

Technical Information

3B24WA

**HALF-WAVE
RECTIFIER**

The 3B24WA is a half-wave, high vacuum rectifier tube with a "bonded thoriated" tungsten filament. Its rugged construction makes it ideal for applications involving severe shock and vibration. The tube may be operated with either half of the filament functioning separately, or with the two halves connected in series or parallel. When operating with half the filament energized, it is equivalent to the older type RK-72 diode. Convection cooling is normally used with this tube. As is the case with most other electrical components, operation of the 3B24WA at or near its maximum ratings is not conducive to long life, economy or reliability.

MECHANICAL RATINGS: (Absolute Max.)

Impact Acceleration	450 G
Fatigue (Vibrational Acceleration for Extended Periods)	2.5 G
Altitude	10,000 ft.

ELECTRICAL DATA

Ratings and Normal Operation	MIL-E-1 Symbol	Test Limit or Absol. Min.	Normal Oper.	Test Limit or Absol. Max.	MIL-E-1 Units
Heater Voltage	Ef	4.75	5.0	5.25	V
	Ef (note 1)	2.375	2.5	2.625	V
Peak Plate Inverse Voltage	epx	---	---	20	Kv
Peak Plate Current	ib	---	---	300	ma
	ib	---	---	150 (note 1)	ma
DC Output Current	Io	---	---	60	mAdc
	Io	---	---	30 (note 1)	mAdc
Filament Current	If	2.75	3.0	3.25	Aac
Ef=2.5 Vac (Notes 1&2)					
Plate Current	Ib	135	---	---	mAdc
Eb=250 Vdc Ef=5.0 V					
Gas (Note 3)	ΔIb	---	---	5	mAdc
Pp=50 w min.; t=30; Ef=5.0 Vac					
Operation	Io	60	---	---	mAdc
Ef=5.0 Vac; t=60; epx=20 Kv					
Emission (1)	is	750	---	---	madc
Ef=5.0 Vac; eb= 1000 V max.					
Emission (2)	is	375	---	---	madc
Ef=2.5 Vac; eb= 1000 V max. (Note 2)					

Note 1: Using one-half of filament.

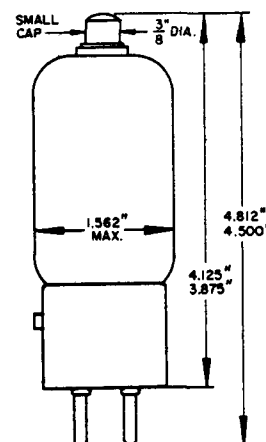
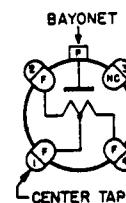
Note 2: Test each half of filament separately.

Note 3: The plate current shall not vary from the initial value at any time during the test by more than the specified amount.

MECHANICAL DATA

ENVELOPE	Glass T-12
BASE	Medium 4 Pin Bayonet, Phenolic Low Loss, A4-10
MOUNTING POSITION	Any

PHYSICAL DIMENSIONS



TERMINAL CONNECTIONS:

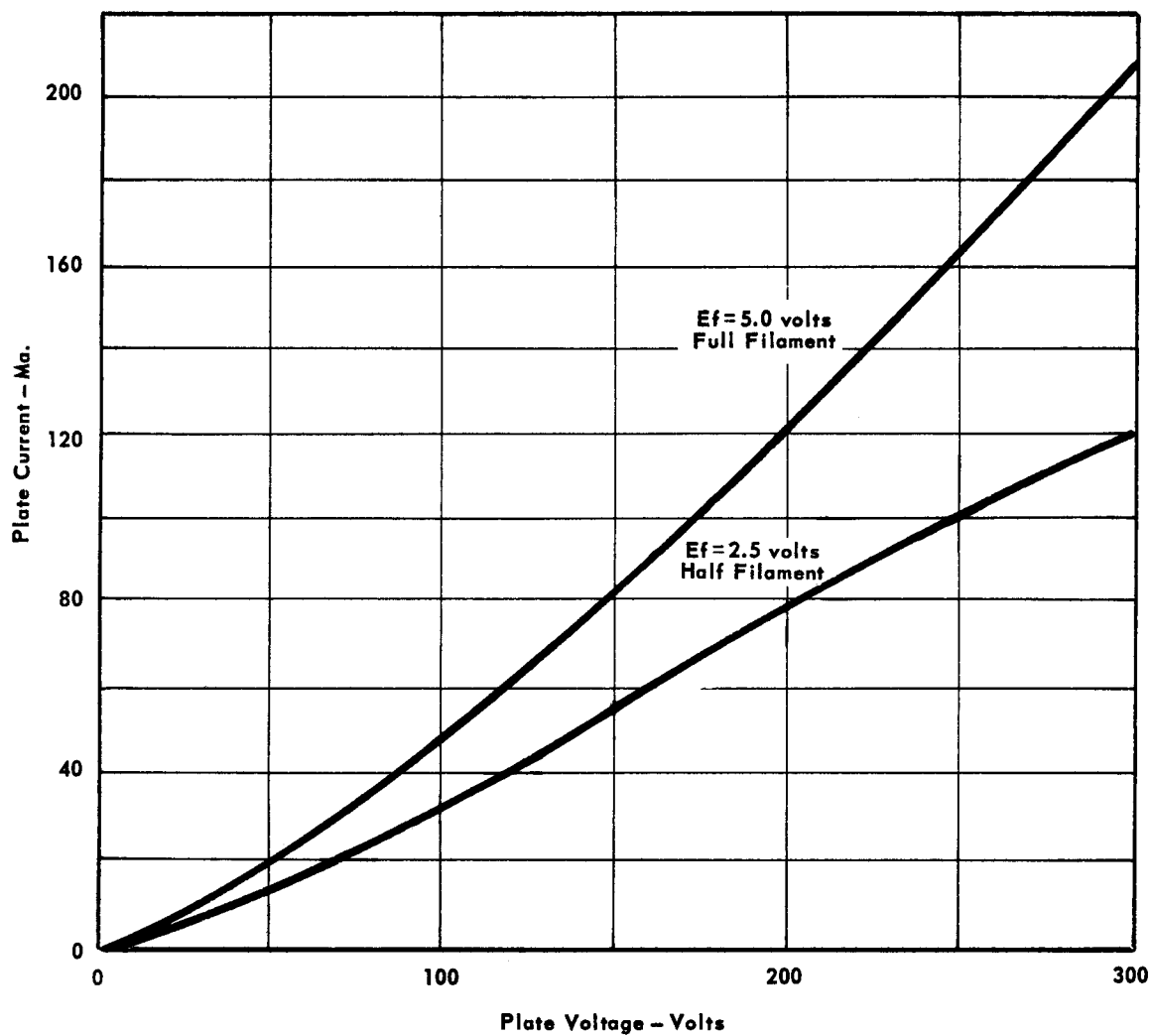
Pin 1	Filament Center Tap
Pin 2	Filament
Pin 3	No Connection
Pin 4	Filament
Cap	Plate



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VOLTAGE CHARACTERISTICS



The above curves show graphically the voltage characteristics on average tubes for both half and full filament operation under normal operating conditions.