



**RADIO MANUFACTURERS ASSOCIATION**  
**ENGINEERING DEPARTMENT**

Release No. 468

February 2, 1946

sponsor:  
General Electric Co.

**RMA TYPE**

**2C42**

The 2C42 is a three-electrode tube of the disk-seal type designed for stable operation as a plate-pulsed oscillator at frequencies up to 1300 megacycles.

**GENERAL CHARACTERISTICS**

Number of Electrodes 3

**Electrical**

Cathode - Indirectly Heated  
Heater Voltage 6.3 Volts  
Heater Current 0.9 Amperes

Average Characteristics  
Amplification Factor 48  
Grid-Plate Transconductance,  $I_b = 22$  ma 8000 Micromhos

Direct Interelectrode Capacitances  
Grid-Plate 1.7 Micromicrofarads  
Grid-Cathode 2.9 Micromicrofarads  
Plate-Cathode, maximum 0.05 Micromicrofarads  
Cathode R-F Connection - Cathode 100 Micromicrofarads

**Mechanical**

Type of Cooling - Convection or Forced Air and conduction  
Maximum Seal Temperature 200 C  
Base Description 6-pin Octal  
Mounting Position Any  
Net Weight, approximate 3 Ounces  
Shipping Weight, approximate 3 Pounds

**MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS**

**Power Oscillator - Low Duty Cycle Plate Pulsed**

|                                | <u>Typical Operation</u> | <u>Maximum Ratings</u> |
|--------------------------------|--------------------------|------------------------|
| Peak Anode Voltage             | 3000                     | 3000 Volts             |
| Grid Resistance                | 50                       | Ohms                   |
| D-c Plate Current, average     | 2.0                      | Milliamperes           |
| Peak Cathode Current           | 2.5                      | 4.0 Amperes            |
| Pulse Width                    | 1.0                      | 3.0 Microseconds       |
| Repetition Rate                | 1000                     | Pulses per Second      |
| Plate Dissipation              | 4.25                     | 12 Watts               |
| Peak Power Output, approximate | 1750                     | Watts                  |
| Frequency                      | 1050                     | 1300 Megacycles        |

Power Oscillator - High Duty Cycle Plate Pulsed

|                                | <u>Typical Operation</u> | <u>Maximum Ratings</u> * |
|--------------------------------|--------------------------|--------------------------|
| Peak Anode Voltage             | 2000                     | 2000 Volts               |
| Grid Leak Resistance           | 50                       | Ohms                     |
| D-c Plate Current, average     | 7.2                      | Milliamperes             |
| Peak Cathode Current           | 1.5                      | 1.5 Amperes              |
| Pulse Width                    | 3.0                      | 9.0 Microseconds         |
| Repetition Rate                | 2000                     | Pulses per Second        |
| Plate Dissipation              | 9.9                      | 25 Watts                 |
| Peak Power Output, approximate | 750                      | Watts                    |
| Frequency                      | 1050                     | 1300 Megacycles          |

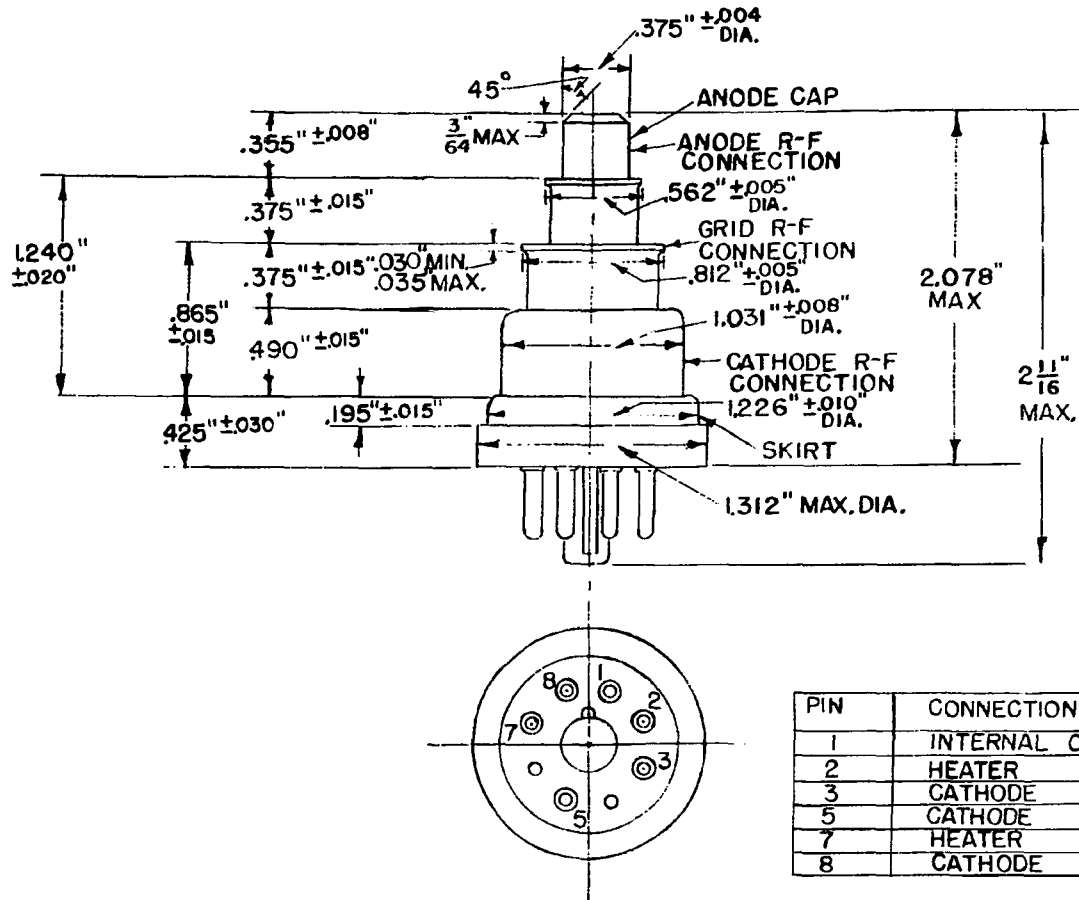
\* A useful tube life of approximately 150 hours can be expected at these maximum ratings.

December 24, 1945.

# RMA TYPES

2C42

2C46



NOTE 1: GLASS SHALL NOT PROTRUDE BEYOND EDGE OF ANODE R-F CONNECTION OR GRID R-F CONNECTION

NOTE 2: EXPOSED METAL R-F PARTS TO BE PLATED WITH 100 MSI SILVER EXCEPT BASE PINS

NOTE 3: ANODE CAP, GRID R-F CONNECTION, AND CATHODE R-F CONNECTION TO BE CONCENTRIC WITH RESPECT TO EACH OTHER WITHIN  $\frac{1}{64}$  IN.