



ELECTRONIC TUBE REFERENCE

8167

Power - Tetrode (NOT beam) (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL
DATA

1 SECTION
CONSTRUCTION
TETRODE

High-power transmitting tetrode designed for RF power amplification, linear amplification, oscillation, modulation, or frequency multiplication.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6 V / 2.85 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Tetrode	
TRANSCONDUCTANCE	0.012 S
AMPLIFICATION FACTOR	4.8
MAXIMUM PLATE VOLTAGE	2500 V
MAXIMUM SCREEN VOLTAGE	400 V
MAXIMUM PLATE DISSIPATION	300 W
MAXIMUM SCREEN DISSIPATION	12 W
MAXIMUM GRID DISSIPATION	2 W
<i>Promoted maximum ratings/characteristics populated from published headings; service-specific values retained in parameters.</i>	

Metal-ceramic RF power tetrode for oscillator, linear-amplifier and Class C service to about 500 MHz; also designated 4CX300A.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1938 Raytheon

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

1938 RAYTHEON

Section 1 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Frequency	500 MHz	—
RFPowerOutput	370 W	ClassC;Plate 2000 V
Power Output	800 W	ClassAB;PushPull;TwoTubes



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1962 Eimac

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

1962 EIMAC

Section 1 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
power tetrode having a maximum plate-dissipation rating of	300 W	power tetrode having a maximum plate-dissipation rating of 300 watts. The
Heating Time [1]	30	Heating Time - - - 30 60 S
Heating Time [2]	60	Heating Time - - - 30 60 S
Heater: Voltage (See "Application")	6	Heater: Voltage (See "Application") - 6.0 \Y
Current (E= [1]	6 V	Current (E=6.0 volts) - - - 2.6 3.1 A
Current (E= [2]	2.6 V	Current (E=6.0 volts) - - - 2.6 3.1 A
Current (E= [3]	3.1 V	Current (E=6.0 volts) - - - 2.6 3.1 A

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification Factor (Grid to Screen) [1]	4	Amplification Factor (Grid to Screen) - 4.0 5.6
Amplification Factor (Grid to Screen) [2]	5.6	Amplification Factor (Grid to Screen) - 4.0 5.6
Transconductance (I _b = [1])	200 mA	Transconductance (I _b =200 ma.) - - 12,000 pmhos
Transconductance (I _b = [2])	12000 mA	Transconductance (I _b =200 ma.) - - 12,000 pmhos
Input [1]	925 pF	Input - - - - - 925 33 pF
Input [2]	33 pF	Input - - - - - 925 33 pF
Output [1]	35 pF	Output - - - - - 35 4.5 pF
Output [2]	4.5 pF	Output - - - - - 35 4.5 pF
Input T L	16.2 pF	Input T L 16.2 pF
Output [1]	3.5 pF	Output - - - - - 3.5 4.5 pF
Output [2]	4.5 pF	Output - - - - - 3.5 4.5 pF
Frequency for Maximum Ratings S L T	500 MHz	Frequency for Maximum Ratings S L T 500 MHz
AMPLIFI (o) DC Plate Voltage [1]	500 V	AMPLIFI (o) DC Plate Voltage - - 500 1000 1500 2000 2500t 2000 volts
AMPLIFI (o) DC Plate Voltage [2]	1000 V	AMPLIFI (o) DC Plate Voltage - - 500 1000 1500 2000 2500t 2000 volts
AMPLIFI (o) DC Plate Voltage [3]	1500 V	AMPLIFI (o) DC Plate Voltage - - 500 1000 1500 2000 2500t 2000 volts
AMPLIFI (o) DC Plate Voltage [4]	2000 V	AMPLIFI (o) DC Plate Voltage - - 500 1000 1500 2000 2500t 2000 volts
AMPLIFI (o) DC Plate Voltage [5]	2500 V	AMPLIFI (o) DC Plate Voltage - - 500 1000 1500 2000 2500t 2000 volts
AMPLIFI (o) DC Plate Voltage [6]	2000 V	AMPLIFI (o) DC Plate Voltage - - 500 1000 1500 2000 2500t 2000 volts
Class-CITeFeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage [1]	250 V	Class-CITeFeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage 250 250 250 250 250 250 volts
Class-CITeFeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage [2]	250 V	Class-CITeFeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage 250 250 250 250 250 250 volts
Class-CITeFeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage [3]	250 V	Class-CITeFeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage 250 250 250 250 250 250 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Class-CITefeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage [4]	250 V	Class-CITefeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage 250 250 250 250 250 250 volts
Class-CITefeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage [5]	250 V	Class-CITefeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage 250 250 250 250 250 250 volts
Class-CITefeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage [6]	250 V	Class-CITefeR rao': orSFfAILTLLeIAeT?o': DC Screen Voltage 250 250 250 250 250 250 volts
b4 DC Plate Current [1]	250 mA	b4 DC Plate Current - - 250 250 250 250 250 250 ma
b4 DC Plate Current [2]	250 mA	b4 DC Plate Current - - 250 250 250 250 250 250 ma
b4 DC Plate Current [3]	250 mA	b4 DC Plate Current - - 250 250 250 250 250 250 ma
b4 DC Plate Current [4]	250 mA	b4 DC Plate Current - - 250 250 250 250 250 250 ma
b4 DC Plate Current [5]	250 mA	b4 DC Plate Current - - 250 250 250 250 250 250 ma
b4 DC Plate Current [6]	250 mA	b4 DC Plate Current - - 250 250 250 250 250 250 ma
MAXIMUM RATINGS DC Sé:rec? nCCurrent* - gg g? [1]	2 mA	MAXIMUM RATINGS DC Sé:rec?nCCurrent* - gg g? 2; ;9 16 10t ma
MAXIMUM RATINGS DC Sé:rec? nCCurrent* - gg g? [2]	9 mA	MAXIMUM RATINGS DC Sé:rec?nCCurrent* - gg g? 2; ;9 16 10t ma
MAXIMUM RATINGS DC Sé:rec? nCCurrent* - gg g? [3]	16 mA	MAXIMUM RATINGS DC Sé:rec?nCCurrent* - gg g? 2; ;9 16 10t ma
MAXIMUM RATINGS DC Sé:rec? nCCurrent* - gg g? [4]	10 mA	MAXIMUM RATINGS DC Sé:rec?nCCurrent* - gg g? 2; ;9 16 10t ma
DC PLATE VOLTAGE [1]	2000 V	DC PLATE VOLTAGE - - 2000 VOLTS DC Grid Current* . 2 6 25 25t ma
DC PLATE VOLTAGE [2]	2 V	DC PLATE VOLTAGE - - 2000 VOLTS DC Grid Current* . 2 6 25 25t ma
DC PLATE VOLTAGE [3]	6 V	DC PLATE VOLTAGE - - 2000 VOLTS DC Grid Current* . 2 6 25 25t ma
DC PLATE VOLTAGE [4]	25 V	DC PLATE VOLTAGE - - 2000 VOLTS DC Grid Current* . 2 6 25 25t ma
DC PLATE VOLTAGE [5]	25 V	DC PLATE VOLTAGE - - 2000 VOLTS DC Grid Current* . 2 6 25 25t ma
DC SCREEN VOLTAGE [1]	300 V	DC SCREEN VOLTAGE - - 300 VOLTS Peak RF Grid Voltage* - 114 114 112 112 111 — volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC SCREEN VOLTAGE [2]	114 V	DC SCREEN VOLTAGE - - 300 VOLTS Peak RF Grid Voltage* - 114 114 112 112 111 — volts
DC SCREEN VOLTAGE [3]	114 V	DC SCREEN VOLTAGE - - 300 VOLTS Peak RF Grid Voltage* - 114 114 112 112 111 — volts
DC SCREEN VOLTAGE [4]	112 V	DC SCREEN VOLTAGE - - 300 VOLTS Peak RF Grid Voltage* - 114 114 112 112 111 — volts
DC SCREEN VOLTAGE [5]	112 V	DC SCREEN VOLTAGE - - 300 VOLTS Peak RF Grid Voltage* - 114 114 112 112 111 — volts
DC SCREEN VOLTAGE [6]	111 V	DC SCREEN VOLTAGE - - 300 VOLTS Peak RF Grid Voltage* - 114 114 112 112 111 — volts
Driving Power* [1]	40 W	Driving Power* - - 40 35 32 29 28 — watts
Driving Power* [2]	35 W	Driving Power* - - 40 35 32 29 28 — watts
Driving Power* [3]	32 W	Driving Power* - - 40 35 32 29 28 — watts
Driving Power* [4]	29 W	Driving Power* - - 40 35 32 29 28 — watts
Driving Power* [5]	28 W	Driving Power* - - 40 35 32 29 28 — watts
DC GRID VOLTAGE [1]	-250 V	DC GRID VOLTAGE - - —250 VOLTS Plate Input Power - 125 250 375 500 625 500 watts
DC GRID VOLTAGE [2]	125 V	DC GRID VOLTAGE - - —250 VOLTS Plate Input Power - 125 250 375 500 625 500 watts
DC GRID VOLTAGE [3]	250 V	DC GRID VOLTAGE - - —250 VOLTS Plate Input Power - 125 250 375 500 625 500 watts
DC GRID VOLTAGE [4]	375 V	DC GRID VOLTAGE - - —250 VOLTS Plate Input Power - 125 250 375 500 625 500 watts
DC GRID VOLTAGE [5]	500 V	DC GRID VOLTAGE - - —250 VOLTS Plate Input Power - 125 250 375 500 625 500 watts
DC GRID VOLTAGE [6]	625 V	DC GRID VOLTAGE - - —250 VOLTS Plate Input Power - 125 250 375 500 625 500 watts
DC GRID VOLTAGE [7]	500 V	DC GRID VOLTAGE - - —250 VOLTS Plate Input Power - 125 250 375 500 625 500 watts
DC PLATE CURRENT [1]	250 mA	DC PLATE CURRENT - - 250 MA Plate Output Power - 70 190 280 390 500 225! watts
DC PLATE CURRENT [2]	70 mA	DC PLATE CURRENT - - 250 MA Plate Output Power - 70 190 280 390 500 225! watts
DC PLATE CURRENT [3]	190 mA	DC PLATE CURRENT - - 250 MA Plate Output Power - 70 190 280 390 500 225! watts
DC PLATE CURRENT [4]	280 mA	DC PLATE CURRENT - - 250 MA Plate Output Power - 70 190 280 390 500 225! watts
DC PLATE CURRENT [5]	390 mA	DC PLATE CURRENT - - 250 MA Plate Output Power - 70 190 280 390 500 225! watts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC PLATE CURRENT [6]	500 mA	DC PLATE CURRENT - - 250 MA Plate Output Power - 70 190 280 390 500 225! watts
DC PLATE CURRENT [7]	225 mA	DC PLATE CURRENT - - 250 MA Plate Output Power - 70 190 280 390 500 225! watts
PLATE DISSIPATION [1]	300 V	PLATE DISSIPATION - - 300 WATTS Heater Voltage - - . 5.0 volts
PLATE DISSIPATION [2]	5 V	PLATE DISSIPATION - - 300 WATTS Heater Voltage - - . 5.0 volts
SCREEN DISSIPATION	12 W	SCREEN DISSIPATION - - 12 WATTS +Approximate values . . S
GRID DISSIPATION	2 W	GRID DISSIPATION - - - 2 WATTS For operation
DC Plate Voltage [1]	1000 V	DC Plate Voltage - - - - - 1000 1500 2000 2500 volts
DC Plate Voltage [2]	1500 V	DC Plate Voltage - - - - - 1000 1500 2000 2500 volts
DC Plate Voltage [3]	2000 V	DC Plate Voltage - - - - - 1000 1500 2000 2500 volts
DC Plate Voltage [4]	2500 V	DC Plate Voltage - - - - - 1000 1500 2000 2500 volts
MODULATOR DC Screen Voltage [1]	350	MODULATOR DC Screen Voltage - - - - 350 350 350 350volts
MODULATOR DC Screen Voltage [2]	350	MODULATOR DC Screen Voltage - - - - 350 350 350 350volts
MODULATOR DC Screen Voltage [3]	350	MODULATOR DC Screen Voltage - - - - 350 350 350 350volts
MODULATOR DC Screen Voltage [4]	350	MODULATOR DC Screen Voltage - - - - 350 350 350 350volts
Class-AB; DC Grid Voltage [1]	55	Class-AB; DC Grid Voltage - - - . . 55 _55 55 — 55volts
Class-AB; DC Grid Voltage [2]	55	Class-AB; DC Grid Voltage - - - . . 55 _55 55 — 55volts
Class-AB; DC Grid Voltage [3]	55	Class-AB; DC Grid Voltage - - - . . 55 _55 55 — 55volts
Class-AB; DC Grid Voltage [4]	-55	Class-AB; DC Grid Voltage - - - . . 55 _55 55 — 55volts
Zero-Signal DC Plate Current [1]	200 mA	Zero-Signal DC Plate Current - - 200 200 200 200 ma
Zero-Signal DC Plate Current [2]	200 mA	Zero-Signal DC Plate Current - - 200 200 200 200 ma

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Zero-Signal DC Plate Current [3]	200 mA	Zero-Signal DC Plate Current - - 200 200 200 200 ma
Zero-Signal DC Plate Current [4]	200 mA	Zero-Signal DC Plate Current - - 200 200 200 200 ma
DC PLATE VOLTAGE [1]	2500 V	DC PLATE VOLTAGE - - 2500 VOLTS Effective Load, Plate to Plate - - 3500 6200 9500 11,600 ohms
DC PLATE VOLTAGE [2]	3500 V	DC PLATE VOLTAGE - - 2500 VOLTS Effective Load, Plate to Plate - - 3500 6200 9500 11,600 ohms
DC PLATE VOLTAGE [3]	6200 V	DC PLATE VOLTAGE - - 2500 VOLTS Effective Load, Plate to Plate - - 3500 6200 9500 11,600 ohms
DC PLATE VOLTAGE [4]	9500 V	DC PLATE VOLTAGE - - 2500 VOLTS Effective Load, Plate to Plate - - 3500 6200 9500 11,600 ohms
DC PLATE VOLTAGE [5]	11600 V	DC PLATE VOLTAGE - - 2500 VOLTS Effective Load, Plate to Plate - - 3500 6200 9500 11,600 ohms
DC SCREEN VOLTAGE	400 V	DC SCREEN VOLTAGE - - 400 VOLTS Peak AF Grid Input Voltage