

# ULTRAMINIATURE C-BAND RADAR TRANSPONDER

## MODEL MD25C-1



SUPPLYING HIGH PERFORMANCE FLIGHT INSTRUMENTATION, RF/MICROWAVE ASSEMBLIES, POWER AMPLIFIERS, IFF AND DATA ACQUISITION SYSTEMS FOR SEVERE ENVIRONMENTS.

### DESCRIPTION

The Ultra Electronics Herley MD25C-1 Radar Transponder is a 30 Watt nominal, ultraminiature, precision augmentation device used to enhance the capability of C-band radars. This unit is extremely compact, and desirable for those applications where size, weight, and DC input power are at a premium. It is particularly suitable for small missiles, small targets, and compact UAVs where space and weight need to be minimized without sacrificing performance.

The design of the MD25C-1 utilizes the latest in modern devices and circuitry. It is all solid-state to provide a reliable product with extremely long operating life.

### FEATURES

- 20 Watt minimum peak power output (30 W pk nominal)
- All solid-state design – low DC power
- Sensitive detector receiver
- Small, less than 10 cubic inches (155 cubic cms)
- Lightweight, less than 12 ounces (340 grams)

### FEATURES

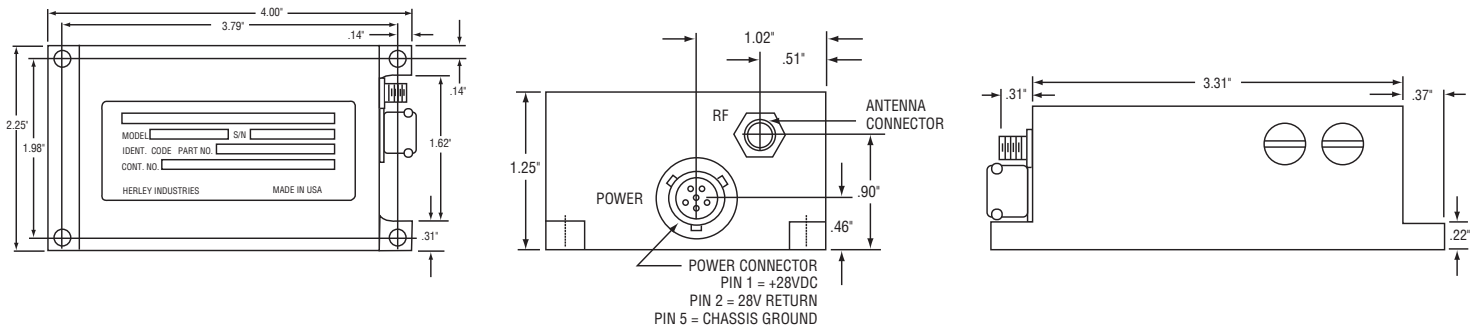
- Available over 5.4 to 5.9 GHz
- Externally programmable internal delay, code spacing and single or double pulse interrogation
- Reverse polarity power lead protection
- Built-in duplexer for single antenna operation and protection from high antenna reflections

Due to U.S. Export Control Reform Ultra Electronics Herley Lancaster's Radar Transponders have transitioned from ITAR to Department of Commerce Export Administration Regulations (EAR) making them ITAR-free!



HERLEY

Ultra  
ELECTRONICS



## ELECTRICAL

- Frequency Range: 5.4 to 5.9 GHz
- Impedance, Input/Output: 50 ohms
- Reverse Polarity Protection: Series diode protection
- Short and Open Circuit Protection: Built-in to provide antenna mismatch protection
- Input Voltage: 22 to 32 VDC
- Input Current: 200 mA max

## PHYSICAL

- Size: 1.25 x 2.25 x 4.06 inches (3.2 x 5.7 x 10.16 cms)
- Volume: 9.3 cubic inches (153 cubic cms) nominal displacement
- Weight: 9 ounces (255 gms)
- Antenna Connector: SMA Female
- Power Connector: See options under [Product Numbers](#)

## RECEIVER

- Frequency: 5.4 to 5.9 GHz, factory set
- Sensitivity: -65 dBm minimum, 99% reply
- Bandwidth (3dB): 14.5  $\pm$  2.5 MHz
- Pulse Decoder: Single or double pulse, programmable
- Pulse Width: 0.25 to 1.0  $\mu$ secs
- Pulse Coding: 3.0 to 15.5  $\mu$ secs, programmable
- Second Pulse Spacing: Accepts  $\pm$ 0.15  $\mu$ secs. Rejects  $\pm$ 0.2  $\mu$ secs

## TRANSMITTER

- Frequency: 5.4 to 5.9 GHz, factory set
- Power Output: 20 W pk minimum (30 W pk nominal)
- Output Device: Solid-state
- Frequency Stability:  $\pm$ 5 MHz
- Pulse Width: 0.5  $\pm$ 0.1  $\mu$ sec., factory set
- PRF: Up to 2600 pps
- Reply Delay: 1.5  $\mu$ sec to 9.0  $\mu$ sec, factory set

## ENVIRONMENTAL

- Temperature, Operating: -40°C to +71°C
- Temperature, Storage: -60°C to +95°C
- Altitude: Unlimited
- Humidity: 95%
- Vibration, Random: Per MIL-STD-810 (12 g's RMS)
- Acceleration: 60 g's applied along any axis for 3 minutes
- Shock: 100 g's for 11 msec in any axis

## OPTIONS

- Extended Temperature Range: Per Customer requirements

## PRODUCT NUMBERS

- *PIN 550008-100* - Standard unit



**making a difference**

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