



Product Sheet

C-Band Radar Tracking Transponder

C-BAND RADAR TRACKING TRANSPONDER

Models 252 & 253

Kratos 20W and 50W C-Band Radar Tracking Transponders deliver compact, high-precision tracking augmentation for C-Band radar systems. Engineered for platforms where every gram and cubic inch matters, these transponders are ideal for small missiles, aerial targets, and UAVs.

Built on solid-state transmitter and GaAs technology, the transponder series offers low-modulation pulse voltages, exceptional reliability, and true zero-maintenance operation with unlimited shelf life. All key parameters—including transmit frequency, receive frequency, and pulse codes—are fully programmable through a standard PC interface, enabling rapid configuration in the field. When paired with the 38-4 C-Band Mini Tester, the system provides a proven, high-accuracy tracking solution for both developmental and operational flight tests.

With thousands of units deployed, Kratos C-Band transponders deliver advanced pulse-parameter capabilities that meet the latest range requirements and extend the performance of legacy C-Band radar systems. Kratos transponders streamline development, accelerate integration, and support large-scale modular-focused production while providing a proven, high-accuracy tracking solution ensuring mission success.



Features

- Designed to RCC 262 standards
- Field-Programmable Frequency and Pulse Parameters
- Less than 18 Cubic Inches Ideal for Missiles/UAS (3.5" x 1.4" x 3.95")
- Minimum Peak Power Outputs of 20 Watts or 50 Watts
- Qualified to Military Environmental and EMI Standards
- Infinite Shelf Life
- Reliable Solid State Transmitter using the Latest GaAs Technology

Applications

- Vehicle Tracking
- Missile Development/Lot Testing

Field Programming and Flight-line Testing available with the Kratos Model 38-4 Mini Tester and USB Programmer.

C-BAND RADAR TRACKING TRANSPONDER

Models: 252-3 & 253-3

Transmitter

Frequency:	5.4 GHz to 5.9 GHz, Externally Programmable at 1 MHz intervals
Minimum Power Output:	Model 253-3 = 50 Watts; Model 252-3 = 20 Watts
Type:	Solid State
Frequency Stability:	+/- 3 MHz
Pulse Width:	400 nsec to 900 nsec, Externally Programmable at 50 nsec intervals
PRF:	Up to 2600 Hz
Reply Delay:	1 µsec to 9 µsec, Externally Programmable at 0.5 µsec intervals

Receiver

Frequency:	5.4 GHz to 5.9 GHz, Externally Programmable at 1 MHz intervals
Sensitivity:	-65 dBm minimum, ≥99% Reply
RF Bandwidth:	11 +/- 3 MHz
Pulse Width:	0.25 µsec to 5.0 µsec Single pulse, 0.25 µsec to 1.0 µsec Double pulse
Pulse Decoder:	Single or Double, Externally Programmable
Pulse Coding:	2 µsec to 16 µsec, Externally Programmable at 0.5 µsec intervals

Environmental

Temp, Operating:	-40°C to +71°C; -54°C to +85°C
Temp, Storage:	-62°C to +95°C
Vibration:	MIL-STD-810F
Altitude:	100,000 feet
Acceleration:	50 Gs all axis 1 minute
Shock:	100 Gs all axis 6 msec, 120 Gs all axis 4 msec
Humidity:	100%
EMI/RFI:	MIL-STD-461E, Class A1 equipment, IAW MIL-STD-462

Electrical

DC Power:	22 to 34 VDC (28 VDC nominal)
Reverse Polarity:	Series diode protection
Impedance:	50 ohms
Power Consumption:	11 Watts maximum (393 mA @ 28 VDC)

Physical

Size:	1.40" H x 3.50" W x 3.95" D (8.9 x 3.6 x 10 centimeters)
Weight:	18 oz (510 grams)
Volume:	18 cubic inches (295 cubic cm)
Power Connector:	MS2746Y8D35P