

ELECTRONIC TUBE REFERENCE

83A1

Voltage Regulator electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
VOLTAGEREGULATOR

Miniature precision cold-cathode reference tube providing a highly stable approximately 83.75 V maintaining voltage for instrumentation and reference circuits.

GENERAL CHARACTERISTICS

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

SECTION RATINGS

SECTION1 Voltage Regulator	
MINIMUM REGULATOR CURRENT	3.5 mA
MAXIMUM REGULATOR CURRENT	6 mA
STARTING VOLTAGE	130 V
MAINTAINING VOLTAGE	83.75 V
DYNAMIC IMPEDANCE	350 Ω
Gas-discharge device.	

The Mullard 83A1 is a miniature cold-cathode reference tube intended to provide a highly stable reference voltage.

SOURCE OPERATING CONDITIONS

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 DC Starting Voltage	130 V	—
Maximum Starting Current	10 mA	—
Maximum Cathode Current	6 mA	—
Minimum Cathode Current	3.5 mA	—
Preferred Cathode Current	4.5 mA	—
Maximum Negative Anode Voltage	50 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Operating Voltage Minimum	83 V	AtPreferredCurrent
Operating Voltage Maximum	84.5 V	AtPreferredCurrent
Maximum Incremental Resistance	350 ohm	—
Minimum Incremental Resistance	110 ohm	—
Typical RMS Noise Voltage	100 uV	30Hz-10kHz

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 4.5 mA	82.6–84.1 V	Preferred operating current 4.5mA



SOURCE DATA APPENDIX

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ignition/striking voltage	130 V	—
Minimum cathode current	3.5 mA	—
Maximum cathode current	6 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Incremental resistance	350 ohm	—



SOURCE DATA APPENDIX

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	82.6–84.1 V	Published datasheet value
Voltage jump	—1 mV	Published datasheet value
Noise voltage	—100 μV	30–10000 Hz

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Preferred operating current	4.5 mA	Published datasheet value
Maximum initial current	—10 mA	Published datasheet value
Maximum reverse voltage	—50 V	Published datasheet value

TUBE TINKER

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