Diode—Sharp-Cutoff Pentode

With Heater Having Controlled Warm-Up Time

GENERAL DATA

Electrical:

Heater Characteristics and Ratings *(Design-Maximum Values):*

Voltage (AC or DC). . . . . 6.3* 6.3 ± 0.6 volts
Current . . . . . . . . . . 0.450 ± 0.030 0.450* amp
Warm-up time (Average). . 11 - sec
Peak heater-cathode
voltage (Each unit):
Heater negative with respect to cathode. . 200* max. volts
Heater positive with respect to cathode. . 200* max. volts

Direct Interelectrode Capacitances:

Diode Unit:
Plate to cathode and heater. . . . . 2.4 µµµf
Cathode to plate and heater. . . . . 3.0 µµµf

Pentode Unit:
Grid No.1 to plate . . . . . . . . . . 0.015 max. µµµf
Grid No.1 to cathode, grid No.3 & internal shield, grid No.2,
and heater . . . . . . . . . . . . . 7.0 µµµf
Plate to cathode, grid No.3 & internal shield, grid No.2,
and heater . . . . . . . . . . . . . 3.2 µµµf
Diode plate to pentode grid No.1 . . . 0.005 max. µµµf
Diode cathode to pentode plate . . . 0.15 max. µµµf
Diode plate to pentode plate . . . 0.035 max. µµµf

Characteristics, Class A1 Amplifier:

Plate Supply Voltage . . . . . . . 125 volts
Grid No.3. . . . . . . . . . . . . . . . . Connected to cathode at socket
Grid-No.2 Supply Voltage . . . . 125 volts
Cathode-Resistor . . . . . . . . . . 56 ohms
Plate Resistance (Approx.) . . . 0.2 megohm
Transconductance . . . . . . . . 9300 µhmos
Plate Current. . . . . . . . . . . . 11.5 ma
Grid-No.2 Current. . . . . . . . . 3.6 ma
Grid-No.1 Voltage (Approx.) for
plate µa = 20. . . . . . . . . . . . . -6 volts
Grid-No.1 Voltage (Approx.) for
plate ma. = 2, and cathode
resistor (ohms) = 0. . . . . . . . . -3 volts

Mechanical:

Operating Position . . . . . . . . . . . . . . Any
Type of Cathodes . . . . . . . . . . . . Coated Unipotential
Maximum Overall Length . . . . . . 2-3/16"
Maximum Seated Length . . . . . . . . 1-15/16"
Length, Base Seat to Bulb Top (Excluding tip). . 1-9/16" ± 3/32"
Diameter: 0.750" to 0.875"
Dimensional Outline: See General Section
Bulb: T6-1/2
Base: Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW: 9CY

Pin 1 - Pentode
Cathode
Pin 2 - Pentode
Grid No.1
Pin 3 - Pentode
Grid No.2
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Pentode Plate
Pin 7 - Diode
Cathode
Pin 8 - Diode
Plate
Pin 9 - Pentode
Grid No.3,
Internal
Shield

PENTODE UNIT — Class A1 Amplifier

Maximum Ratings, Design-Maximum Values:
PLATE VOLTAGE ...................... 330 max. volts
GRID No.3 (SUPPRESSOR GRID) ... Connect to cathode at socket
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE ... 330 max. volts
GRID-No.2 VOLTAGE .............. See Grid-No.2 Input Rating Chart at front of Receiving Tube Section
GRID-No.1 (CONTROL-GRID) VOLTAGE:
Positive-bias value .............. 0 max. volts
GRID-No.2 INPUT:
For grid-No.2 voltages up to 165 volts .. 0.55 max. watt
For grid-No.2 voltages between 165 and 330 volts .. See Grid-No.2 Input Rating Chart at front of Receiving Tube Section
PLATE DISSIPATION ............. 3.2 max. watts

Maximum Circuit Values:
Grid-No.1-Circuit Resistance:
For fixed-bias operation ........ 0.25 max. megohm
For cathode-bias operation ....... 1 max. megohm

DIODE UNIT

Maximum Ratings, Design-Maximum Values:
DC PLATE CURRENT ..................... 5 max. ma

Characteristics, Instantaneous Value:
Plate Current for plate volts = 10. ........ 50 ma

a At heater amperes = 0.450.
b At heater volts = 6.3.
c The dc component must not exceed 100 volts.
d Without external shield.