DESCRIPTION

The HFST405-1C PCM-FM/SOQPSK Transmitter is an S-band transmitter used primarily to relay telemetry data to a receiving ground station. The units are compact and desirable for those applications where DC power conservation, size and weight are at a premium. Applications include missiles, aircraft, unmanned airborne vehicles (UAV), sounding rockets, drone targets and space launch vehicles.

The design of the HFST405-1C series utilizes the latest in modern devices and circuitry. They are all solid-state to provide a reliable product with extremely long operating life.

FEATURES

- Multi Modes
- 5 Watt minimum power output
- Lightweight, 9 ounces maximum (255 grams)
- All solid-state design
- Reverse polarity protection
- High Efficiency
PHYSICAL
• Size: 3.00 x 2.00 x 1.00 inches (7.6 x 5.1 x 2.5 cms)
• Weight: 9 ounces (255 gms) maximum

POWER
• Input Voltage: +28 +8/-4 VDC; reverse polarity protected
• Input Current: 1.6 Amps maximum

DIGITAL INPUT
• Data Levels: TLL or RS422 Compatible
• Clock Levels: TLL or RS422 Compatible
• Bit Rate:
  PCM/FM: 300 KBits/Sec to 13.9 MBits/Sec max.
  SOQPSK: 1 MBit/Sec to 27.8 MBits/Sec max.
  MULTI-H CPM: 1 MBits/Sec to 27.8 MBits/Sec max.
• Incidental AM: 1% maximum
• Spectral Masks:
  PCM/FM: Per IRIG 106-01 Spectral Mask for PCM/FM
  Deviation: ±0.35 x Bit Rate
  Conditioning: 6 Pole Bessel Digital Filter at 0.7 x Bit Rate
  SOQPSK: Per IRIG 106-01 Quaternary Spectral Mask (Tier 1)
  (Twice the Spectral Efficiency of PCM/FM)
  MULTI-H CPM: Per ARTM Spectral Mask (Tier 2)
  (Three Times the Spectral Efficiency of PCM/FM)
• Input Impedance: TTL: 10 KOhms to =5 VDC, RS422: 1 KOhm Differential

RF OUTPUT
• Carrier Frequency: 2200 to 2394.5 MHz Channelized in 0.5 MHz steps
• Carrier Stability: Within ±0.002% over -20°C to +70°C
• Power Output: 5 Watts minimum
• VSWR: 1.5:1 maximum
• Impedance: 50 Ohms nominal
• Loading: Normal operation into any load VSWR and phase angle
• Open/Short Protection: Internal Isolator
• Harmonic and Spurious Level: In accordance with latest IRIG
• Warm-up: Less than 250 ms

ENVIRONMENTAL
• Vibration: 14 g’s random, standard haystack, 20 Hz to 2 kHz, 3 axes
• Temperature, Operating: -20°C to +70°C
• Temperature, Storage: -54°C to +125°C
• Shock: Half sine, 100 g’s peak, 11 msecs, 3 axes
• Acceleration: 100 g’s, 3 axes
• Altitude: Unlimited
• Humidity: To 95% at any temperature forming frost or condensation

OPTIONS
• Extended Temperature
• Higher Vibration Levels