

ELECTRONIC TUBE REFERENCE

X399

Specialized - Traveling Wave electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRAVELINGWAVE

Electronically tunable backward-wave amplifier covering approximately 5.7-8.4 GHz with adjustable 11-45 MHz passband, solenoid focusing, and at least 20 dB 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 5700-8400 MHz with electronically tunable 11-45 MHz passband, helical slow-wave structure, continuous-beam operation, and solenoid focusing.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1962 ITT

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	5700–8400 MHz	—
Pass Band Range	11–45 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	-1200--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	7000 MHz	—
Typical Pass Band	28 MHz	—
Typical Small Signal Gain	22 dB	—
Typical Noise Figure	14 dB	—
Typical Heater Voltage	6.3 V	—
Typical Heater Current	1.9 A	—
Typical Cathode Voltage	-640 V	—
Typical Cathode Current	2 mA	—