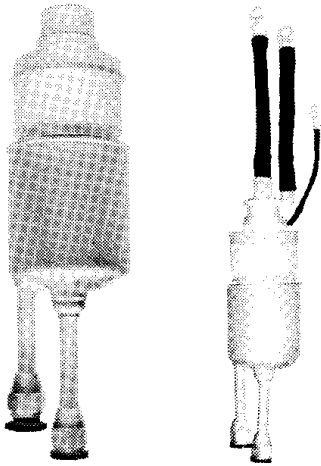


External Anode, Water Cooled Triodes

**3CW5000A1/8240**

**3CW5000F1/8241**



The 3CW5000A1/8240 and 3CW5000F1/8241 are low- $\mu$  water-cooled power triodes intended for use as audio amplifiers or modulators. Their maximum rated plate dissipation is 5000 watts. The two types are identical except for the addition of flexible leads for the grid and filament terminals on the 3CW5000F1/8241.

Two of these tubes, in Class AB<sub>1</sub> audio service, will deliver more than 10 kW maximum-signal plate output power at 6000 plate volts without drawing grid current.

These two types are electrically identical to the air-cooled 3CX3000A1/8238 except for the plate dissipation rating.

**CHARACTERISTICS**

Plate Dissipation (Max.)	5000 watts
Grid Dissipation (Max.)	50 watts
Cooling	Water and Forced Air
Filament	Thoriated tungsten
Voltage	7.5 volts
Current (3CW5000A1)	51.5 amperes
(3CW5000F1)	50.5 amperes
Amplification Factor	4.9
Transconductance†	11,000 $\mu$ mhos
Base (3CW5000A1)	Coaxial
(3CW5000F1)	Flexible filament leads
Maximum Seal Temperature	250°C
Maximum Flexible Lead Temperature	175°C
Maximum Length (3CW5000A1)	12.62 in; 320.50 mm
(3CW5000F1)	22.06 in; 560.30 mm
Maximum Diameter (both types)	3.63 in; 92.10 mm
Weight (approximate) (3CW5000A1)	4.8 lb; 2.2 kg
(3CW5000F1)	6.0 lb; 2.7 kg
Operating Position	Vertical, base up or down

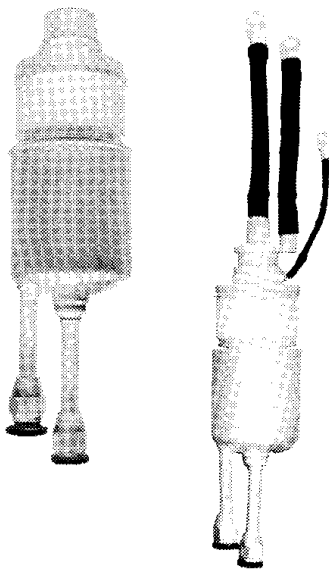
Class of Operation	Type of Service	MAXIMUM RATINGS		TYPICAL OPERATION				
		Plate Voltage (volts)	Plate Current (amps)	Driven Element	Plate Voltage (volts)	Plate Current (amps)	Drive Power (watts)	Output Power (watts)
AB <sub>1</sub>	AF Amplifier or Modulator	6000	2.5	Grid	6000	2.7*	0	10,000*

\*Two tubes.

†At I<sub>b</sub> = 10 A

**3CW5000A3/8242**

**3CW5000F3/8243**



The 3CW5000A3 and 3CW5000F3 are medium- $\mu$  water-cooled power triodes intended for use in amplifier, oscillator, or modulator service. Their maximum rated anode dissipation is 5000 watts. The two types are identical except for the addition of flexible leads for the grid and filament terminals of the 3CW5000F3/8243.

These tubes are water-cooled versions of the air-cooled 3CX2500A3/8161 and 3CX2500F3/8251.

The water-cooled tubes are recommended for industrial applications or installations where reserve anode dissipation is required.

**CHARACTERISTICS**

Plate Dissipation (Max.)	5000 watts
Grid Dissipation (Max.)	150 watts
Frequency for Max. Ratings (CW)	75 MHz
Cooling	Water and Forced Air
Filament	Thoriated tungsten
Voltage	7.5 volts
Current (3CW5000A3)	51.5 amperes
(3CW5000F3)	50.5 amperes
Capacitances (Gnd. Cath. Connection):	
Input	35.0 pF
Output	0.9 pF
Feed-through	20.0 pF
Amplification Factor	20
Transconductance†	20,000 $\mu$ mhos
Base (3CW5000A3)	Coaxial
(3CW5000F3)	Flexible filament leads
Maximum Seal Temperature	250°C
Maximum Flexible Lead Temperature	175°C
Maximum Length (3CW5000A3)	12.62 in; 320.50 mm
(3CW5000F3)	22.06 in; 560.30 mm
Maximum Diameter (both types)	3.63 in; 92.10 mm
Weight (approximate) (3CW5000A3)	4.8 lb; 2.2 kg
(3CW5000F3)	6.0 lb; 2.7 kg
Operating Position	Vertical, base up or down

Class of Operation	Type of Service	MAXIMUM RATINGS		TYPICAL OPERATION				
		Plate Voltage (volts)	Plate Current (amps)	Driven Element	Plate Voltage (volts)	Plate Current (amps)	Drive Power (watts)	Output Power (watts)
C	RF Power Amplifier	6000	2.5	Grid	6000	2.1	136	10,000
C	RF Power Amplifier Plate Modulated	5000	2.0	Grid	5000	1.5	76	5580
AB <sub>2</sub>	AF Amplifier or Modulator	6000	2.5	Grid	6000	3.0*	113	13,000*
AB <sub>2</sub>	AF Amplifier or Modulator	6000	2.5	Grid	5000	2.3*	59	8000*

\*Two tubes.

†At I<sub>b</sub> = 10 A