header) and PCB mounting capability makes the **7511A** ideal for miniature applications. Contact factory for alternate detector sizes, custom bandwidth and gain requirements. This is an EAR 99 item; it is not subject to ITAR.

SPECIFICATIONS:

PARAMETER	Model 7511A-1-04			Units
	Min.	Typical	Max.	
InGaAs APD Active Diameter	180	200	220	μ m
Wavelength	800	1550	1700	nm
Responsivity into 50 Ω (1.55 μ m)	540	650	750	kV/W
Noise Equivalent Power (NEP) @1.55 μ m	-	130	150	fW/ \sqrt Hz
Maximum Output Swing (Negative Pulse)	1.8	2.0	-	V
Output Impedance (AC coupled)	-	33	-	Ω
Drive Capability (Resistance)	45	50	55	Ω
High Frequency Cut-off	30	35	40	MHz
Low Frequency Cut-on	0.1	0.6	1	MHz
APD				
Bias Voltage	30	-	60	V
Bias Current	-	10	50	nA
Temperature Coefficient	-	0.11	0.15	V/ $^{\circ}$ C
TEMPERATURE				
Operating	-40	-	+70	$^{\circ}$ C
Storage	-55	-	+85	$^{\circ}$ C
Input Power	+4.75 -4.75	+5 -5	+5.25 -5.25	VDC
Input Current	-	23 (+5V) 14 (-5V)	-	mA
Weight	-	4.3 (0.15 oz.)	-	grams

All specs are at 1550 nm into a 50 Ω load unless stated otherwise.
Detector bias is set by the customer for optimum performance.

Specifications subject to change without notice.

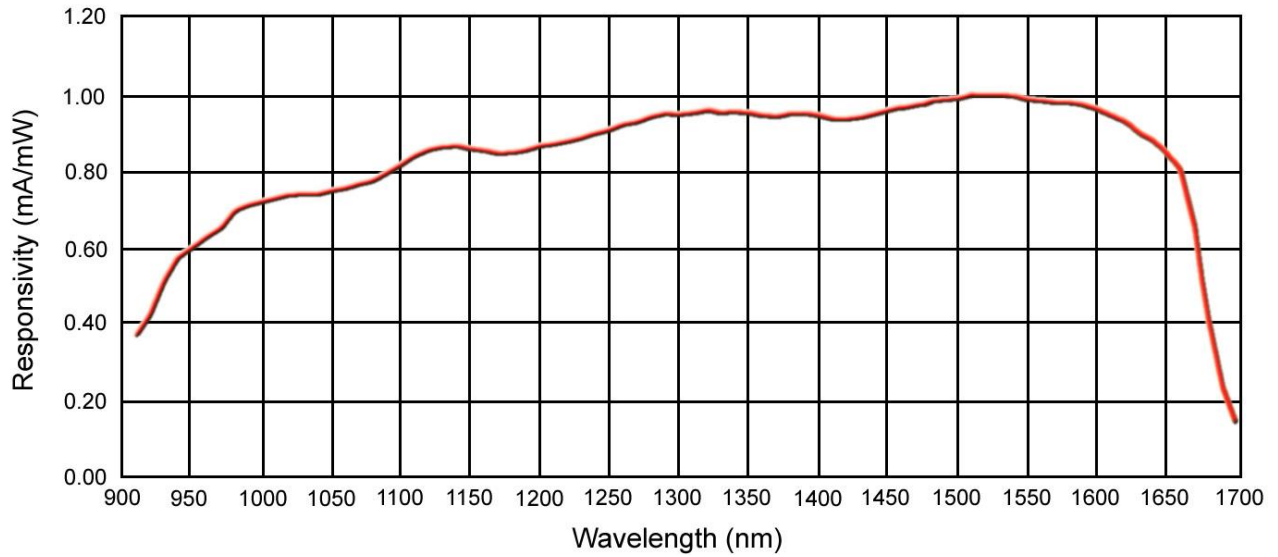
APPLICATIONS:

*Eyesafe Sensors, Medical Applications,
Laboratory Instrumentation, Ranging, LIDAR*

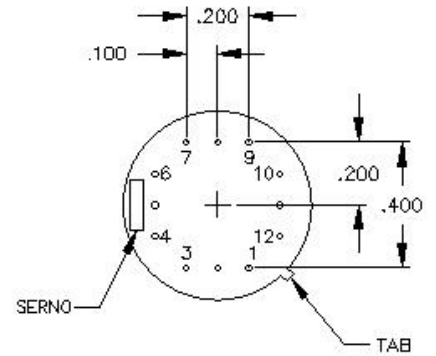
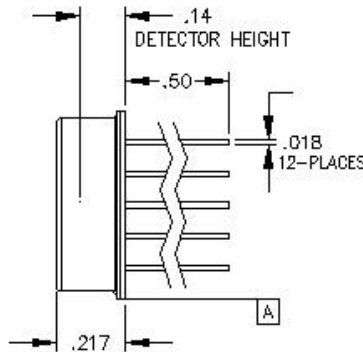
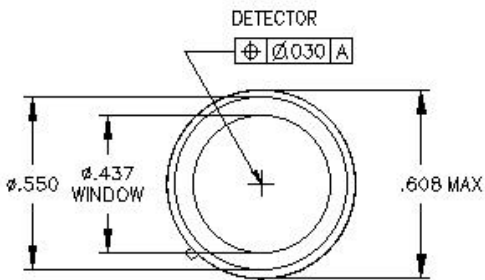


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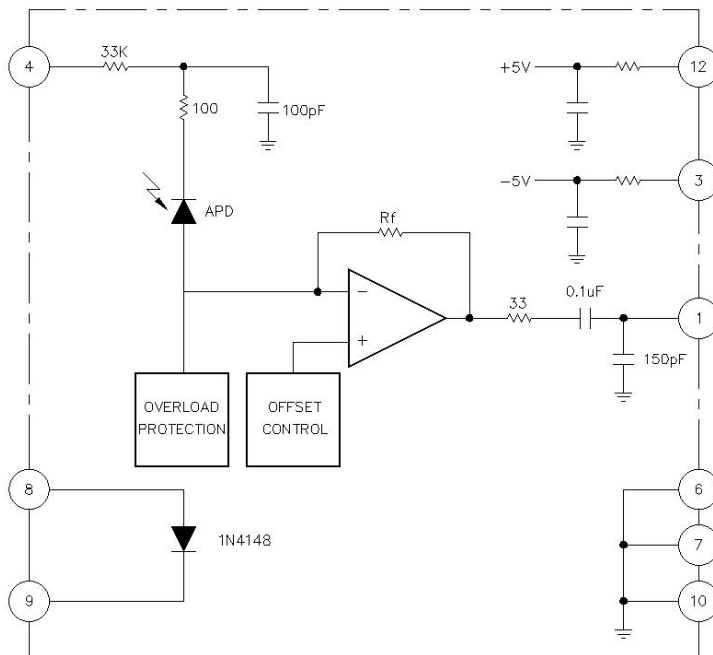
Spectral Response



OUTLINE



WINDOW: .033 ± .006" THK.
 RI = 1.471 @ 1550 nm; 1.477 @ 1060 nm



PIN	FUNCTION
1	OUTPUT
2	N/C
3	-5V
4	HV_BIAS
5	N/C
6	GND
7	GND
8	TEMP+
9	TEMP-
10	GND
11	N/C
12	+5V

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