



ELECTRONIC TUBE REFERENCE

85A2

Voltage Regulator electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

VOLTAGEREGULATOR

Cold-cathode gas-discharge stabilizer maintaining approximately 85 V for heaterless reference and regulated-voltage service in electronic and measurement circuits.

GENERAL CHARACTERISTICS

BASE DESIGNATION	Miniature	BASE PINS	7
NOMINAL HEATER	– / –	PARALLEL HEATER	– / –
HEATING	Indirect; cold cathode	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Voltage Regulator	
REGULATOR VOLTAGE	85 V
MINIMUM REGULATOR CURRENT	1 mA
MAXIMUM REGULATOR CURRENT	10 mA
STARTING VOLTAGE	125 V
MAINTAINING VOLTAGE	85 V
DYNAMIC IMPEDANCE	300 Ω
Gas-discharge device.	

The Philips 85A2 is a cold-cathode voltage stabilising or reference tube operating near 85 V.



SOURCE OPERATING CONDITIONS

1953 Amperex

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

1953 AMPEREX

Section 1 · Voltage Regulator

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Operating voltage at 6 mA	83–87 V	—

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
AC resistance at 6 mA	300 ohm	—



SOURCE OPERATING CONDITIONS

1953 RFT Rundfunk Technik

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

1953 RFT RUNDFUNK TECHNIK

Section 1 · Voltage Regulator

CHARACTERISTIC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Nominal maintaining voltage	85 V	—
Lifetime voltage change	0.5 %	—

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current range	1 to 10 mA	—
Nominal current	6 mA	—

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1957 Philips Receiving and Amplifying Tubes

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

1957 PHILIPS RECEIVING AND AMPLIFYING TUBES

Section 1 · Voltage Regulator

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maintaining/Reference Voltage	85 V	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum Current	1 mA	—
Maximum Current	10 mA	—
Ignition Voltage Maximum	125 V	—

SOURCE OPERATING CONDITIONS

1962 Cerberus

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

1962 CERBERUS

Section 1 · Voltage Regulator

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Stabilized voltage	83–87 V	5.5mA
Regulation maximum	4 V	1-10mA
Temperature coefficient	-2.2 mV/C	IA=5.5mA
Initial drift	0.15 %	2min

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Stabilized-voltage change over 20000 h maximum	1 V	—
Service life minimum	30000 h	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Philips Electron Tubes Handbook V2

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

1963 PHILIPS ELECTRON TUBES HANDBOOK V2

Section 1 · Voltage Regulator

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maintaining voltage at 5.5 mA	83–87 V	—
Voltage regulation	—4 V	I _a =1-10mA
Temperature coefficient	-2.7 mV/degC	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 Mullard Gas Filled Tubes

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

1971 MULLARD GAS FILLED TUBES

Section 1 · Voltage Regulator

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Incremental resistance	300 ohm	—

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1999 Philips 0-D

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

1999 PHILIPS 0-D

Section 1 · Voltage Regulator

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maintaining voltage range	83–87 V	Published datasheet value
Maximum regulation	—4 V	1–10 mA
Temperature coefficient	–2.7 mV/°C	Published datasheet value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Recommended operating current	5.5 mA	Published datasheet value

TUBE TINKER

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