



ELECTRONIC TUBE REFERENCE

313A

Voltage Regulator electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

VOLTAGEREGULATOR

Western Electric double-gap cold-cathode gas-filled tube for relay, rectifier, and voltage-regulator functions, combining heaterless switching, control, and rectifying behavior.

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 Voltage Regulator	
MAXIMUM CATHODE CURRENT	30 mA
STARTING VOLTAGE	70 V
MAINTAINING VOLTAGE	60 V
<i>Promoted fields audited from printed ratings/characteristics; remaining published values preserved as parameters.</i>	

Double-gap cold-cathode gas-filled relay, rectifier, and voltage-regulator tube.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

2026 Western Electric 300s

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

2026 WESTERN ELECTRIC 300S

Section 1 · Voltage Regulator

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak control-electrode current	30 milliamperes	Maximum peak control-electrode current 30 milliamperes
Maximum peak reverse current in main gap	5 milliamperes	Maximum peak reverse current in main gap 5 milliamperes
Transfer current	5 microamperes	Transfer current 5 microamperes (max.)

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Nominal control gap breakdown voltage	70 volt	Nominal control gap breakdown voltage 70 volts
Nominal control gap sustaining voltage	60 volt	Nominal control gap sustaining voltage 60 volts
Nominal main gap breakdown voltage	175 volt	Nominal main gap breakdown voltage 175 volts
Nominal main gap sustaining voltage	75 volt	Nominal main gap sustaining voltage 75 volts
rectifier. The current voltage characteristics of the main gap of a typical	313 volt	rectifier. The current voltage characteristics of the main gap of a typical 313A tube in both forward
a	60 volt	a 60 cycle sine wave main gap voltage if the load is inductive or if the peak voltage is near the
the control gap and on the main gap voltage. For a control gap current of	10 volt	the control gap and on the main gap voltage. For a control gap current of 10 microamperes the
Circuit A shows a circuit using the control gap of the	313 volt	Circuit A shows a circuit using the control gap of the 313A as a voltage regulator.
Circuit B shows a circuit using the	313 volt	Circuit B shows a circuit using the 313A as a relay. The anode voltage should be intermediate

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
the main gap breakdown voltage. It is important to note that as a rectifier the	313 volt	the main gap breakdown voltage. It is important to note that as a rectifier the 313A tube possesses

TUBE TINKER

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