



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 μm InGaAs APD DETECTOR
- OPERATION FROM 800 nm to 1.7 μm WAVELENGTH



DESCRIPTION:

The **Model 7511B-1-04** is a high gain, low noise, APD-preamp, optical receiver. The compact construction (modified TO-8 header) and PCB mounting capability make the **Model 7511B-1-04** ideal for miniature applications. Contact factory for alternate detector sizes, custom bandwidth and gain requirements. The **Model 7511B-1-04** is classified as, “EAR99” and is not subject to ITAR.

SPECIFICATIONS:

PARAMETER	Model 7511B-1-04			Units
	Min.	Typical	Max.	
InGaAs APD Active Diameter	180	200	220	μm
Wavelength	800	1550	1700	nm
Responsivity into 50 Ω (1.55 μm)	500	600	750	kV/W
Noise Equivalent Power (NEP) @1.55 μm	-	160	200	fW/√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	10	80	100	kHz
APD				
Bias Voltage	30	-	72	V
Bias Current	-	10	100	nA
Temperature Coefficient	-	0.100	0.15	V/°C
TEMPERATURE				
Operating	-40	-	+70	°C
Storage	-55	-	+85	°C
Input Power	+4.75 -4.75	+5 -5	+5.25 -5.25	VDC
Input Current	-	23 (+5V) 14 (-5V)	26 16	mA
Weight	-	4.3 (0.15 oz.)	-	grams

All specs are at 1550 nm into a 50 Ω load at 25° C unless stated otherwise.
Detector bias is set by the customer for optimum performance.

Specifications subject to change without notice.

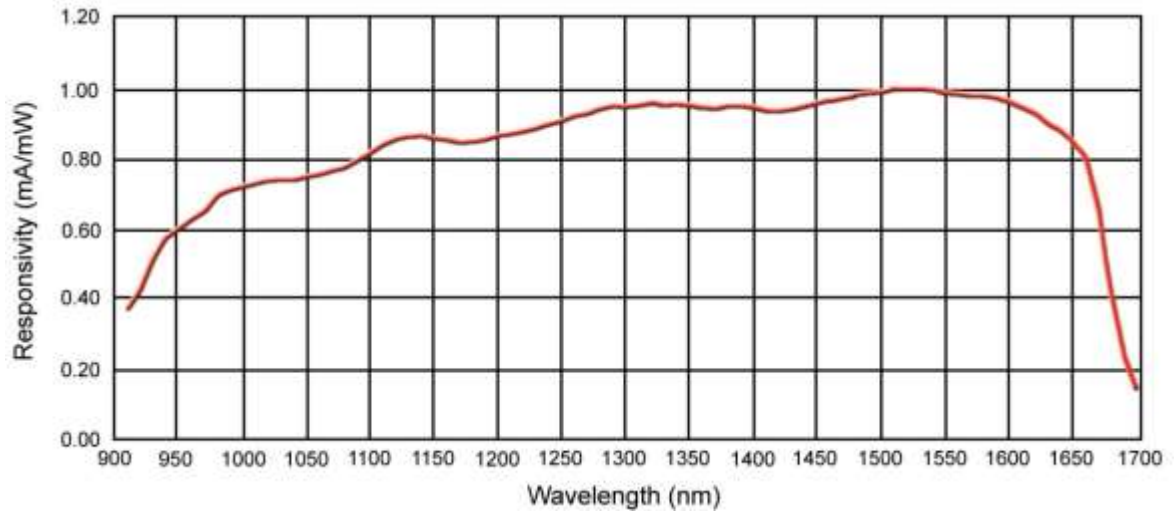
APPLICATIONS:

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

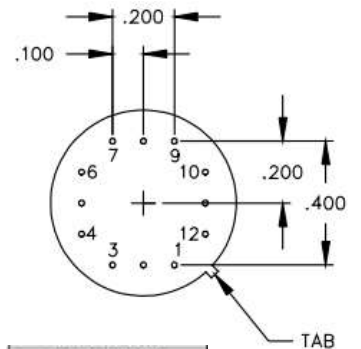
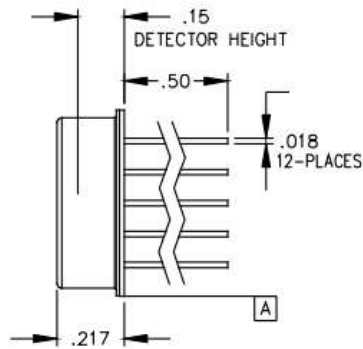
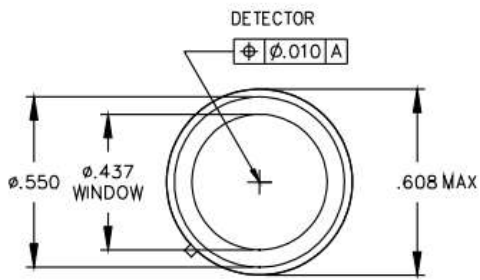


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Normalized Spectral Response



OUTLINE

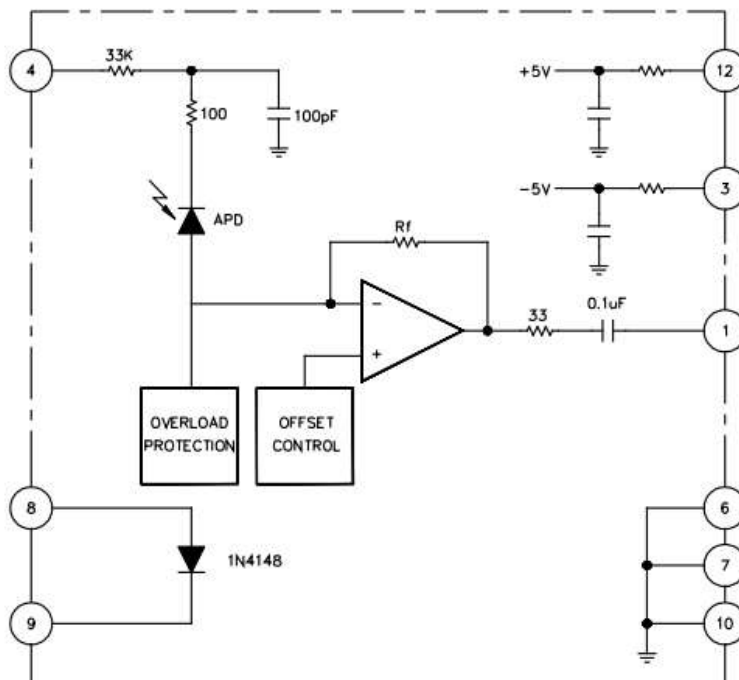


FINISHED WINDOW GLASS THICKNESS (.040±.006)
 RI = 1.471 @ 1550nm; 1.477 @ 1060nm.

TOLERANCES	
DECIMAL	
.XX	±.02
.XXX	±.005

19-116_D

Dimensions are in inches.



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