

ELECTRONIC TUBE REFERENCE

2099

Specialized - Traveling Wave electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRAVELINGWAVE

Grid-pulsed traveling-wave power amplifier covering approximately 4-8 GHz, using metal-ceramic construction and depressed-collector operation for kilowatt-class pulse output.

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 2099 is a one-kilowatt grid-pulsed traveling-wave amplifier covering approximately 4 to 8 GHz, using metal-ceramic construction and depressed-collector operation.

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 tube type [1]	2099	The tube type 2099 is a 1 kilowatt grid pulsed traveling wave ampli-
The tube type [2]	1	The tube type 2099 is a 1 kilowatt grid pulsed traveling wave ampli-
fier having a minimum gain of	28	fier having a minimum gain of 28 db over the frequency range of
mum operating duty cycle is	4 us	mum operating duty cycle is 4 percent at a maximum pulse width
Frequency [1]	40 GHz	Frequency 4,0-8.0 GHz _ 4.0-8.0 GHz
Frequency [2]	-8 GHz	Frequency 4,0-8.0 GHz _ 4.0-8.0 GHz
Frequency [3]	4 GHz	Frequency 4,0-8.0 GHz _ 4.0-8.0 GHz
Frequency [4]	-8 GHz	Frequency 4,0-8.0 GHz _ 4.0-8.0 GHz
Pk Power Output [1]	1500 W	Pk Power Output 1500 Watts 1000 Watts Min.
Pk Power Output [2]	1000 W	Pk Power Output 1500 Watts 1000 Watts Min.
Gain at	1	Gain at 1.0 KW Pk Pwr .
Cathode Voitage [1]	-9.75	Cathode Voitage -9.75 --9.25 — 9.75KV
Cathode Voitage [2]	-9.25	Cathode Voitage -9.75 --9.25 — 9.75KV
Cathode Voitage [3]	-9.75	Cathode Voitage -9.75 --9.25 — 9.75KV
Cathode Current [1]	1.7 A	Cathode Current 1.7 1.8 Amp Pk

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode Current [2]	1.8 A	Cathode Current 1.7 1.8 Amp Pk
Heater Volts [1]	6.15	Heater Volts 6.15 6.0 6.3 Volts
Heater Volts [2]	6	Heater Volts 6.15 6.0 6.3 Volts
Heater Volts [3]	6.3	Heater Volts 6.15 6.0 6.3 Volts
Heater Current [1]	31 A	Heater Current..... 31 2.4 3.5 Amp
Heater Current [2]	2.4 A	Heater Current..... 31 2.4 3.5 Amp
Heater Current [3]	3.5 A	Heater Current..... 31 2.4 3.5 Amp
GridtoAnode [1]	15	GridtoAnode 15 20 uuf
GridtoAnode [2]	20	GridtoAnode 15 20 uuf
Grid to Cathode [1]	17	Grid to Cathode 17 25 uuf
Grid to Cathode [2]	25	Grid to Cathode 17 25 uuf
Grid Current [1]	300 A	Grid Current. 300 .400 Amp Pk
Grid Current [2]	400 A	Grid Current. 300 .400 Amp Pk
NOTE	1 V	NOTE 1. Voltages with respect to cathode. ENVIRONMENTAL . '
NOTE" [1]	2 V	NOTE"2. High voltage must NOT be applied in Shock ... 15G, 51 millisec pulse
NOTE" [2]	15 V	NOTE"2. High voltage must NOT be applied in Shock ... 15G, 51 millisec pulse
NOTE" [3]	51 V	NOTE"2. High voltage must NOT be applied in Shock ... 15G, 51 millisec pulse
the absence of proper Grid Bias. Vibration As per MIL-T [1]	5422	the absence of proper Grid Bias. Vibration As per MIL-T-5422, Part 1
the absence of proper Grid Bias. Vibration As per MIL-T [2]	1	the absence of proper Grid Bias. Vibration As per MIL-T-5422, Part 1
NOTE	3	NOTE 3. Modified tubes with smali signal and Operating Temperature
power gains flat to within [1]	12 W	power gains flat to within 12 db can Non- Operating Temperature —60°C to +120°C
power gains flat to within [2]	-60 W	power gains flat to within 12 db can Non- Operating Temperature —60°C to +120°C
power gains flat to within [3]	120 W	power gains flat to within 12 db can Non- Operating Temperature —60°C to +120°C

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
# [1]	4	#4-40 THo. COOLANT CONNECTION GRID (GREEN) COOLANT CONNECTION
# [2]	-40	#4-40 THo. COOLANT CONNECTION GRID (GREEN) COOLANT CONNECTION

TUBE TINKER

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