



C3J-A

C3J-A/5684

# XENON THYRATRON

NEGATIVE-CONTROL TRIODE TYPE

## GENERAL DATA

### Electrical:

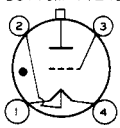
	Min.	Av.	Max.	
Filament, Coated and Mid-tapped:				
Voltage between pins 1 and 4 . . . . .	2.4	2.5	2.6	ac or dc volts
Current at 2.5 volts. . . . .	7	9	11	amp
Minimum heating time prior to tube conduction . . . . .				30 sec
Direct Interelectrode Capacitances (Approx.):				
Grid to anode . . . . .				2 $\mu$ f
Grid to cathode . . . . .				14 $\mu$ f
Maximum Deionization Time . . . . .				1000 $\mu$ sec
Maximum Critical Grid Current . . . . .				10 $\mu$ amp
Anode Voltage Drop:				
Average, at beginning of life . . . . .				10 volts
Maximum, at end of life . . . . .				14 volts
Maximum Commutation Factor, averaged over first 350 volts of inverse anode voltage rise. . . . .				0.66 $va/\mu s^2$
Grid Control Ratio (Approx.):				
For conditions: 10000-ohm grid resistor, circuit returns to filament mid-tap, dc anode voltage, and dc grid voltage. . . . .				200

### Mechanical:

Mounting Position . . . . .	Any
Maximum Overall Length. . . . .	6"
Maximum Diameter. . . . .	1-9/16"
Weight (Approx.). . . . .	3 oz
Cap . . . . .	Medium (JETEC No.C1-5)
Bulb. . . . .	T-12
Base. . . . .	Medium-Metal-Shell Small 4-Pin with Bayonet (JETEC No.A4-89)

Basing Designation for BOTTOM VIEW. . . . . 4CF

Pin 1 - Filament  
 Pin 2 - Filament  
 Mid-Tap &  
 Circuit  
 Returns



Pin 3 - Grid  
 Pin 4 - Filament  
 Cap - Anode

## GRID-CONTROLLED RECTIFIER SERVICE

### Maximum Ratings, Absolute Values:

PEAK ANODE VOLTAGE:	
Forward . . . . .	1000 max. volts
Inverse . . . . .	1250 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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## GRID VOLTAGE:

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

## ANODE CURRENT:

Peak . . . . . 30 max. amp

Average . . . . . 2.5 max. amp

## Overload:

Rating I*, for duration of. . . . .	}	0.37 sec. . . . .	30 max.	amp
		0.50 sec. . . . .	22.5 max.	amp
		1 sec. . . . .	11.25 max.	amp
		2 sec. . . . .	5.63 max.	amp
		3 sec. . . . .	3.75 max.	amp
Rating II**, for duration of. . . . .	}	4 sec. . . . .	2.82 max.	amp
		3 sec. . . . .	3.75 max.	amp
		4 sec. . . . .	3.40 max.	amp
		4.5 sec. . . . .	3.30 max.	amp

Fault, for duration of 0.1 second

maximum . . . . . 300 max. amp

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

● Averaged over any period of 4.5 seconds.

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

\*\* Averaged over duration of overload occurring no more than once in any period of 30 seconds.

## OPERATING CONSIDERATIONS

*Circuit returns* should be connected to filament mid-tap (pin 2).

The *anode* of the C3J-A/5684 may show a red color when the tube is operated at full load.

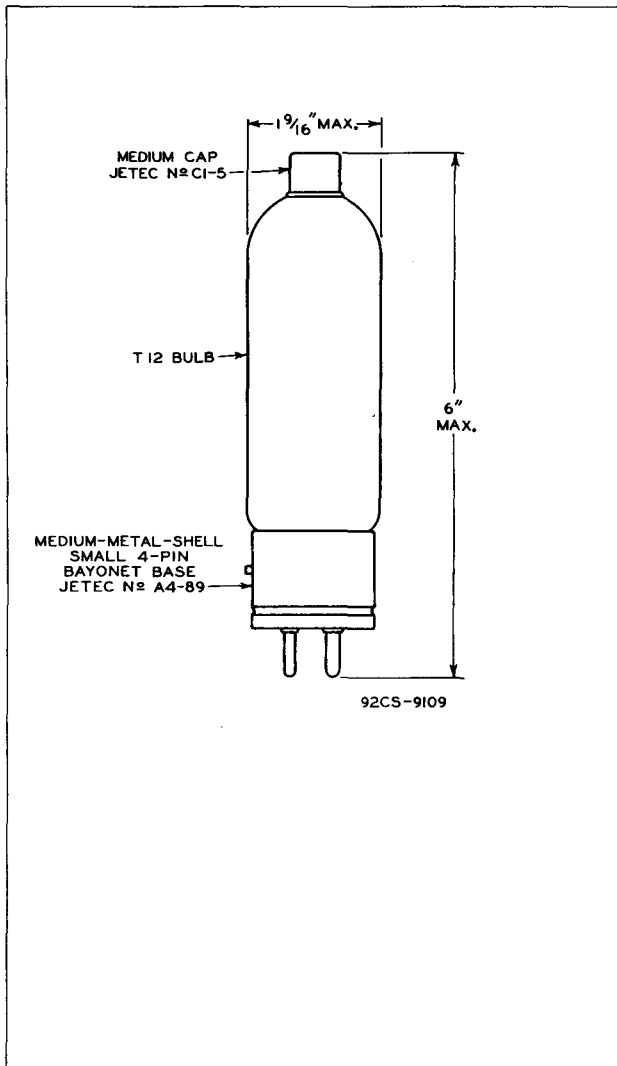
Sufficient *anode-circuit resistance*, including the tube load, must be used under any conditions of operation to prevent exceeding the current ratings of the tube.



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## OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE

RANGE IS FOR CONDITIONS WHERE:  
 $E_f = 2.5 \text{ VOLTS} \pm 5\%$ ; CIRCUIT RE-  
TURNS AND PIN 2 CONNECTED TO  
FILAMENT TRANSFORMER CENTER-  
TAP.

THE RANGE INCLUDES INITIAL AND  
LIFE VARIATIONS OF INDIVIDUAL  
TUBES.

GRID RESISTOR=0 TO 10000 OHMS.  
AMBIENT-TEMPERATURE RANGE=-55  
TO 75°C.

