



ELECTRONIC TUBE REFERENCE

3C24

Power - Triode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Medium-mu Eimac power triode for amplifier, oscillator, and modulator service. It operates at full ratings to about 60 MHz and has published Class-C RF and Class-AB/B modulator operating conditions.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	4
NOMINAL HEATER	6.3 V / 3 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.0025 S
AMPLIFICATION FACTOR	24
MAXIMUM PLATE VOLTAGE	2000 V
MAXIMUM PLATE DISSIPATION	25 W
MAXIMUM GRID DISSIPATION	7 W
Single triode section; promoted values mapped from printed General Characteristics and Maximum Ratings headings.	

Natural-cooled RF power triode for amplifier, oscillator, and modulator service.

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 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The Eimac 3C24 is a medium-mu, power triode intended for use as an amplifier, oscillator or	3 a	The Eimac 3C24 is a medium-mu, power triode intended for use as an amplifier, oscillator or
modulator. It has a maximum plate dissipation rating of 25 watts and can be operated at its maximum	25 a	modulator. It has a maximum plate dissipation rating of 25 watts and can be operated at its maximum
Voltage	63 volts	GeneralCharacteristics Voltage - - - - - 63 volts
Current	3 amperes	GeneralCharacteristics Current - - - - R - - - - 3.0 amperes
Amplification Factor (Average)	24	GeneralCharacteristics Amplification Factor (Average) . - - - - - 24
Grid-Plate	1.6 ppuf	GeneralCharacteristics Grid-Plate - - - - . . . - 1.6 ppuf
Transconductance (i, =25 ma., E,=1000v.)	25 ma	GeneralCharacteristics Transconductance (i, =25 ma., E,=1000v.) - . N - 2500 umhos

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Length	4.38 inches	Length - - - - - 4.38 inches
Diameter	1.44 inches	Diameter - - - - - 1.44 inches
Net Weight	1.5 ounces	Net Weight - - - - - 1.5 ounces
Shipping Weight [Average}	1 pound	Shipping Weight [Average} - - - - - 1.0 pound

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
AND MODULATOR D-C Plate Voltage	750 Volts	TYPICAL OPERATION, CLASS AB, AND MODULATOR D-C Plate Voltage - - 750 1000 1250 Volts
D-C Grid Voltage (approx) o	20 Volts	TYPICAL OPERATION, CLASS AB, D-C Grid Voltage (approx) o - - —20 —30 —42 Volts
Class-B and AB Zero-Signal D-C Plate Current	4 ma	TYPICAL OPERATION, CLASS AB, Class-B and AB Zero-Signal D-C Plate Current - - 4 ;Z 24 ma.
Max-Signal D-C Plate Current	127 Ma	TYPICAL OPERATION, CLASS AB, Max-Signal D-C Plate Current - - 127 127 130 Ma.
A N N R _ Peak A-F Grid Input Voltage (per tube) 10 120 135 Volts	10 A	MaximumRatings A N N R _ Peak A-F Grid Input Voltage (per tube) 10 120 135 Volts
D-C PLATE VOLTAGE 2000 MAX. VOLTS Max-Signal Peak Driving Power	2000 VOLTS	MaximumRatings D-C PLATE VOLTAGE 2000 MAX. VOLTS Max-Signal Peak Driving Power - 5.5 60 6.8 Watts
MAX-SIGNAL D-C PLATE CURRENT	75 MA	MaximumRatings MAX-SIGNAL D-C PLATE CURRENT - - 75 MAX. MA, Max-Signal Nominal Drlvmq Power 28 10 R w
PLATE DISSIPATION	25 WATTS	MaximumRatings PLATE DISSIPATION - - . . . 25 MAX. WATTS Max- S gnal Plate Power Output - - 0 85 12 Watts
GRID DISSIPATION	7 WATTS	MaximumRatings GRID DISSIPATION - - - 7 MAX. WATTS *Adjust to give stated zero-signal plate current,
D-C Plate Voltage	1000 Volts	PLATE MODULATED RADIO TYPICAL OPERATION- D-C Plate Voltage - - - - 1000 1250 1600 Volts
FREQUENCY AMPLIFIER D-C Plate Current	0 Ma	PLATE MODULATED RADIO TYPICAL OPERATION- FREQUENCY AMPLIFIER D-C Plate Current - - - . - 0] 53 Ma.
D.-C Grid Voltage	120 Volts	PLATE MODULATED RADIO TYPICAL OPERATION- . . D.-C Grid Voltage - - - - - —120 —40 —170 Volts
Class-C Telephony (Carrier conditions, per tube) . D-C Grid Current . B B . 14 13 11 Ma	14 Ma	PLATE MODULATED RADIO TYPICAL OPERATION- Class-C Telephony (Carrier conditions, per tube) . D-C Grid Current . B B . 14 13 11 Ma.
v . R N R N v Grid Dissipation	1.6 v	MaximumRatings . v . R N R N v Grid Dissipation - - - - - 1.6 1.5 1.2 Watts
D-C PLATE VOLTAGE 1600 MAX. VOLTS Plate Power Input	1600 VOLTS	MaximumRatings D-C PLATE VOLTAGE 1600 MAX. VOLTS Plate Power Input - - - - - 60 75 85 Watts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
D-C PLATE CURRENT	60 MA	MaximumRatings D-C PLATE CURRENT - - - - 60 MAX. MA. Plate Dissipation - - - - I3 15 17 Watts
PLATE DISSIPATION	17 WATTS	MaximumRatings PLATE DISSIPATION - - . . . 17 MAX. WATTS PlateThePower Output . . . - a7 40 68 Watts
GRID DISSIPATION	7 WATTS	MaximumRatings GRID DISSIPATION - - - 7 MAX. WATTS allow for variations in circuit losses.
D-C Plate Voltage	1000 Volts	RADIO FREQUENCYPOWER AMPLIFIER TYPICAL OPERATION- D-C Plate Voltage - - - 1000 1500 2000 Volts
AND OSCILLATOR D-C Plate Current	7 Ma	RADIO FREQUENCYPOWER AMPLIFIER TYPICAL OPERATION- AND OSCILLATOR D-C Plate Current - - - - 7 4] 63 Ma,
Class-C Telegraphy or FM Telephony (Key-down conditions, per tube) gg g::g \éfl::egn.t oo _72 _Tg _'?'g ::a'f'	72 a	RADIO FREQUENCYPOWER AMPLIFIER TYPICAL OPERATION- Class-C Telegraphy or FM Telephony (Key-down conditions, per tube) gg g::g \éfl::egn.t oo _72 _Tg _'?'g ::a'f'
Peak R-F Grid Input Voltage	170 Volts	RADIO FREQUENCYPOWER AMPLIFIER TYPICAL OPERATION- Peak R-F Grid Input Voltage - - - 170 195 245 Volts
2000 MAX. v	2000 v	MaximumRatings 2000 MAX. v
9 13 2.1 Watts	9 Watts	MaximumRatings - 9 13 2.1 Watts
7 100 125 Watts	7 Watts	MaximumRatings 7 100 125 Watts
D-C PLATE CURRENT	75 MA	MaximumRatings D-C PLATE CURRENT - - - - 75 MAX. MA. Plate Dissipation - - - . . 25 25 25 Watts
PLATE DISSIPATION	25 WATTS	MaximumRatings PLATE DISSIPATION - - - . . . 25 MAX., WATTS P""eTh"": °""P"" e amtat memere '4Z ' 75 Io: :vws
7 MAX. WATTS allow for	7 WATTS	MaximumRatings 7 MAX. WATTS allow for
(Effective 11-1-51) © 1951, 1968 by Varian Printed in U.S. A,	11 A	MaximumRatings (Effective 11-1-51) © 1951, 1968 by Varian Printed in U.S. A,
2000 volts. These charts show com- o / [K@)etmmeasroneca	2000 volts	MaximumRatings 2000 volts. These charts show com- o / [K@)etmmeasroneca
plate dissipation in watts is indicated =] /7	7 watts	MaximumRatings plate dissipation in watts is indicated =] /7

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Points A, B, and C are identical to the 7525w	7525 A	MaximumRatings Points A, B, and C are identical to the 7525w
1500, and 2000 volts respectively. [+]	1500 volts	MaximumRatings 1500, and 2000 volts respectively. [+]
w cescsess 865 -85 ; seseceee] 65 -100	865 w	MaximumRatings w cescsess 865 -85 ; seseceee] 65 -100
3 v]	3 v	MaximumRatings 3 v]



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 English Electric Valve

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

1971 ENGLISH ELECTRIC VALVE

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage	6.3 V	—
Filament current	3 A	—
Maximum frequency for full ratings	60 MHz	—
Typical class-C unmodulated output power	100 W	—