

Traveling-Wave Tube Amplifier (TWTA) for Payload/ Ground Gateway Applications

Q-/V-Band

We have over six decades of experience developing TWTs/ TWAs for space-based applications and recently introduced our Q-Band 200 W Downlink TWTA and V-Band 200 W Uplink TWT to better serve the high-throughput satellite market.

The key to a higher throughput satellite for these operators is a high-power, wideband downlink signal. Stellant Systems is reshaping the TWTA market by introducing new, revolutionary technologies to accommodate Q-/V-Band needs.



Downlink TWTA

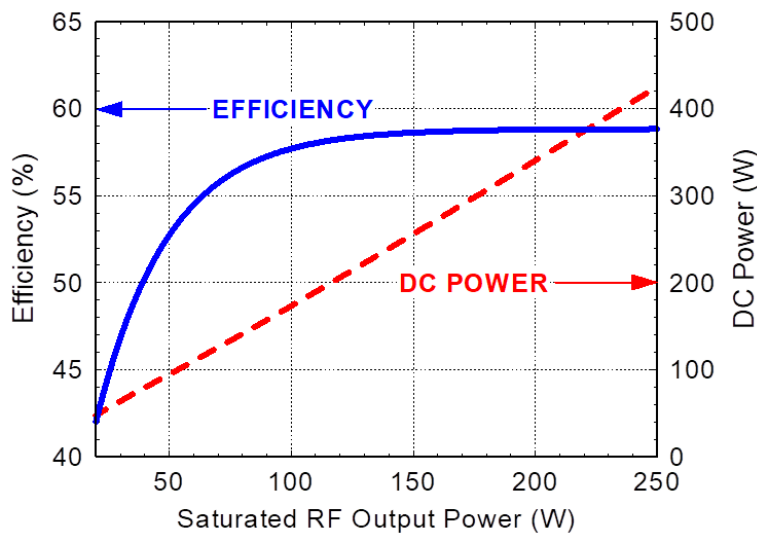
KEY FEATURES

- 20 to 200 W RF
- 37.5 to 43.5 GHz
- 2.5 to 6.0 kg

Uplink TWT

KEY FEATURES

- 125 W Sat / 250 W Peak
- 47.0 to 52.5 GHz
- Partnering with Comtech Xicom



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Q-Band Downlink TWTA

SPECIFICATIONS	
RF Power	≤ 200 W
Frequency Range	37.5 GHz to 43.5 GHz
Typical Instantaneous Bandwidth	≤ 5 GHz
Saturated Gain	43 dB to 56 dB
Efficiency	Up to 58% for TWT
Phase Shift	45 °
AM/PM Conversion	4.5 ° / dB @ Sat
C/3IM @ -3 dB IBO	10.0 dB
Configuration	Conduction
TWT MECHANICAL CHARACTERISTICS	
Mass	1,500 g
Dimensions (L x W x H)	13.5 in. x 3.5 in. x 2.8 in.
RF Input Connector	WR 22
RF Output Connector	WR 22

V-Band Uplink TWT

SPECIFICATIONS	
RF Power (Saturated / Peak)	125 W / 250 W
Frequency Range	47.0 GHz to 52.5 GHz
Typical Instantaneous Bandwidth	≤ 5.0 GHz
Saturated Gain	42 dB to 48 dB
Efficiency	Up to 33% for TWT
Phase Shift	50 °
AM/PM Conversion	≤ 5.0 ° / dB @ Sat
Noise Power	-21.0 dBm/MHz max
Configuration	Conduction
MECHANICAL CHARACTERISTICS	
Mass (with 36" leads)	≤ 3,000 g
Dimensions (L x W x H)	15.0 in. x 3.5 in. x 3.3 in.
RF Input Connector	WR 19
RF Output Connector	WR 19

Stellant Systems is a premier manufacturer of critical spectrum and RF power amplification products to the space, defense, medical, science and industrial markets for both domestic and international customers. Stellant has 5 domestic manufacturing facilities and approximately 1,100

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