



ELECTRONIC TUBE REFERENCE

F7525

Specialized - Traveling Wave electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRAVELINGWAVE

Rugged 8-12 GHz metal-ceramic traveling-wave amplifier providing about 5 watts CW output and 20 dB gain, also suitable for pulse service.

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

SECTION 1 TravelingWave

No fixed ratings recorded.

Published maximum ratings and characteristics audited; remaining values retained densely in parameter table.

The F7525 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 can also operate in 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=T7 [1]	525	THE F=T7525 1S A 5 WATT CW TRAVELING WAVE AMPLIFIER TUBE HAVING 20 DB GAIN
THE F=T7 [2]	1	THE F=T7525 1S A 5 WATT CW TRAVELING WAVE AMPLIFIER TUBE HAVING 20 DB GAIN
THE F=T7 [3]	5	THE F=T7525 1S A 5 WATT CW TRAVELING WAVE AMPLIFIER TUBE HAVING 20 DB GAIN
THE F=T7 [4]	20	THE F=T7525 1S A 5 WATT CW TRAVELING WAVE AMPLIFIER TUBE HAVING 20 DB GAIN
AND [1]	8	AND 8.0 TO 12.0 KMC FREQUENCY RANGE. [T IS CONSTRUCTED IN A RUGGED METAL
AND [2]	12	AND 8.0 TO 12.0 KMC FREQUENCY RANGE. [T IS CONSTRUCTED IN A RUGGED METAL
COLLECTOR COOLER, WHICH	1	COLLECTOR COOLER, WHICH 1S REQUIRED TO PROVIDE A UNIFORM MAGNETIC FIELD.
Published value	1	1S SUITABLE FOR EITHER CW OR PULSE SERVICE.
HEATER VOLTAGE	6.3 V	HEATER VOLTAGE 6.3 (L) VoLTs
HEATER CURRENT	1.7 A	HEATER CURRENT 1.7 AMPERES
MaAX IMUM FREQUENCY	12	MaAX IMUM FREQUENCY 12.0 KMC
MiNIMUM FREQUENCY	8	MiNIMUM FREQUENCY 8.0 KMC
Max iMuM ANODE VoiTace (NoTe [1]	1	Max iMuM ANODE VoiTace (NoTe 1) 4000 VoLTs
Max iMuM ANODE VoiTace (NoTe [2]	4000	Max iMuM ANODE VoiTace (NoTe 1) 4000 VoLTs
MAX iMuM HEL IX CURRENT (NoTE [1]	2 A	MAX iMuM HEL IX CURRENT (NoTE 2) 3 MA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAX iMuM HEL IX CURRENT (NoTE [2])	3 A	MAX iMuM HEL IX CURRENT (NoTE 2) 3 MA
MAXi1MuM COLLECTOR DiSsiPATION (BEAM POWER;	240 W	MAXi1MuM COLLECTOR DiSsiPATION (BEAM POWER; 240 WATTS
SOLENOID CURRENT [1]	1 A	SOLENOID CURRENT 1l T102 Awmps,
SOLENOID CURRENT [2]	2 A	SOLENOID CURRENT 1l T102 Awmps,
SOLENOID VOLTAGE [1]	140 V	SOLENOID VOLTAGE 140 to 200 Vorts D.C.
SOLENOID VOLTAGE [2]	200 V	SOLENOID VOLTAGE 140 to 200 Vorts D.C.
ANODE VOLTAGE	3800 V	ANODE VOLTAGE 3800 VoLts
ANODE CURRENT	50 A	ANODE CURRENT 50 wMa
HeLi1x CURRENT	1 A	HeLi1x CURRENT 1.0 wMa
Power OuTPUT	5 W	Power OuTPUT 5 WATTS NOMINAL
GAIN	20	GAIN 20 pB NOMINAL
BeaM	1	BeaM 1.0
NOTE	1 V	NOTE 1: ALL VOLTAGES SHOWN ARE WITH RESPECT TO CATHODE. ANODE, COLLECTOR
NoTE	2 A	NoTE 2: THE HELIX CURRENT SHOULD BE MINIMIZED AND MUST BE LESS THAN THE
RATION, THE PEAK HELIX CURRENT MAY EXCEED	3 A	RATION, THE PEAK HELIX CURRENT MAY EXCEED 3 MA BUT CARE SHOULD BE
NoTe	3 V	NoTe 3: THE CONTROL ELECTRODE VOLTAGE IS ADJUSTED FOR BEST TRANSMISSION
FOR CW OPERATION (NORMALLY ABOUT	-30	FOR CW OPERATION (NORMALLY ABOUT -30 voLTS). BEAM GATE OFF CAN BE
ACCOMPL ISHED BY APPLYING VOLTAGE OF = [1]	400 V	ACCOMPL ISHED BY APPLYING VOLTAGE OF =400 70 -500 voLTS. THE Tust
ACCOMPL ISHED BY APPLYING VOLTAGE OF = [2]	70 V	ACCOMPL ISHED BY APPLYING VOLTAGE OF =400 70 -500 voLTS. THE Tust
ACCOMPL ISHED BY APPLYING VOLTAGE OF = [3]	-500 V	ACCOMPL ISHED BY APPLYING VOLTAGE OF =400 70 -500 voLTS. THE Tust
oF = [1]	50	oF =50 10 ~LOO voLTS. FOR GATED BEAM (PULSE) OPERATION, THE
oF = [2]	10	oF =50 10 ~LOO voLTS. FOR GATED BEAM (PULSE) OPERATION, THE
Published value	3	3 Black Anode
Published value	4	4 Brown Heater