



ELECTRONIC TUBE REFERENCE

F7848

Specialized - Traveling Wave electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRAVELINGWAVE

Specialized ITT traveling-wave microwave tube for broadband RF service; available extracted documentation provides limited reliable performance information.

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 F7848 is a two-kilowatt pulsed traveling-wave amplifier covering approximately 5.4 to 5.9 GHz, using a rugged metal-ceramic envelope and helix slow-wave structure.

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-T8 [1]	48	THE F-T848 1s A 2 KILOWATT PULSE TRAVELING WAVE AMPLIFIER TUBE HAVING
The F-T8 [2]	1	THE F-T848 1s A 2 KILOWATT PULSE TRAVELING WAVE AMPLIFIER TUBE HAVING
The F-T8 [3]	2	THE F-T848 1s A 2 KILOWATT PULSE TRAVELING WAVE AMPLIFIER TUBE HAVING
Published value [1]	27	27 o8B GAIN AND 5400 To 5900 MC FREQUENCY RANGE. IT IS CONSTRUCTED IN A
Published value [2]	5400	27 o8B GAIN AND 5400 To 5900 MC FREQUENCY RANGE. IT IS CONSTRUCTED IN A
Published value [3]	5900	27 o8B GAIN AND 5400 To 5900 MC FREQUENCY RANGE. IT IS CONSTRUCTED IN A
To [1]	5	To .005 AND PULSE LENGTHS UP TO 6 MICROSECONDS CAN BE USED:
To [2]	6	To .005 AND PULSE LENGTHS UP TO 6 MICROSECONDS CAN BE USED:
HEATER VOLTAGE	6.3 V	HEATER VOLTAGE 6.3 VoLts
HEATER CURRENT	5.2 A	HEATER CURRENT 5.2 AMPERES
FREQUENCY RANGE (Note [1])	1	FREQUENCY RANGE (Note 1) 5400 Mc To 5900 Mc
FREQUENCY RANGE (Note [2])	5400	FREQUENCY RANGE (Note 1) 5400 Mc To 5900 Mc
FREQUENCY RANGE (Note [3])	5900	FREQUENCY RANGE (Note 1) 5400 Mc To 5900 Mc
MiNIMUM TRANSMISSION LOSS, NO VOLTAGES APPLIED	60 V	MiNIMUM TRANSMISSION LOSS, NO VOLTAGES APPLIED 60 o8

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
CATHODE TO ALL OTHER ELEMENTS	25	CATHODE TO ALL OTHER ELEMENTS 25 uuFD
HEATER VOLTAGE	6.3 V	HEATER VOLTAGE 6.3 (és%) VoLTs
HEATER CURRENT	5.6 A	HEATER CURRENT 5.6 AMPERES
Max [1]	1 V	Max 1MuM ANODE VoLTaGe (NoTe 2) 17,000 VoLrts
Max [2]	2 V	Max 1MuM ANODE VoLTaGe (NoTe 2) 17,000 VoLrts
Max [3]	17000 V	Max 1MuM ANODE VoLTaGe (NoTe 2) 17,000 VoLrts
MaxiMuMm HEL [1]	1 A	MaxiMuMm HEL 1X CURRENT 0.4 AMPERE PEAK
MaxiMuMm HEL [2]	400 mA	MaxiMuMm HEL 1X CURRENT 0.4 AMPERE PEAK
MaxiMuMm CoLLECTOR DissipaTioN (Note [1])	3 W	MaxiMuMm CoLLECTOR DissipaTioN (Note 3) 225 WATTS AVERAGE
MaxiMuMm CoLLECTOR DissipaTioN (Note [2])	225 W	MaxiMuMm CoLLECTOR DissipaTioN (Note 3) 225 WATTS AVERAGE
Max iMuM R-F INPUT POWER	10 W	Max iMuM R-F INPUT POWER 10 WATTS AVERAGE
Max iMuMm R-F QurPuT POWER	15 W	Max iMuMm R-F QurPuT POWER 15 WATTS AVERAGE
Max IMuM CATHODE CURRENT	3.7 A	Max IMuM CATHODE CURRENT 3.7 AMPERES PEAK
Tyrpe oF CATHODE 0x1	0	Tyrpe oF CATHODE 0x10E IMPREGNATED UNIPOTENTIAL
MaX tMuM TUBE TEMPERATURE	177	MaX tMuM TUBE TEMPERATURE 177 °c
CatHODE CURRENT	2.5 A	CatHODE CURRENT 2.5 AMPERES PEAK
Power 0QutpPuT	2 kW	Power 0QutpPuT 2.0 Kw PEAK MIN.
GAIN	27	GAIN 27 DB MIN,.
PuLSE WiIDTH	2	PuLSE WiIDTH 2 U SECONDS
NoTe [1]	1 W	NoTe 1: USEFUL GAIN AND POWER OUTPUT EXI1STS BELOW 5000 MC AND aBoVe 6000
NoTe [2]	5000 W	NoTe 1: USEFUL GAIN AND POWER OUTPUT EXI1STS BELOW 5000 MC AND aBoVe 6000
NoTe [3]	6000 W	NoTe 1: USEFUL GAIN AND POWER OUTPUT EXI1STS BELOW 5000 MC AND aBoVe 6000

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
NoTE	2 V	NoTE 2: ALL VOLTAGES SHOWN ARE WITH RESPECT TO CATHODE. ANODE, HELIX, COL~-
NoTe	3	NoTe 3: CONDUCTION COOLING FOR THE COLLECTOR MUST BE PROVIDED BY A SUITABLE
([1]	1 V	(1) HEATER WARM UP OF 2 MINUTES BEFORE APPLYING HIGH VOLTAGE 1S RECOMMENDED.,
([2]	2 V	(1) HEATER WARM UP OF 2 MINUTES BEFORE APPLYING HIGH VOLTAGE 1S RECOMMENDED.,
([3]	1 V	(1) HEATER WARM UP OF 2 MINUTES BEFORE APPLYING HIGH VOLTAGE 1S RECOMMENDED.,
(	2 V	(2) HiGH VOLTAGE MUST NOT BE APPLIED IN THE ABSENCE OF MAGNETIC FIELD.
Pin	2	Pin 2 = HEATER CoLLecTorR & CAPSULE
PiN	8	PiN 8 - HEATER CATHODE