ELECTRONIC TUBE REFERENCE

4CX300A

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TETRODE

Compact ceramic-metal RF power tetrode for oscillator, linear-amplifier, and Class C service to approximately 500 MHz.

General characteristics

BASE DESIGNATION	—	**BASE PINS**	—
NOMINAL HEATER	6 V / 2.75 A	**PARALLEL HEATER**	— / —
HEATING	Indirect	**SERIES OPERATION**	Not specified
CATHODE ARRANGEMENT	Separate cathodes	**SECTION CONSTRUCTION**	Similar

Section ratings

SECTION1 Tetrode	
TRANSCONDUCTANCE	0.012 S
AMPLIFICATION FACTOR	50
MAXIMUM PLATE VOLTAGE	2000 V
MAXIMUM SCREEN VOLTAGE	400 V
MAXIMUM PLATE DISSIPATION	300 W
MAXIMUM SCREEN DISSIPATION	12 W
MAXIMUM GRID DISSIPATION	2 W

Published absolute maximum ratings promoted from the applicable service tables; pulse-service maxima are used only where explicitly noted in the tube note.

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

SOURCE OPERATING CONDITIONS

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,= [1]	**200 mA**	Transconductance (I,=200 ma.) - - 12,000 pmhos
Transconductance (I,= [2]	**12000 mA**	Transconductance (I,=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
CIass-CITefeR rao': orSFfAILTLeIAeT?o': DC Screen Voltage [1]	**250 V**	CIass-CITefeR rao': orSFfAILTLeIAeT?o': DC Screen Voltage 250 250 250 250 250 250 volts
CIass-CITefeR rao': orSFfAILTLeIAeT?o': DC Screen Voltage [2]	**250 V**	CIass-CITefeR rao': orSFfAILTLeIAeT?o': DC Screen Voltage 250 250 250 250 250 250 volts
CIass-CITefeR rao': orSFfAILTLeIAeT?o': DC Screen Voltage [3]	**250 V**	CIass-CITefeR rao': orSFfAILTLeIAeT?o': DC Screen Voltage 250 250 250 250 250 250 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
CIass-CITefeR rao': orSFfAILTLeIAeT?o': DC Screen Voltage [4]	**250 V**	CIass-CITefeR rao': orSFfAILTLeIAeT?o': DC Screen Voltage 250 250 250 250 250 250 volts
CIass-CITefeR rao': orSFfAILTLeIAeT?o': DC Screen Voltage [5]	**250 V**	CIass-CITefeR rao': orSFfAILTLeIAeT?o': DC Screen Voltage 250 250 250 250 250 250 volts
CIass-CITefeR rao': orSFfAILTLeIAeT?o': DC Screen Voltage [6]	**250 V**	CIass-CITefeR rao': orSFfAILTLeIAeT?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 Voltagel [1]	**55**	Class-AB; DC Grid Voltagel - - - .- . 55 _55 55 — 55volts
Class-AB; DC Grid Voltagel [2]	**55**	Class-AB; DC Grid Voltagel - - - .- . 55 _55 55 — 55volts
Class-AB; DC Grid Voltagel [3]	**55**	Class-AB; DC Grid Voltagel - - - .- . 55 _55 55 — 55volts
Class-AB; DC Grid Voltagel [4]	**-55**	Class-AB; DC Grid Voltagel - - - .- . 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