

Traveling-wave microwave amplifier for broadband communications, radar, satellite, or other high-frequency RF amplification.

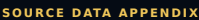
GENERAL CHARACTERISTICS

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 ratings/characteristics audited; detailed numeric data retained in parameter table.

The TH9121A is a traveling-wave-tube power amplifier designed for pulsed microwave operation and broadband high-frequency amplification.



SOURCE PDF

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
frequency range of [1]	2700 MHz	frequency range of 2700 to 3300 MHz.
frequency range of [2]	3300 MHz	frequency range of 2700 to 3300 MHz.
Heater voltage ([1]	1 V	Heater voltage (1) v ooooooooecerssssesvesarssosesesrsssssocnnsnonsansssnsse 5. 8 Y%
Heater voltage ([2]	5 V	Heater voltage (1) v ooooooooecerssssesvesarssosesesrsssssocnnsnonsansssnsse 5. 8 Y%
Heater voltage ([3]	8 V	Heater voltage (1) v ooooooooecerssssesvesarssosesesrsssssocnnsnonsansssnsse 5. 8 Y%
Heater CUPrPEeNt toceeeesoscscesosssssscssnnsssesassssosssssscssoessssns	1	Heater CUPrPEeNt toceeeesoscscesosssssscssnnsssesassssosssssscssoessssns 1 PN
Frequency TaNEE ceeesosescscsnessssssscssssssssssssssssssssssssssssssss [1]	2700 MHz	Frequency TaNEE ceeesosescscsnessssssscssssssssssssssssssssssssssssssss 2700 to 3300 MHz
Frequency TaNEE ceeesosescscsnessssssscssssscssssssssssssssssssssssssssssssss [2]	3300 MHz	Frequency TaNEE ceeesosescscsnessssssscssssscssssssssssssssssssssssssssssssss 2700 to 3300 MHz
(	1 V	(1) The exact heater voltage is given on the Test Data Sheet of each tube.
This voltage is to be observed within +	5 V	This voltage is to be observed within + 5%.
Heater vo0ltage teseescscscscassroscasosnnssnnssessrsacsscsncsasassssscnnans [1]	5	Heater vo0ltage teseescscscscassroscasosnnssnnssessrsacsscsncsasassssscnnans 5 6.6 v
Heater vo0ltage teseescscscscassroscasosnnssnnssessrsacsscsncsasassssscnnans [2]	6.6	Heater vo0ltage teseescscscscassroscasosnnssnnssessrsacsscsncsasassssscnnans 5 6.6 v
Heater CUrrenticeecscscesstotstosccscscssasonrosnonsocssasosssssssna	1.5 A	Heater CUrrenticeecscscesstotstosccscscssasonrosnonsocssasosssssssna 1.5 A
Grid PDOWEI e eeesssesesossvecceassrrssscssssasessnsanssssenansssasons	300	Grid PDOWEI e eeesssesesossvecceassrrssscssssasessnsanssssenansssasons 300 mwW
Beam V0ltageeeseecsseascssessossvssssansssatscscscssssasssssnsscasss [1]	2 V	Beam V0ltageeeseecsseascssessossvssssansssatscscscssssasssssnsscasss 2e0 2.6 kV
Beam V0ltageeeseecsseascssessossvssssansssatscscscssssasssssnsscasss [2]	2.6 V	Beam V0ltageeeseecsseascssessossvssssansssatscscscssssasssssnsscasss 2e0 2.6 kV
Cathode current Pe@Kisceecscsccsossccscssassssscsnasssscsensesonssscs	200 A	Cathode current Pe@Kisceecscsccsossccscssassssscsnasssscsensesonssscs 200 mA
Peak grid voltageesesessscacncccnnnncansaans cenesscsenacnas ceesesa	150 V	Peak grid voltageesesessscacncccnnnncansaans cenesscsenacnas ceesesa 150 v
Pulse Width ceesessescscsnessssossssconessssssoscsvsesccssssossoss	1000	Pulse Width ceesessescscsnessssossssconessssssoscsvsesccssssossoss 1000 ps
Grid bias supply resistancCesicccscossccssssssossrrssosssssossccscascss	10	Grid bias supply resistancCesicccscossccssssssossrrssosssssossccscascss 10 kQ
F'ocus COll Currenteicccsnessssoscocsecvscscccsasensevnsoncnsnscss	2 A	F'ocus COll Currenteicccsnessssoscocsecvscscccsasensevnsoncnsnscss 2 A
Cathode current, PEAK seeesscsesracescoesosseasnsosansosononssnanse	150 A	Cathode current, PEAK seeesscsesracescoesosseasnsosansosononssnanse 150 mA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid biasS eseeeesccseorsecoseeeaaassscssscassssssssesccccsonannsnnsns	20	Grid biasS eseeeesccseorsecoseeeaaassscssscassssssssesccccsonannsnnsns - 20 v
Peak grid v0ltage seeeveenceeeceaecneessscssssssssascossncnnneennoses +	40 V	Peak grid v0ltage seeeveenceeeceaecneessscssssssssascossncnnneennoses + 40 v
Pulse widthe.ioeesveeeean teccesssnense vereeos Peressstsssserssssnna	10	Pulse widthe.ioeesveeeean teccesssnense vereeos Peressstsssserssssnna 10 ps
Gain at saturated DOWEIr OULDUL tecstsetsetcosecnoscossoncncansesssss	33	Gain at saturated DOWEIr OULDUL tecstsetsetcosecnoscossoncncansesssss 33 dB
Small Signal Gain s eesvetecerssossatssreescosossssssscssssossencessss	36	Small Signal Gain s eesvetecerssossatssreescosossssssscssssossencessss 36 dB
Focus applied power....c... eeeseesceceasests s et esesc et aseeases0te	90 W	Focus applied power....c... eeeseesceceasests s et esesc et aseeases0te 90 w
Power supply connectionSssscceecescsessscagssssasssscscssssasssss PDigmy PT	2 W	Power supply connectionSssscceecescsessscagssssasssscscssssasssss PDigmy PT 02ZABLP
Focus coll voltageeeeeesossessessssosssssosscscsnsssssssssonssasscasssssens	60 V	Focus coll voltageeeeeesossessessssosssssosscscsnsssssssssonssasscasssssens 60 v
the TH	9121	the TH 9121 A pulsed traveling wave tube amplifier. Supplementary information is given in
Heater voltage given on the Test Data Sheet should be applied for at _least	5 V	Heater voltage given on the Test Data Sheet should be applied for at _least 5 minutes
before applying beam voltage. Heater surge current should never exceed	2 V	before applying beam voltage. Heater surge current should never exceed 2 amperes.
An overvoltage relay should be provided to limit the beam voltage to	2.6 V	An overvoltage relay should be provided to limit the beam voltage to 2.6 kV dc., A
Published value	1 A	1 ~ Apply focus coils current.
Published value [1]	2	2 - Apply heater and allow at least 5 minutes for cathode warm-up.
Published value [2]	5	2 - Apply heater and allow at least 5 minutes for cathode warm-up.
Published value	3 V	3 - Apply beam voltage, step by step, (at least for the first time).
Published value	4 V	4 - Apply voltage to the grid, and at the same time :
Published value	6 W	6 ~ Apply R.F. drive power.
RF	1	RF 1input RF output
Published value	13 A	13tas Overcurrent
Brown Heater	787	Brown Heater 787 l Focusing cotl -
Yellow ! Cathode -heater >	1	Yellow ! Cathode -heater > 1 Collector