

ELECTRONIC TUBE REFERENCE

85A1

Voltage Regulator electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
VOLTAGEREGULATOR

Neon-filled precision reference tube maintaining approximately 85 V over about 1-8 mA, emphasizing stable reference performance rather than high-current regulation.

GENERAL CHARACTERISTICS

BASE DESIGNATION	Loctal	BASE PINS	8
NOMINAL HEATER	– / –	PARALLEL HEATER	– / –
HEATING	Indirect; cold cathode	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Voltage Regulator	
REGULATOR VOLTAGE	85 V
MINIMUM REGULATOR CURRENT	1 mA
MAXIMUM REGULATOR CURRENT	8 mA
STARTING VOLTAGE	125 V
MAINTAINING VOLTAGE	85 V
DYNAMIC IMPEDANCE	290 Ω
Cold-cathode gas-filled Philips voltage stabilizer/reference tube.	

The Mullard 85A1 is a neon-filled two-electrode reference tube designed for very stable maintaining voltage.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1951 Mullard Valve and Service Manual

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

1951 MULLARD VALVE AND SERVICE MANUAL

Section 1 · Voltage Regulator

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Preferred Quiescent Current	4.5 mA	±0.2mA

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Burning Voltage Minimum	83 V	—
Burning Voltage Maximum	86 V	—
Temperature Coefficient	-1.8 mV/degF	—



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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Operating voltage	83–87 V	—
Operating current	1–8 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	8 mA	—
Ignition Voltage Maximum	125 V	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Mullard

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

1963 MULLARD

Section 1 · Voltage Regulator

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum Ignition Voltage	125 V	—
Maximum Burning Current	8 mA	—
Minimum Burning Current	1 mA	—
Preferred Burning Current	4.5 mA	Approximate

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Negative Anode Voltage	75 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maintaining Voltage Minimum	83 V	AtPreferredCurrent
Maintaining Voltage Maximum	86 V	AtPreferredCurrent
Incremental Resistance Average	290 ohm	—
Incremental Resistance Maximum	450 ohm	—


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 4 mA	83–87 V	—
Voltage regulation	—4 V	I _a =1-8mA
Temperature coefficient	-3.2 mV/degC	—


SOURCE DATA APPENDIX

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	81–87 V	Published datasheet value
Maximum dynamic resistance	—430 Ω	Published datasheet value
Maximum regulation	—4 V	1–8 mA
Temperature coefficient	-3.2 mV/°C	Published datasheet value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Recommended quiescent current	4 mA	Published datasheet value