8166/4-1000A

Beam Power Tube

FORCED-AIR COOLED

GENERAL DATA

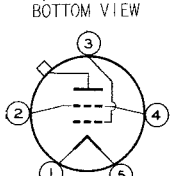
Electrical:

	Min.	Av.	Max.	
Filament, Thoriated Tungsten:				
Voltage (AC or DC).	–	7.5[a]	–	volts
Current at filament volts = 7.5	20	–	22.7	amp
Transconductance.	–	10000	–	μmhos
Mu-Factor, Grid No.2 to Grid No.1.	6.1	–	7.7	
Direct Interelectrode Capacitances (Approx.):[b]				
Grid No.1 to plate.	–	–	0.36	pf
Grid No.1 to filament and grid No.2	24	–	32	pf
Plate to filament and grid No.2.	7	–	9.5	pf

Mechanical:

Operating Position. . . . . Vertical, base up or down
Maximum Overall Length. . . . . 9-5/8"
Seated Length . . . . . 8-3/8" ±3/8"
Maximum Diameter. . . . . 5-1/4"
Weight (Approx.). . . . . 1.5 lbs
Cap . . . . . Skirted Medium (JEDEC No.C1-14)
Base. . . . . Special Ventilated Metal-Shell 5-Pin

BOTTOM VIEW



Pin 1 – Filament
Pin 2 – Grid No.2
Pin 3 – Grid No.1
Pin 4 – Grid No.2
Pin 5 – Filament
Cap – Plate

Thermal:

Forced-Air Cooling:

Through Base—A sufficient airflow should be provided to keep the base-seal temperature below its specified maximum value. The air should enter through the socket, cool the base pins, flow through the base, and then be directed along the bulb envelope.

To Plate Seal—Adequate air should be circulated around the envelope and plate seal to keep the temperature of the latter below its specified maximum value.

Base-Seal Temperature	150 max.	°C
Plate-Seal Temperature	200 max.	°C

Components:

Socket . . . . .Eimac SK-500 Air-System Socket, or equivalent
Heat-Radiating Plate Connector . . .Eimac HR-8, or equivalent

AF POWER AMPLIFIER & MODULATOR—Class AB

Maximum CCS[c] Ratings, *Absolute-Maximum Values:*

DC PLATE VOLTAGE	6000 max.	volts
DC GRID-No.2 VOLTAGE	1000 max.	volts
MAX.-SIGNAL DC PLATE CURRENT	700 max.	ma
GRID-No.2 INPUT	75 max.	watts
PLATE DISSIPATION	1000 max.	watts

RF POWER AMPLIFIER & OSCILLATOR—Class C Telegraphy[d] and RF POWER AMPLIFIER—Class C FM Telephony

Maximum CCS Ratings, *Absolute-Maximum Values:*

At frequencies up to 110 Mc

DC PLATE VOLTAGE	6000 max.	volts
DC GRID-No.2 VOLTAGE	1000 max.	volts
DC GRID-No.1 VOLTAGE	-500 max.	volts
DC PLATE CURRENT	700 max.	ma
GRID-No.2 INPUT	75 max.	watts
GRID-No.1 INPUT	25 max.	watts
PLATE DISSIPATION	1000 max.	watts

PLATE-MODULATED RF POWER AMPLIFIER—Class C Telephony

Carrier conditions per tube for use with a maximum modulation factor of 1

Maximum CCS Ratings, *Absolute-Maximum Values:*

At frequencies up to 110 Mc

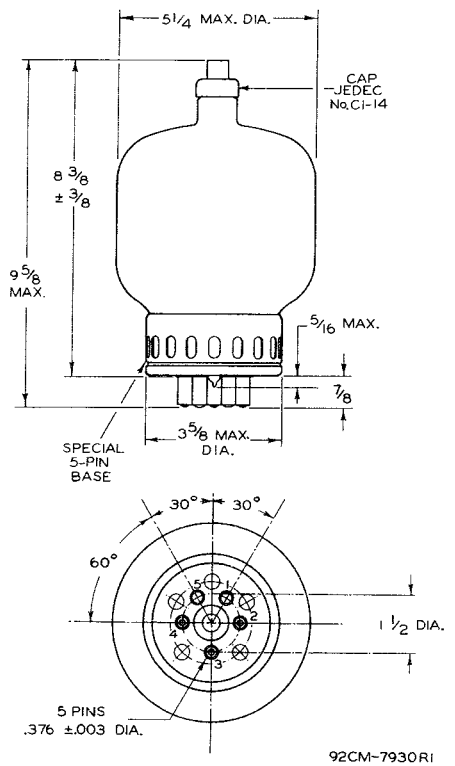
DC PLATE VOLTAGE	5000 max.	volts
DC GRID-No.2 VOLTAGE	1000 max.	volts
DC GRID-No.1 VOLTAGE	-500 max.	volts
DC PLATE CURRENT	600 max.	ma
GRID-No.2 INPUT	75 max.	watts
GRID-No.1 INPUT	25 max.	watts
PLATE DISSIPATION	670 max.	watts

[a] The filament voltage as measured at the filament pins, should be 7.5 volts. For long life, excursions from this value should not exceed ±5 per cent.

[b] With external shield.

[c] Continuous Commercial Service.

[d] Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.



DIMENSIONS IN INCHES