



CIK

CIK/6014

## XENON THYRATRON

NEGATIVE-CONTROL TRIODE TYPE

## GENERAL DATA

## Electrical:

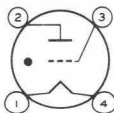
|                                                                                                                                                           |      |     |      |                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|---------------------------|
| Filament, Coated:                                                                                                                                         | Min. | Av. | Max. |                           |
| Voltage . . . . .                                                                                                                                         | 2.4  | 2.5 | 2.6  | ac or dc volts            |
| Current at 2.5 volts. .                                                                                                                                   | 5.5  | 6.3 | 7.1  | amp                       |
| Minimum heating time prior to<br>tube conduction . . . . .                                                                                                |      |     |      | 25 sec                    |
| Direct Interelectrode Capacitances (Approx.):                                                                                                             |      |     |      |                           |
| Grid to anode . . . . .                                                                                                                                   |      |     | 1    | $\mu\text{f}$             |
| Grid to cathode . . . . .                                                                                                                                 |      |     | 10   | $\mu\text{f}$             |
| Maximum Deionization Time . . . . .                                                                                                                       |      |     | 500  | $\mu\text{sec}$           |
| Maximum Critical Grid Current . . . . .                                                                                                                   |      |     | 5    | $\mu\text{amp}$           |
| Anode Voltage Drop:                                                                                                                                       |      |     |      |                           |
| Average, at beginning of life . . . . .                                                                                                                   |      |     | 8    | volts                     |
| Maximum, at end of life . . . . .                                                                                                                         |      |     | 14   | volts                     |
| Maximum Commutation Factor,<br>averaged over first 500 volts of<br>inverse anode voltage rise. . . . .                                                    |      |     | 0.15 | $\text{va}/\mu\text{s}^2$ |
| Grid Control Ratio (Approx.):                                                                                                                             |      |     |      |                           |
| For conditions: 10000-ohm grid<br>resistor, circuit returns to<br>filament transformer center-<br>tap, dc anode voltage, and dc<br>grid voltage . . . . . |      |     | 230  |                           |

## Mechanical:

|                                             |                                                                 |
|---------------------------------------------|-----------------------------------------------------------------|
| Mounting Position . . . . .                 | Any                                                             |
| Maximum Overall Length. . . . .             | 4-1/4"                                                          |
| Maximum Diameter. . . . .                   | 1-9/16"                                                         |
| Weight (Approx.) . . . . .                  | 3 oz                                                            |
| Bulb. . . . .                               | T-12                                                            |
| Base. . . . .                               | Medium-Metal-Shell Small 4-Pin<br>with Bayonet (JETEC No.A4-89) |
| Basing Designation for BOTTOM VIEW. . . . . | 4D                                                              |

Pin 1-Filament

Pin 2-Anode



Pin 3-Grid

Pin 4-Filament

## GRID-CONTROLLED RECTIFIER SERVICE

## Maximum Ratings, Absolute Values:

## PEAK ANODE VOLTAGE:

|                   |                 |
|-------------------|-----------------|
| Forward . . . . . | 1000 max. volts |
| Inverse . . . . . | 1250 max. volts |

## GRID VOLTAGE:

|                                       |                 |
|---------------------------------------|-----------------|
| Peak, before tube conduction. . . . . | -100 max. volts |
|---------------------------------------|-----------------|

defined as the product of the rate of current decay in amperes per microsecond just before conduction ceases and the rate of inverse voltage rise in volts per microsecond following current conduction.



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## ANODE CURRENT:

|                              |                   |               |
|------------------------------|-------------------|---------------|
| Peak . . . . .               | 8 max.            | amp           |
| Average* . . . . .           | 1 max.            | amp           |
| Overload*, for duration of { | 0.56 sec. . . . . | 8 max. amp    |
|                              | 1 sec. . . . .    | 4.5 max. amp  |
|                              | 2 sec. . . . .    | 2.25 max. amp |
|                              | 3 sec. . . . .    | 1.5 max. amp  |
|                              | 4 sec. . . . .    | 1.13 max. amp |

Fault, for duration of 0.1 second maximum. . . . . 77 max. amp

AMBIENT-TEMPERATURE RANGE. . . . . -55 to +75 °C

• Averaged over any period of 4.5 seconds.

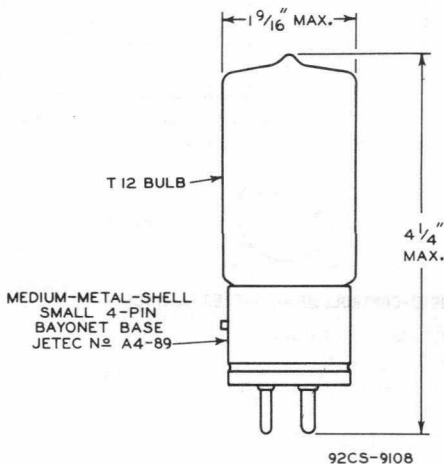
\* Averaged for duration of overload occurring no more than once in any period of 4.5 seconds.

## OPERATING CONSIDERATIONS

*Circuit returns* may be made to either side of filament or to transformer center-tap.

The *anode* of the CIK/6014 may show a red color when the tube is operated at full load.

Sufficient *anode-circuit resistance*, including the tube load, must be used under any conditions of operation to prevent exceeding the current ratings of the tube.





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OPERATIONAL RANGE  
OF CRITICAL GRID VOLTAGE

RANGE IS FOR CONDITIONS WHERE:  
 $E_f = 2.5$  VOLTS AC  $\pm 5\%$ ; CIRCUIT  
RETURNS TO FILAMENT TRANSFORM-  
ER CENTER-TAP. THE RANGE INCLUDES  
INITIAL AND LIFE VARIATIONS OF INDI-  
VIDUAL TUBES. GRID RESISTOR = 0 TO  
10000 OHMS. AMBIENT-TEMPERATURE  
RANGE =  $-55$  TO  $+75^\circ\text{C}$ .

