

ELECTRONIC TUBE REFERENCE

451A

Specialized - Switching Tube electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
RELAYCONTROL SWITCH

Four-electrode inert-gas-filled cold-cathode relay tube with isolated starter and main gaps, providing controlled gas-discharge switching with isolation between control and load circuits.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	— / —	PARALLEL HEATER	— / —
HEATING	Indirect; cold cathode	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 RelayControlSwitch	
MAXIMUM CATHODE CURRENT	50 mA
Main anode-cathode gap plus starter anode-starter cathode gap; peak main cathode current 50 mA, average 20 mA.	

The 451A is a four-electrode inert-gas-filled cold-cathode relay tube with an anode-cathode gap and a starter anode-starter cathode gap, providing isolation between control and controlled portions of a circuit.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

2026 Western Electric 400s

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

2026 WESTERN ELECTRIC 400S

Section 1 · RelayControlSwitch

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Anode Voltage Forward or Inverse	—180 V	—
Peak Cathode Voltage to Other Electrodes	—180 V	—
Average Main Cathode Current	—20 mA	2-second averaging
Peak Starter Cathode Current	—7 mA	—
Average Starter Cathode Current	—2.5 mA	2-second averaging

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Starter Breakdown Voltage	67–90 V	—
Starter Voltage Drop at 2.5 mA	55–75 V	—
Anode Voltage Drop at 10 mA	58–80 V	—
Ionization Time Starter Gap	5 ms	Approximate
Deionization Time Main Gap	1 ms	Approximate