

OBJECTIVE TECHNICAL INFORMATION

These ratings represent the design objective for this product. Refer to the Preliminary Technical Information sheet for ratings currently achieved in the progression towards design objectives. If PTI sheets do not exist, consult your local Tube Department Regional Sales Office.

DEVELOPMENTAL
TYPE

ZG-7248
OTI-103A
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IGNITRON ZG-7248

The ZG-7248 ignitron is designed primarily for DC short-circuiting-switch (crowbar) protective service. Features of the tube include a holding anode which provides a means for keeping the tube ionized should voltage reversals occur during the discharge.

GENERAL

Electrical

Cathode Excitation	Cyclic
Cathode Spot Starting	Ignitor
Number of Electrodes	
Main Anode	1
Auxiliary Anode	1
Ignitors	1
Main Cathode	1
Approximate Inductance	30 Nanohenrys

Mechanical

Envelope	Stainless Steel
Mounting Position	Axis Vertical-Anode Terminal Up
Net Weight	2 Pounds
Diameter	2 1/8 Inches
Height	7 1/2 Inches

Thermal

Type of Cooling - Clamp around lower half of cylinder which also serves as cathode connection*	
Clamp Temperature	10-30 C
Cathode Temperature, Max.	35 C
Anode Insulating-Compound Temperature and anode-Lead Temperature, maximum	70 C*

MAXIMUM RATINGS

Peak Anode Voltage	50,000 Volts
Peak Anode Current	25,000 Amperes
Length of Conduction	20 Milliseconds
Repetition Rate	6 Per Hour*
Voltage Reversal	50 Percent

IGNITOR-CIRCUIT RATINGS

	Minimum	Maximum
Ignitor Voltage		
Forward Open Circuit	1500	3000 Volts
(ignitor +)		
Inverse (ignitor -)	-	5 Volts
Ignitor Short-Circuit Current	100	250 Amperes
Length of Firing Pulse, sine wave	5	10 Microseconds

HOLDING-ANODE CIRCUIT RATINGS†

Holding-Anode Voltage (Positive d-c)	80	150 Volts
Holding-Anode Current	5	10 Amperes

* The temperature of the anode end of the tube must be kept higher than that of the cathode end to prevent mercury condensation on the anode and anode seal. Before operation the top of the tube must be heated sufficiently to vaporize all mercury from the anode area. The repetition rate may be increased by a factor of ten by water cooling the clamp around the lower half of the cylinder.

† It is anticipated that a holding-anode rectifier will be provided to supply the required power and that its supply will drop to zero at the end of the crowbar operation so the ignitron will regain control. An alternate method is to discharge a large capacitor into the holding anode with a time constant longer than the crowbar time.

