



### LOW COST HYBRID EYESAFE LASER RANGEFINDER RECEIVER

- HIGH SENSITIVITY
- HERMETIC TO-8 PACKAGE
- FAST RECOVERY – LOW MINIMUM RANGE
- DUAL WAVELENGTH InGaAs APD DETECTOR
- SINGLE SUPPLY, ONLY 85mW
- LOW COST



#### DESCRIPTION:

The **Model 755A-LT-04** is a low cost hybrid eyesafe laser rangefinder receiver designed for high volume programs requiring high performance and aggressive pricing. Cost savings are achieved from lower cost materials and streamlined conformance test requirements. Rigorous process control ensures reliability and performance. Fast recovery from  $T_o$  overload allows ranging to close objects without compromising long range sensitivity. The incorporation of an InGaAs APD gives very high sensitivity with time programmed gain to minimize false targets. Operation at both  $1.06\mu\text{m}$  and  $1.54\mu\text{m}$  is possible over a wide range of pulsewidths.

#### SPECIFICATIONS:

All measurements made at  $20^\circ\text{C}$

PARAMETER	Min.	Typical	Max.	Units	
InGaAs APD Active Diameter	180	200	220	$\mu\text{m}$	
Sensitivity ( $1.54\mu\text{m}$ , 20ns pulse, 50% Pd, 0.1% FAR)	1.5	6	15	nW	
Sensitivity ( $1.06\mu\text{m}$ , 20ns pulse, 50% Pd, 0.1% FAR)	3	12	30	nW	
Low Gain Sensitivity ( $1.54\mu\text{m}$ Optical, 50% Pd)	0.6	4	15	$\mu\text{W}$	
Time Programmed Gain (TPG) (see application note)	26	28	31	dB	
Target Separation (1:1 power ratio see application note)	-	22	30	m	
10mW Overload Recovery (1:1 power ratio see application note)	-	0.55	1	$\mu\text{S}$	
Output (TTL or CMOS compatible, negative logic)	HI LOW	2.4 0	3.3 0.5	4.5 0.6	V
Supply Voltage	+4.85	+5.0	+12.6	V	
Current Draw @ High Gain	11	13	15	mA	
Current Draw @ Low Gain	20	22	25	mA	
APD Bias Voltage (Pin 10)	40	70	82	V	
Bias Current into Pin 10 ( see application note)	10	20	80	$\mu\text{A}$	
Operating Temperature	@ +5V @ +12V	-40 -40	- -	+85 +71	$^\circ\text{C}$
Storage Temperature	-55	-	+100	$^\circ\text{C}$	
MTBF (Ground benign at $55^\circ\text{C}$ per Telcordia SR-332)		150,000 *		Hours	
Size		0.6 $\varnothing$ x 0.425		Inches	
Weight		0.14 oz (4.1 grams)			

Specifications subject to change without notice.

\* IPC-A-610 Class II Workmanship

#### APPLICATIONS:

*Laser Ranging and Surveying*

"In the event this commodity will be transferred to a "foreign person" as defined in 22 CFR 120.16, either outside or within the United States, a validated US State Department license is required."



# OPERATING NOTES:

See application notes for detailed operating information.

