8ET7

Twin Diode—
Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

With Heater Having Controlled Warm-Up Time

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:			
Voltage (AC or DC)	8		volts
Current	0.6	± 6%	amp
Warm-up time (Average)	11		sec
Direct Interelectrode Capacitances:[a]			
Diode Units:			
Either plate to cathode & internal shield, pentode grid No.3 & pentode cathode & pentode internal shield, and heater	1.5		μμf
Cathode & internal shield to either plate, pentode grid No.3 & pentode cathode & pentode internal shield, and heater	7.5		μμf
Pentode Unit:			
Grid No.1 to plate	0.1	max.	μμf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, diode-units cathode & diode-units internal shield, and heater	10		μμf
Plate to cathode & grid No.3 & internal shield, grid No.2, diode-units cathode & diode-units internal shield, and heater	4.2		μμf
Pentode grid No.1 to either diode plate	0.005	max.	μμf
Pentode plate to either diode plate	0.02	max.	μμf

Characteristics, Class A_1 Amplifier (Pentode Unit):

Plate Supply Voltage	60	200	volts
Grid-No.2 Supply Voltage	150	150	volts
Grid-No.1 Voltage	0	–	volts
Cathode Resistor	–	100	ohms
Plate Resistance (Approx.)	–	60000	ohms
Transconductance	–	11500	μmhos
Plate Current	55[b]	25	ma
Grid-No.2 Current	18[b]	5.5	ma
Grid-No.1 Voltage (Approx.) for plate μa = 100	–	-10	volts

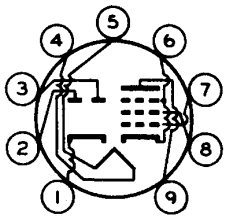
Mechanical:

Operating Position	Any
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip)	2" ± 3/32"
Diameter	0.750" to 0.875"

8ET7

Dimensional Outline. . . . . .See *General Section*
Bulb T6-1/2
Base . . . . . Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW 9LT

Pin 1 - Diode-Units Cathode, Internal Shield
Pin 2 - Diode Plate No.2
Pin 3 - Diode Plate No.1
Pin 4 - Heater
Pin 5 - Heater



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

PENTODE — AMPLIFIER — Class A_1

Maximum Ratings, *Design-Maximum Values:*

PLATE VOLTAGE.	330	max.	volts
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 .	1.1	max.	watts
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.	5	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.	200	max.	volts
Heater positive with respect to cathode.	200[c]	max.	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.1	max.	megohm
For cathode-bias operation	0.25	max.	megohm

DIODE UNITS — Two

Values are for Each Unit

Maximum Ratings, *Design-Maximum Values:*

DC PLATE CURRENT	3	max.	ma
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.	200	max.	volts
Heater positive with respect to cathode.	200[c]	max.	volts

Characteristics, Instantaneous Test Condition:

Plate Current for plate volts = 10	1.5	ma

[a] Without external shield.
[b] This value can be measured by a method involving a recurrent wave form such that the maximum ratings of the tube will not be exceeded.
[c] The dc component must not exceed 100 volts.