



ELECTRONIC TUBE REFERENCE

XL7900

Other (under review) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

OTHER

Evacuated vibrating-membrane capacitor used as a DC-to-AC converter in electrometers, dosimeters, pH meters, and other very-high-input-resistance instruments. Its membrane resonates around 5.3–6.3 kHz, enabling modulation of extremely small DC measurement signals.

GENERAL CHARACTERISTICS

BASE DESIGNATION	Magnoval, gold plated pins	BASE PINS	–
NOMINAL HEATER	– / –	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Other

No fixed ratings recorded.

Published electrical data additionally captured in parameter rows.

Vibrating membrane capacitor in an evacuated envelope, intended as a D.C.-to-A.C. converter for electrometers, dosimeters, pH meters, and other very-high-input-resistance instruments.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1999 Philips E-Z

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

1999 PHILIPS E-Z

Section 1 · Other

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Equipment measuring currents of	500	Equipment measuring currents of 500 electrons per second have
Contact potential	50 mV	Contact potential -50to +50 mV
Short term drift of contact potential <	100 uv	Short term drift of contact potential < 100 uv
Insulation >	1015	Insulation > 1015 @
C,, = measuring capacitor	9.1	C,, = measuring capacitor 9.1¢
Contact potential over Cy =50 to	50 mV	Contact potential over Cy =50 to +50 mV
1y Above	40	1y Above 40 ¢, it is possible that two capacitor plates will touch each other and
capacitors have a conversion efficiency between	40	capacitors have a conversion efficiency between 10% and 40%. Ly
capacitor terminals >	2	capacitor terminals > 1015 @ 2)
Resonance frequency of the membrane	6.3 kHz	Resonance frequency of the membrane 5.3t06.3 kHz
Capacitances of C, and Cqr	35 pF	Capacitances of C, and Cqr 35 pF
turned out that all capacitors have a conversion efficiency between	40	turned out that all capacitors have a conversion efficiency between 10 and 40%
at a voltage over L] of	1	at a voltage over L] of 1 VRMS.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
D.C. voltage on Cm max	25 V	D.C. voltage on Cm max. 25 V

TUBE TINKER

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