

Radar Transponder Ultraminiature, C-Band *Model HSST20C-1*

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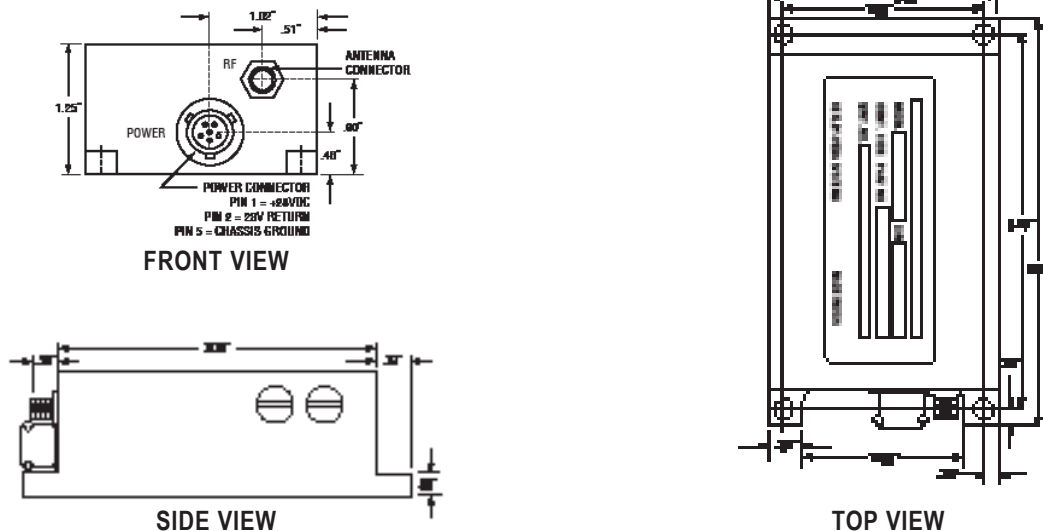


FEATURES:

- 20 Watt minimum peak power output
- 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)
- Available over 5.4 to 5.9 GHz
- Adjustable internal delay
- Reverse polarity power lead protection
- Single and double pulse interrogations
- Adjustable code spacing
- Built-in duplexer for single antenna operation and protection from high antenna reflections

The HSST20C-1 Radar Transponder is a 20 Watt, 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 HSST20C-1 utilizes the latest in modern devices and circuitry. It is all solid-state to provide a reliable product with extremely long operating life.



Typical Outline - does not show all features - not to be used for generation of control drawings. For detailed outline drawing of a specific part number please contact Herley Industries, Inc.

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Radar Transponder, Ultraminiture, C-Band - *Model HSST20C-1*

Versions: This product is available in several versions. Call to discuss other variations, or your particular requirements.

Product Numbers:

P/N 550008-5 *Standard unit with circular connector -
MS27478Y08D35P (picture shown on page 1)*
P/N 550008-6 *Extended temperature range unit with EMI gasketed
MDM power connector*

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: 100 mA max
QUIESCENT CURRENT: 75 mA max

PHYSICAL

SIZE: 1.25 x 2.25 x 4.00 inches (3.2 x 5.7 x 10.16 cms)
VOLUME: 9.3 cubic inches (153 cubic cms) nominal displacement
WEIGHT: 12 ounces (340 gms)
ANTENNA CONNECTOR: SMA Female
POWER CONNECTOR: See options under *Product Numbers*

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

RECEIVER

FREQUENCY: 5.4 to 5.9 GHz, factory set
SENSITIVITY: -40 dBm minimum, 99% reply
BANDWIDTH (3dB): 15 ±5 MHz
PULSE DECODER: Single or double pulse, factory set
PULSE WIDTH: 0.25 to 1.0 µsecs
PULSE CODING: 3.0 to 12.0 µsecs, factory set
SECOND PULSE SPACING: Accepts ±0.5 µsecs. Rejects ±0.8 µsecs

TRANSMITTER

FREQUENCY: 5.4 to 5.9 GHz, factory set
POWER OUTPUT: 20 Watts minimum
OUTPUT DEVICE: Solid-state
FREQUENCY STABILITY: ±5 MHz
PULSE WIDTH: 0.5 ±0.1 µsec., factory set
PRF: Up to 2600 pps
REPLY DELAY: 1.0 µsec to 6.0 µsec, factory set

OPTIONS

EXTENDED TEMPERATURE RANGE: Per Customer requirements.

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