ELECTRONIC TUBE REFERENCE

X401

Specialized - Traveling Wave electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRAVELINGWAVE

Electronically tunable 8–12.7 GHz backward-wave amplifier with adjustable 16–65 MHz passband, solenoid focusing, and at least 20 dB small-signal gain.

General characteristics

BASE DESIGNATION	–	**BASE PINS**	–
NOMINAL HEATER	6.3 V / 1.9 A	**PARALLEL HEATER**	– / –
HEATING	Indirect	**SERIES OPERATION**	Not specified
CATHODE ARRANGEMENT	Separate cathodes	**SECTION CONSTRUCTION**	Similar

Section ratings

SECTION1 TravelingWave

No fixed ratings recorded.

Specialized microwave/image-intensifier device. Published beam, cathode, anode, helix, collector, RF, gain/noise, and optical ratings are preserved in TUBE_SECTION_PARAMETER rather than forced into unrelated promoted plate/screen fields.

Backward-wave amplifier tube covering 8000–12700 MHz with electronically tunable 16–65 MHz passband, helical slow-wave structure, continuous-beam operation, and solenoid focusing.

SOURCE OPERATING CONDITIONS

1962 ITT

SOURCE PDF

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1962 ITT

Section 1 · TravelingWave

CHARACTERISTIC		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Frequency Range	**8000–12700 MHz**	—
Pass Band Range	**16–65 MHz**	—

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Small Signal Gain Minimum	**20 dB**	—
Noise Figure Maximum	**15 dB**	—
Heater Voltage Maximum	**6.5 V**	—
Heater Current Maximum	**2 A**	—
Cathode Voltage Range	**-1450–-250 V**	—
Cathode Current Maximum	**4 mA**	—
Collector Voltage Maximum	**250 V**	—
Helix Current Maximum	**0.3 mA**	—
Collector Current Maximum	**4 mA**	—
Typical Frequency Center	**10000 MHz**	—
Typical Pass Band	**40 MHz**	—
Typical Small Signal Gain	**25 dB**	—
Typical Noise Figure	**13 dB**	—
Typical Heater Voltage	**6.3 V**	—
Typical Heater Current	**1.9 A**	—
Typical Cathode Voltage	**-650 V**	—
Typical Cathode Current	**2 mA**	—

Tube Tinker

An independent reference for electronic tubes, vacuum tubes,
and their source documents.

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