



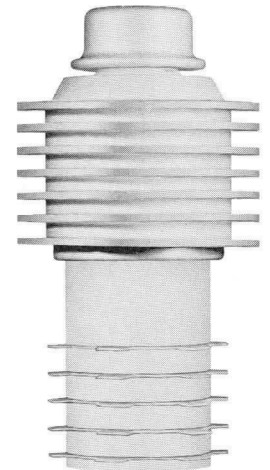
**E I M A C**  
Division of Varian  
SAN CARLOS  
CALIFORNIA

**4CX125C**  
**4CX125F**

**RADIAL-BEAM**  
**POWER TETRODES**

The EIMAC 4CX125C and 4CX125F are horizontally-finned versions of the 4CX300A. These tubes possess the same rugged internal features of the 4CX300A and are quite free of mechanical noise under severe shock and vibration conditions.

The horizontal fins used on these tubes result in a lighter and smaller tube than the 4CX300A. Transverse cooling air-flow is required to attain the 125 watt nominal plate dissipation rating.



## GENERAL CHARACTERISTICS

### ELECTRICAL

|                                     |      |        |       |         |
|-------------------------------------|------|--------|-------|---------|
| Cathode: Oxide-coated, Unipotential | Min. | Nom.   | Max.  |         |
| Heating Time                        | 30   | 60     |       | seconds |
| Cathode-to-heater Potential         |      |        | ± 150 | volts   |
| Heater: Voltage: 4CX125C            |      | 6.0    |       | volts   |
| 4CX125F                             |      | 26.5   |       | volts   |
| Current: 4CX125C                    | 2.6  |        | 3.1   | amperes |
| 4CX125F                             | 0.6  |        | 0.7   | amperes |
| Amplification Factor (Grid-Screen)  | 4.0  |        | 5.6   |         |
| Transconductance ( $I_p = 200$ Ma)  |      | 12,000 |       | umhos   |
| Frequency for Maximum Ratings       |      |        | 500   | MHz     |

Interelectrode Capacitances, Grounded Cathode:

|          |      |      |    |
|----------|------|------|----|
|          | Min. | Max. |    |
| Input    | 25.0 | 33.0 | pF |
| Output   | 3.5  | 4.5  | pF |
| Feedback |      | 0.06 | pF |

### MECHANICAL

|                                 |           |           |                                         |
|---------------------------------|-----------|-----------|-----------------------------------------|
| Base                            | - - - - - | - - - - - | Special, breechblock, terminal surfaces |
| Socket                          | - - - - - | - - - - - | EIMAC SK-700 series                     |
| Maximum Operating Temperatures: |           |           |                                         |
| Anode Core                      | - - - - - | - - - - - | 250° C                                  |
| Ceramic-to-Metal Seals          | - - - - - | - - - - - | 250° C                                  |
| Operating Position              | - - - - - | - - - - - | Any                                     |
| Cooling                         | - - - - - | - - - - - | Forced air                              |
| Net Weight                      | - - - - - | - - - - - | 3.5 ounces                              |
| Shipping Weight (Approximate)   | - - - - - | - - - - - | 1 pound                                 |

### MAXIMUM RATINGS

|                    | Class-C<br>Plate Mod | Class-C<br>Telegraph or FM | Class-AB<br>Audio or SSB |       |
|--------------------|----------------------|----------------------------|--------------------------|-------|
| DC Plate Voltage   | 1500                 | 2000                       | 2000                     | volts |
| DC Screen Voltage  | 300                  | 300                        | 400                      | volts |
| DC Grid Voltage    | - 250                | - 250                      | ...                      | volts |
| DC Plate Current   | 200                  | 250                        | 250                      | ma    |
| Plate Dissipation  | 83                   | 125                        | 125                      | watts |
| Screen Dissipation | 12                   | 12                         | 12                       | watts |
| Grid Dissipation   | 2                    | 2                          | 2                        | watts |

Note: See 4CX300A data sheet for characteristic curves and typical operating conditions.

### TYPICAL OPERATION

| RF Amplifier<br>(excluding circuit losses) | DC Plate<br>Voltage<br>(Volts) | Driving<br>Power<br>(Watts) | Input<br>Power<br>(Watts) | Output<br>Power<br>(Watts) |
|--------------------------------------------|--------------------------------|-----------------------------|---------------------------|----------------------------|
| Class-C Telegraphy or FM Telephony         | 2000                           | 3.0                         | 500                       | 390                        |
| Plate-Modulated Telephony (Carrier)        | 1500                           | 2.0                         | 300                       | 235                        |
| Class-AB <sub>1</sub> Linear Amplifier     | 2000                           | 0                           | 315                       | 205                        |

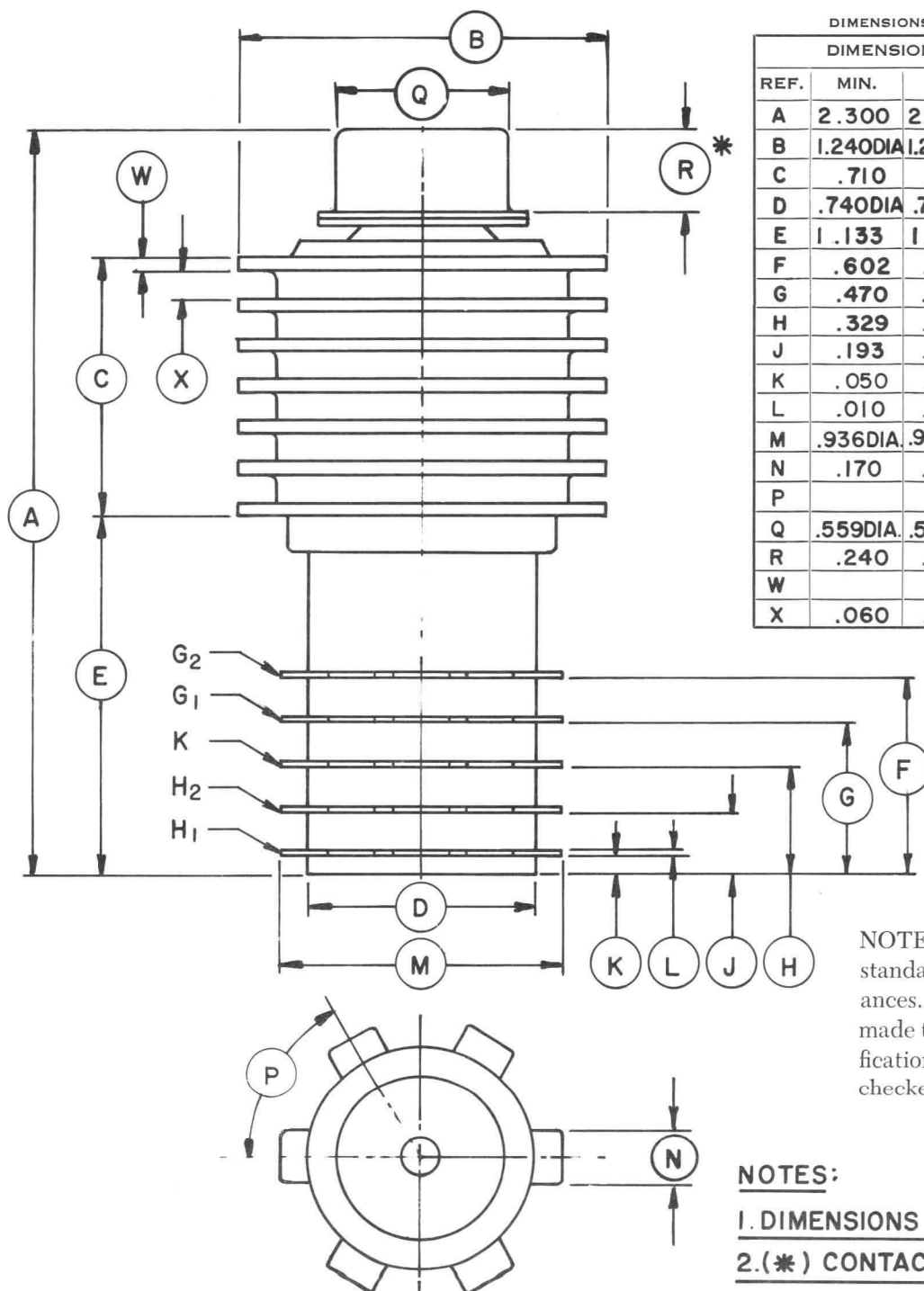


4CX125C 4CX125F

## APPLICATION

**Cooling:** The 4CX125C and 4CX125F are intended for use where transverse cooling air is desired. With the anode cooler installed in a duct of 1" x 1½" cross section, approximately 8 cfm of air is required to maintain seal temperatures below

250° C. This presumes sea level operation with an ambient temperature of 25 ° or less. Sufficient air must be circulated around the base terminals to maintain the rated seal temperatures.



DIMENSIONS IN INCHES

DIMENSIONAL DATA

| REF. | MIN.     | MAX.      | NOM. |
|------|----------|-----------|------|
| A    | 2.300    | 2.500     |      |
| B    | 1.240DIA | 1.265DIA. |      |
| C    | .710     | .790      |      |
| D    | .740DIA  | .770DIA   |      |
| E    | 1.133    | 1.195     |      |
| F    | .602     | .642      |      |
| G    | .470     | .500      |      |
| H    | .329     | .359      |      |
| J    | .193     | .213      |      |
| K    | .050     | .072      |      |
| L    | .010     | .020      |      |
| M    | .936DIA. | .956DIA.  |      |
| N    | .170     | .185      |      |
| P    |          |           | 60°  |
| Q    | .559DIA. | .573DIA.  |      |
| R    | .240     | .280      |      |
| W    |          |           | .040 |
| X    | .060     | .090      |      |

NOTE: These dimensions reflect standard manufacturing tolerances. Where they are to be made the basis of purchase specifications, they should first be checked with the factory.

## NOTES:

1. DIMENSIONS IN INCHES.

2. (\*) CONTACT SURFACE