



ELECTRONIC TUBE REFERENCE

EM4

Voltage - Triode (under 100V) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Electrometer triode designed for input stages of precision electrometer instruments measuring extremely small electrical currents.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	1.3 V / 24 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.00008 S
AMPLIFICATION FACTOR	2.2
MAXIMUM PLATE VOLTAGE	10 V
MAXIMUM CATHODE CURRENT	0.5 mA
Promoted ratings and characteristics are taken from the printed target-tube entry in the approved PDF.	

Electrometer triode for input stages of various electrometer devices.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1981 Russian Tubes Katsnelson and Larionov

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

1981 RUSSIAN TUBES KATSNELSON AND LARIONOV

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	1.3 V	Published nominal/basic-parameter heater condition.
Heater current	24 mA	Published heater current.
Plate current	0.2 mA	Published basic-parameter operating point.
Transconductance	80 μ S	Published basic-parameter value; normalized to μ S.
Amplification factor	2.2	Published amplification factor.
Grid current	0.000007 mA	Published in the filename-designated tube entry.
Free-grid potential	-1.4 V	Published in the filename-designated tube entry.
Service life	2500 h	Published in the filename-designated tube entry.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	10 V	Published limiting operating value.
Maximum cathode current	0.5 mA	Published limiting cathode-current value.

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 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical datum	250 V	daBB bei 0 Volt Gitterspannung (fill' 250 V Kurve a: Kennlinien des unempfindlichen Teiles der EMAL-
Published electrical datum	—	„empfindlichen“ Steges - J5An3 A
Published electrical datum	—	auf 5° gesunken, wih- 5wt A P H L
Published electrical datum	250 V	strom Is als Funktion der Gittersy g bei einer Speisespannung von 250 V.
Published electrical datum	—	Station die Gleichspannung von —10 bis —15 Volt #indert, so findet man für Kurve a
Published electrical datum	—	50F++ A HTst - 1 teristik ghnlich der
Published electrical datum	30 V	=30 V() -25 -20 -15 -10 -5 0 schwache wie auch
Published electrical datum	200 V	von 200 V. Empfindlichkeits-
Published electrical datum	100 V	nung von 100 V.
Published electrical datum	5 V	—16 bzw. —5 V Gitterspannung sehr flach zu verlaufen anfangen. Es bleiben restliche
Published electrical datum	6.3 V	Heizspannung von 6,3 V wie bei Serienspeisung mit einem Heizstrom von 200 mA
Published electrical datum	100 V	verwendet werden kann, In G/W-Geräten mit einer Spannung von 100 V ist die Helligkeit
Published electrical datum	63 V	Heizspannung « + v v o v v v v o v v v v o . ¥y 63 V
Published electrical datum	0 v	 ¢ v v v v v v v v 0 v 0 v B1 0,200
Published electrical datum	0 V	Schirmstrom bei V; = 0V . . . (Vg
Published electrical datum	0 V	=0V) = 0,2 mA 0,55 mA 0,75 mA
Published electrical datum	0 V	teiles 0 V(e =90°) =0V (%) ("
Published electrical datum	—	Der Abstimmmanzeiger EM 4 kann in allen Wechselstrom- oder G/W-Geräten mit
Published electrical datum	2.5 MQ	für den Fall, daß dieser 1 bzw. 2,5 MQ beträgt (strichpunktierte und gestrichelte
Published electrical datum	—	Für G/W-Geräte, die ausschließlich bei 100 Volt arbeiten, besteht noch die Möglichkeit,
Published electrical datum	100 V	spannung von 100 V, wenn dem
Published electrical datum	1 MQ	widerstand von 1 MQ,
Published electrical datum	2.5 MQ	von 2,5 MQ.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical datum	0 V	von 0 V ist die Steilheit größer woraus sich auch eine größere Anzeigeempfindlichkeit
Published electrical datum	100 V	5L i, ot einer Speisespannung von 100 V,
Published electrical datum	1 MQ	Widerstand von 1 MQ gespeist
Published electrical datum	2.5 MQ	L o 2,5 MQ geschaltet.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical datum	550 V	$V_{ao} \ll \phi \ll o \dots = \max. 550 V$ $2 = \max. 275 V$
Published electrical datum	275 V	$V_a = \max. 275 V$ $V_g I_y = + 0,3 pA). = \max. -1,3 V$
Published electrical datum	550 V	$V_{go} + + + \ll \dots = \max. 550 V$ Rep = max. 3 MQ
Published electrical datum	275 V	$a_s = \max. 275 V$ Rep o . . . = max. 20.000 Q
Published electrical datum	550 V	$S0 \dots - . = \max. 550 V$ $V_{ik} o o o v v o o = \max. 100 V1)$
Heater voltage	6.3 V	Nominal heater rating
Heater current	200 mA	Nominal heater rating

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes,
and their source documents.

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