

ELECTRONIC TUBE REFERENCE

Z804U

Specialized - Switching Tube electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
THYRATRON

Cold-cathode negative-trigger tube for relay and switching operation from AC or DC supplies. Heaterless gas discharge provides abrupt electronic control.

GENERAL CHARACTERISTICS

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

SECTION RATINGS

SECTION 1 Thyratron	
MAXIMUM PLATE VOLTAGE	350 V
MAXIMUM CATHODE CURRENT	25 mA
MINIMUM REGULATOR CURRENT	5 mA
MAXIMUM REGULATOR CURRENT	40 mA
STARTING VOLTAGE	131 V
MAINTAINING VOLTAGE	110.5 V
Gas-filled cold-cathode relay tube with negative starter voltage.	

The Z804U is a cold-cathode trigger tube intended primarily for relay and switching service. It is negatively triggered and can operate directly from mains-frequency AC supplies or from DC supplies within its published limits.



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 · Thyatron

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
StarterIgnitionVoltageMinimum	-131 V	AnodeVoltage=180-350V
StarterIgnitionVoltageMaximum	-115 V	AnodeVoltage=180-350V
MaintainingVoltageMinimum	106 V	AnodeCurrent=20mA
MaintainingVoltageMaximum	115 V	AnodeCurrent=20mA



SOURCE OPERATING CONDITIONS

1963 Amperex Condensed

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

1963 AMPEREX CONDENSED

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage range	180–350 V	DC
Peak cathode current	125 mA	—
Cathode current range	5–40 mA	DC
Anode voltage range AC	180–275 V	AC
Cathode current range AC	5–25 mA	AC

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Starter-to-cathode breakdown voltage	-131--115 V	—
Anode-to-cathode sustaining voltage	106–115 V	—
Anode-to-cathode breakdown voltage	>400 V	—



SOURCE DATA APPENDIX

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 · Thyatron

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Trigger ignition voltage range	-115 to -131 V	NegativeTrigger
Anode maintaining voltage range at 20 mA	106 to 115 V	—
Transfer current typical at 210 V	10 uA	—
Trigger ignition voltage variation over life maximum	5 V	—
Anode maintaining voltage variation over life maximum	3 V	—
Trigger potential after ignition approximate	20 V	—
Trigger ignition hysteresis typical	3 V	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Positive trigger current maximum	400 uA	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Negative trigger current maximum	400 μ A	—
AC mains voltage maximum RMS	275 V	AC
AC mains voltage minimum RMS	180 V	AC
AC supply frequency maximum	100 Hz	AC
AC supply frequency minimum	10 Hz	AC
Mean anode current maximum	25 mA	AC
Mean anode current minimum	5 mA	AC
Peak anode current maximum	125 mA	AC,Pulse
DC supply voltage maximum	350 V	DC
DC supply voltage minimum	210 V	DC
DC anode current maximum	40 mA	DC
DC anode current minimum	5 mA	DC
Trigger ignition voltage typical	-120 V	NegativeTrigger
Cathode connection resistor	2 Mohm	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Relay / switching control	—



TUBE TINKER
ELECTRON TUBE DATABASE

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 · Thyatron

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Starter breakdown voltage	-131--115 V	AnodeSupply=180-350V DC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode maintaining voltage at 20 mA	106–115 V	—
Starter maintaining voltage at 100 uA	100 V	—
Starter breakdown drift	—5 V	Maximum

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Nominal AC mains voltage minimum	200— V RMS	—
Minimum cathode current	5— mA	—
Maximum cathode current	—40 mA	—


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 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Starter ignition voltage	-123 V	—
Maintaining voltage	110 V	Ik=20mA
Anode ignition voltage	400 V	—

TUBE TINKER

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