

ELECTRONIC TUBE REFERENCE

7606

Specialized - Radiation Counter electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
IONIZATIONCHAMBER

High-temperature boron-lined uncompensated ionization chamber for thermal-neutron detection. Designed for operation to about 500°F, it uses guard-ring construction to reduce insulator leakage and is rugged enough for demanding reactor instrumentation environments.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	— / —	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 IonizationChamber
No fixed ratings recorded.
Source-derived physical/electrical section.

Westinghouse' WL-7606 Decembar 1, 1959 HIGH TEMPERATURE UNCOMPENSATED IONIZATION CHAMBER TYPE WL-7606 The WL-7606 is an aluminum cased ionization chamber designed to detect thermal neutrons in the flux range from 2.5 x 10% to 2.5 x 10" neutrons/cm?/second. Ionization currents are produced by thermal neutrons incident on the sensitive coating, which consists of Boron enriched to 96% in B-10 isotope. The neutron sensitivity of the WL-7606 is 4.4 x 107"% amperes/neutron/cnf /second and the gamma sensitivity is 5 x 10°!" omperes/Roentgen/ hout, The tube is provided with type "HN" connectors and is extremely rugged, being operable in any position and at temperatures up to 500 *F. The WL-7606 employs a guard ring type of construction. This features minimizes reduction in signal current due to leakage through the insulators. MECHANICAL: ELECTRICAL: Maximum Diameter e 3 Inches Interelectrode Capacitancas: Maximum Overall Length vove. 13:3/4 Inches Signal

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1947 Westinghouse

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1947 WESTINGHOUSE

Section 1 · Ionization Chamber

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
2.5 x 10% to 2.5 x 10" neutrons/cm ² /second. Ionization curre	10	2.5 x 10% to 2.5 x 10" neutrons/cm ² /second. Ionization currents are produced by thermal neutrons incident on
WL	10	WL-7606 is 4.4 x 10 ⁷ % amperes/neutron/cnf /second and the gamma sensitivity is 5 x 10 ⁰ !" omperes/Roentgen/
Approx, Sensitive Length	170	Approx, Sensitive Length 7-1/2 Inches High Voltage Electrode to Case® 170 pud
Net Weight e e e e	500	Net Weight e e e e . 2.1/2 Pounds At 500° F
Shipping Weight. S e e e	10	Shipping Weight. S e e e 10 Pounds Signol Electrode to Case. 10° min. Ohms
High Voltage Electrode to Case	109	High Voltage Electrode to Case 109 min. chms
Gas Filling. v e .. Argon-Nitrogen Mixture at	76	Gas Filling. v e .. Argon-Nitrogen Mixture at 76 cm Hg
Mates With Amphenol Thermal Neutron Flux	10	Mates With Amphenol Thermal Neutron Flux. ... 1.0%10 ¹⁰ " mox. n/em ² /sec
of equivalent. Ambient Temperature	500	of equivalent. Ambient Temperature 500 max, °F
'	200	'3 Operoting Yoltoger: 200toBO0 Volts
1 Thermal Neutron Flux. .. 2.5x10%102.5%1019 n/em ² /sec	1019	1 Thermal Neutron Flux. .. 2.5x10%102.5%1019 n/em ² /sec
Neutron Sensitivity. veo	10	Neutron Sensitivity. veo. 4.4%10 ⁰ % omp/n/em ² sec
Gamma Sensitivity	1071	Gamma Sensitivity 5% 1071 amp/R/hr
For Neutron Flux of	109	For Neutron Flux of 3x 10 ⁹ n/cni® /sec

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Operating Voltage e e	250	Operating Voltage e e 250 min, Volts
Output Current e e	1074	Output Current e e 1L3x 1074 Amperes
For Neutron Flux of	109	For Neutron Flux of 1.5% 109 n/cm? /sec
0_/	600	0_/ 2% Operating Voltage 600 min. Yolts
Qutput Current« . iv v anan	1074	Qutput Current« . iv v anan 6.6% 1074 Amperes
7} 0 Saturation voltoge varies with neutron fHux. Either pos	7	7} 0 Saturation voltoge varies with neutron fHux. Either positive or

TUBE TINKER

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