C3J-A/5684

XENON THYRATRON

NEGATIVE-CONTROL TRIODE TYPE

GENERAL DATA

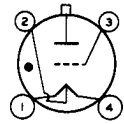
Electrical:

	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	μμf
Grid to cathode			14	μμf
Maximum Deionization Time			1000	μsec
Maximum Critical Grid Current			10	μamp
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/μs²
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
	4 sec.	2.82 max.	amp
Rating II**, for duration of	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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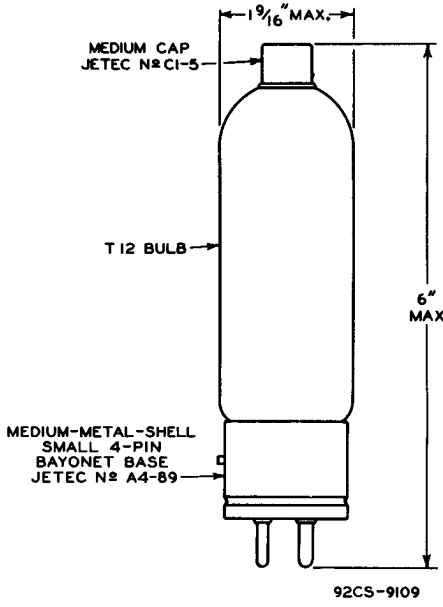

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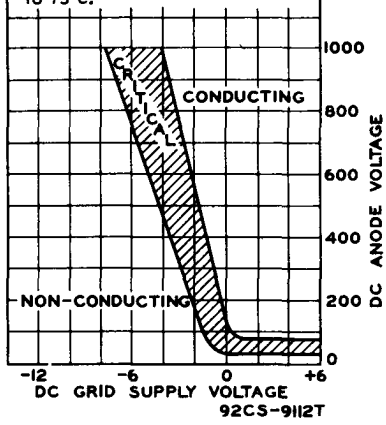
OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE

RANGE IS FOR CONDITIONS WHERE:
E_f=2.5 VOLTS± 5%; CIRCUIT RETURNS 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.



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