

ELECTRONIC TUBE REFERENCE

F7524

Specialized - Traveling Wave electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRAVELINGWAVE

Rugged metal-ceramic helix traveling-wave amplifier covering 8-12 GHz, delivering about 5 watts CW output with 20 dB gain.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	— / —	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 TravelingWave
No fixed ratings recorded.
Published maximum ratings and characteristics audited; remaining values retained densely in parameter table.

The F7524 is a five-watt continuous-wave traveling-wave amplifier covering approximately 8 to 12 GHz, using a rugged metal-ceramic envelope and helix slow-wave structure; it is also suitable for pulse service.

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The F [1]	7524	The F-7524 is a 5 watt CW traveling wave amplifier tube having 20 db gain and
The F [2]	5	The F-7524 is a 5 watt CW traveling wave amplifier tube having 20 db gain and
The F [3]	20	The F-7524 is a 5 watt CW traveling wave amplifier tube having 20 db gain and
Published value [1]	8	8.0 to 12, 0 kmc frequency range. It is constructed in a rugged metal ceramic
Published value [2]	12	8.0 to 12, 0 kmc frequency range. It is constructed in a rugged metal ceramic
Published value [3]	0	8.0 to 12, 0 kmc frequency range. It is constructed in a rugged metal ceramic
Heater Voltage [1]	6.3 V	Heater Voltage 6.3 (±5%) volts
Heater Voltage [2]	5 V	Heater Voltage 6.3 (±5%) volts
Heater Current	1.7 A	Heater Current 1.7 amperes
Maximum Anode Voltage (Note [1])	1 V	Maximum Anode Voltage (Note 1) 4000 wvolts
Maximum Anode Voltage (Note [2])	4000 V	Maximum Anode Voltage (Note 1) 4000 wvolts
Maximum Helix Current (Note [1])	2 A	Maximum Helix Current (Note 2) 2 ma
Maximum Helix Current (Note [2])	2 A	Maximum Helix Current (Note 2) 2 ma
Maximum Collector Dissipation (beam power)	240 W	Maximum Collector Dissipation (beam power) 240 watts
Maximum Control Electrode Voltage (Note [1])	3 V	Maximum Control Electrode Voltage (Note 3) -500 wvolts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Control Electrode Voltage (Note [2])	-500 V	Maximum Control Electrode Voltage (Note 3) -500 wvolts
Maximum Frequency	120	Maximum Frequency 12,0 kmc
Minimum Frequency	8	Minimum Frequency 8.0 kmc
Anode Voltage	3600 V	Anode Voltage 3600 wvolts
Anode Current	50 A	Anode Current 50 ma
Helix Current	500 mA	Helix Current 0.5 ma
Control Electrode Voltage (Note [1])	4 V	Control Electrode Voltage (Note 4) -30 wvolts
Control Electrode Voltage (Note [2])	-30 V	Control Electrode Voltage (Note 4) -30 wvolts
Power Output	5 W	Power Output 5 watts nominal
Gain	20	Gain 20 db nominal
Beam	1	Beam 1.0
Note	1 V	Note 1: All voltages shown are with respect to cathode. 'Anode and collector
Note	2 A	Note 2: The helix current should, in general, be minimized and must be less
peak helix current may exceed	2 A	peak helix current may exceed 2 ma but care should be taken to opera-
te at reasonably low values and average current must not exceed	2 A	te at reasonably low values and average current must not exceed 2 ma.
Note	3 V	Note 3: The control electrode voltage is adjusted for best transmission for CW
operation (normally about	-30	operation (normally about -30 volts). Beam gate off can be accom-
plished by applying voltage of [1]	-400 V	plished by applying voltage of -400 to -500 volts. Operation in the
plished by applying voltage of [2]	-500 V	plished by applying voltage of -400 to -500 volts. Operation in the
region of control electrode voltage between approximately	-50 V	region of control electrode voltage between approximately -50 volts
Note [1]	4	Note 4: Gated beam operation can also be utilized by applying -400 to -500
Note [2]	-400	Note 4: Gated beam operation can also be utilized by applying -400 to -500

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Note [3]	-500	Note 4: Gated beam operation can also be utilized by applying -400 to -500
[	9	[9] BROWN HEATER
=]	6	=] 6] BLACK ANODE

TUBE TINKER

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