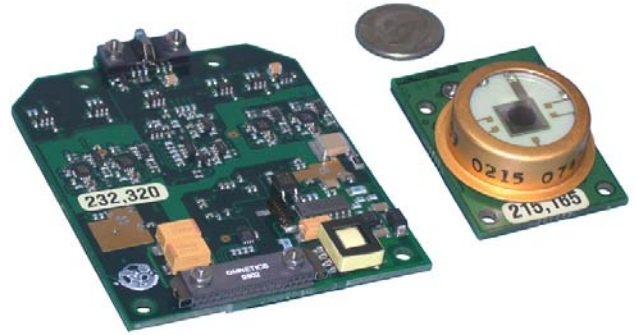


LASER SPOT TRACKER

- VERY HIGH SENSITIVITY
- ULTRA-WIDE DYNAMIC RANGE
- DECODING INCLUDED
- OPTIMIZED FOR 1.06 μ m
- SUNLIGHT TOLERANT
- UP TO 14mm DIAMETER QUADRANT DETECTOR
- ADAPTIVE NOISE TRACKING THRESHOLDS
- FLEXIBLE INTERFACE AND FEATURES



DESCRIPTION:

The *Model 742DP* is a new generation of Laser Spot Tracker with wide flexibility for missile and platform tracker applications. The detector is temperature controlled and optimized for 1.06 μ m. Independent five channel noise detectors set the lowest thresholds to achieve long acquisition ranges for different background light and spot positions and special circuits resist sunlight blinding in any one or all quadrants. A range of N-type custom-designed detectors gives the highest performance at 1.06 μ m. A separate substrate allows the detector size or type to be optimized for your application. *Model 742DP* comprises a hermetically-sealed temperature-controlled detector with built-in front-end electronics, mounted on a SMT board. A second printed board contains analog and digital processing circuits. The individual channels are digitized with a high-speed A-D converter and output as a serial digital interface for steering. An adaptive threshold control allows optimum signal-to-noise operation and power management is used to reduce power consumption.

SPECIFICATIONS:

Quadrant Detector

Size	5.33mm (-1), 14mm (-2) Other sizes & InGaAs available
Inter-element Gap	0.003 inches (76 μ m) (reduced response)
Responsivity	0.4 A/W at 1.06 μ m
Bias Voltage	180V
Leakage (25°C)	< 10nA (-1), < 200nA (-2) (per quad)
Temperature	Built-in heater and controller

Sun Protection/Performance

Linear Operation	Up to 10 μ W/quadrant at 1.06 μ m
Over-temperature	Temperature sensor output
Over-current	Resistively limited
Dynamic Range	> 100,000:1

Threshold

FAR	Controlled by adaptive threshold control on each channel, plus sum channel
Minimum Signal	200nW (-1), 400nW (-2); single channel typical at 50% probability of detection

Inputs

First/last/peak pulse logic tri-service code & PIM sequence via RS-422/RS-485 full duplex serial interface

Outputs

Steering plus status information sent via serial interface

Gain

Multiple stages automatically set

Power

+5V \pm 2% @ 600mA (includes up to 250mA for heater)
-5V \pm 2% @ 200mA

Physical

Hermetically sealed Detector/Amplifier on mini SMT PCB; Quadrant Processor board Omnetics PN A16464-001

Connections

Operating Temp Size

-40°C to +85°C
Detector: 1.123" diameter x 0.43" high
Amplifier PCB: 1.6" x 1.18" x 0.492" high
Quad Processor: 3.0" x 2.30" x 0.50" high

Weight

1.62 oz. (45 gms)

Specifications subject to change without notice.

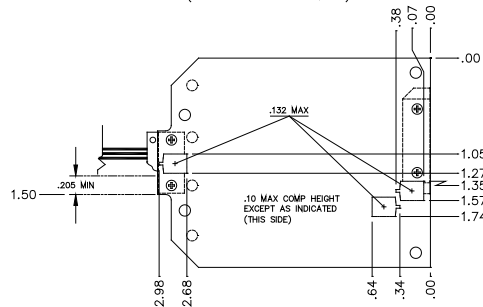
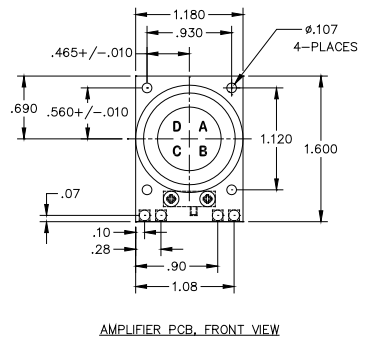
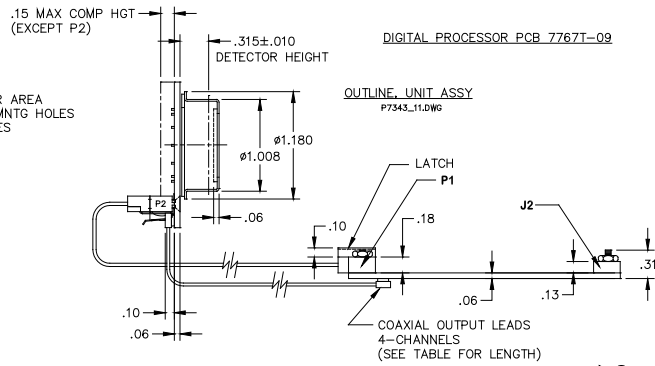
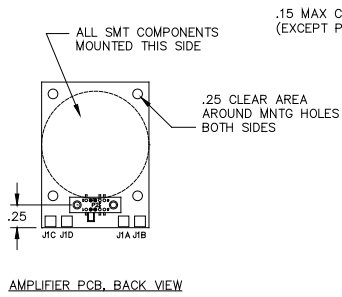
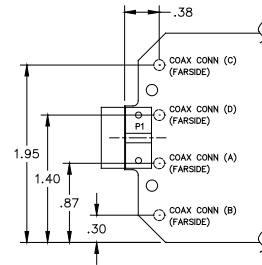
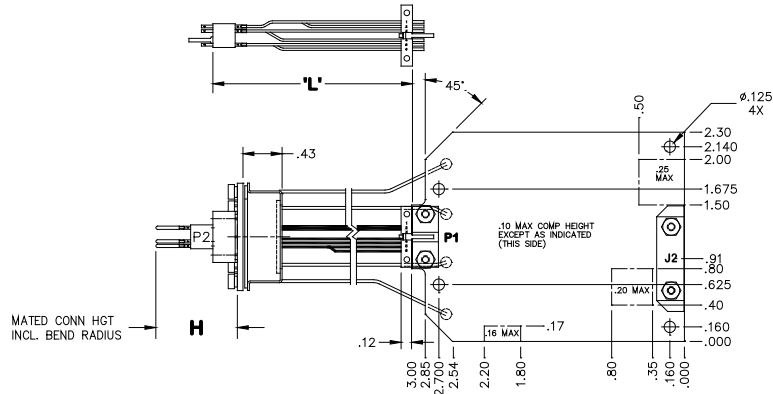
Patent Pending



APPLICATIONS:

Missiles, UAS, Mounted Tracking Systems, Weapons Systems

"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."



P7343_12.DWG

Model 742DP Outline Drawing