



ELECTRONIC TUBE REFERENCE

EL38

Power - TV Horizontal Output (sweep) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

High-power output pentode primarily designed for television line time-base output, providing approximately 25 W plate dissipation and substantial voltage/current swing.

GENERAL CHARACTERISTICS

BASE DESIGNATION	Octal	BASE PINS	8
NOMINAL HEATER	6.3 V / 1.4 A	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Pentode	
PLATE RESISTANCE	20000 Ω
TRANSCONDUCTANCE	0.014 S
AMPLIFICATION FACTOR	16.5
MAXIMUM PLATE VOLTAGE	400 V
MAXIMUM SCREEN VOLTAGE	400 V
MAXIMUM PLATE DISSIPATION	25 W
MAXIMUM SCREEN DISSIPATION	6 W
MAXIMUM CATHODE CURRENT	200 mA
<i>Published source values promoted where applicable; additional values retained as parameters.</i>	

Output pentode primarily intended for television line time-base (horizontal deflection) output service.



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 · Pentode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Service	Line time-base output	—



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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode current	150 mA	LineOutput; design value
Typical anode current	225 mA	LineOutput; average new valve
Peak anode voltage	8 kV	LineOutput



1967 Mullard Receiving Tubes for Maintenance

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

1967 MULLARD RECEIVING TUBES FOR MAINTENANCE

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	275 V	—
Screen-grid voltage	275 V	—
Plate current	91 mA	—
Screen-grid current	11 mA	—
Control-grid voltage	-9 V	—
Transconductance	14 mA/V	—
Plate resistance	20 kOhm	—
Amplification factor grid1-grid2	16.5	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Supply voltage	300 V	LineTimeBase
Plate current	64 mA	LineTimeBase
Screen-grid current	18 mA	LineTimeBase
Peak plate voltage	8000 V	LineTimeBase
Maximum plate voltage	800 V	—
Maximum plate dissipation	25 W	—
Maximum screen-grid voltage	400 V	—
Maximum screen-grid dissipation	8 W	—
Maximum cathode current	200 mA	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	18 pF	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output capacitance	8 pF	—
Anode-control-grid capacitance	1.2 pF	Maximum



SOURCE DATA APPENDIX

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 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Kapezitdten Ca	645 pF	—
CQ8'	1.2 pF	—
Va - 250 €	0 v	—
Vg2 = 250	400 V	—
Vet = -7	-22 v	—
Ia = 100	42 mA	—
s = 14,3	7 ma/V	—
Vg1 (Ig1 = + [1]	0.3 pa	—
Vg1 (Ig1 = + [2]	1.3 V	—
Rgy (Wg	< 9 W	—
Rgt1 (Wa	> 9 W	—
Vit max.,	100 V	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
max	800 V	—
Va P maxe	4 kV	—
Vg max	25 W	—
Vg2 max	400 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Wgz max	8 w	—
Ix max	200 mA	—

TUBE TINKER

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and their source documents.

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