6678/6U8-A
MEDIUM-MU TRIODE—SHARP-CUTOFF PENTODE

9-PIN MINIATURE TYPE

For use in mobile communications equipment

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage	6.3 ± 20%*	ac or dc volts
Current at 6.3 volts	0.45	amp

Direct Interelectrode Capacitances:

	Without External Shield	*With External Shield*[0]	
Triode Unit:			
Grid to plate	1.8	1.8	μμf
Grid to cathode and heater	2.5	2.5	μμf
Plate to cathode and heater	0.4	1	μμf
Pentode Unit:			
Grid No.1 to plate	0.01 max.	0.006 max.	μμf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater	5	5	μμf
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater	2.6	3.5	μμf
Heater to cathode (Each unit)	3	3●	μμf

Characteristics, Class A_1 Amplifier:

With heater voltage of 6.3 volts

	Triode Unit	*Pentode Unit*	
Plate Supply Voltage	150	250	volts
Grid-No.2 (Screen-grid) Supply Voltage	–	110	volts
Cathode Resistor	56	68	ohms
Amplification Factor	40	–	
Plate Resistance (Approx.)	5000	400000	ohms
Transconductance	8500	5200	μmhos
Plate Current	18	10	ma
Grid-No.2 Current	–	3.5	ma
Grid-No.1 Voltage (Approx.) for plate μa = 10	−12	−10	volts

Mechanical:

Operating Position	Any
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"

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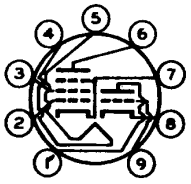
Dimensional Outline. . . . . *See General Section*
Bulb T6-1/2
Base . . . . . Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW 9AE

Pin 1- Triode Plate
Pin 2- Pentode Grid No.1
Pin 3- Pentode Grid No.2
Pin 4- Heater
Pin 5- Heater
Pin 6- Pentode Plate



Pin 7- Pentode Cathode, Pentode Grid No.3, Internal Shield
Pin 8- Triode Cathode
Pin 9- Triode Grid

CONVERTER SERVICE

Maximum Ratings, *Design-Maximum Values:*

	Triode Unit as Osc.	*Pentode Unit as Mixer*	
PLATE VOLTAGE.	330 max.	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.	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 max.	3 max.	watts
PEAK HEATER-CATHODE VOLTAGE: Heater negative with respect to cathode . . .	200 max.	200 max.	volts
Heater positive with respect to cathode . . .	200▲ max.	200▲ max.	volts

* When the heater is operated from storage-battery-with-charger supply or similar supplies, the normal battery-voltage fluctuation may be as much as 35 per cent or more. Although such variation in heater voltage is permissible for short periods, reliability can be increased with improved supply-voltage regulation.

° With external shield JEDEC No.316 connected to cathode of unit under test except as noted.

● With external shield JEDEC No.315 connected to ground.

▲ The dc component must not exceed 100 volts.

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SPECIAL RATINGS & PERFORMANCE DATA

Heater-Cycling Life Performance:

This test is performed on a sample lot of tubes from each production run. A minimum of 2000 cycles of intermittent operation is applied under the following conditions: heater volts = 7.5 cycled one minute on and one minute off, heater 135 volts positive with respect to cathode, and all other elements connected to ground. At the end of this test, tubes are checked for heater-cathode shorts and open circuits.

Transconductance at Reduced Heater Voltage:

Triode Unit:

Average value. . . . . 6800 μmhos

With heater volts = 5, plate supply volts = 150, and cathode resistor (ohms) bypassed = 56.

Pentode Unit:

Average value. . . . . 4100 μmhos

With heater volts = 5, plate supply volts = 250, grid-No. 2 supply volts = 110, and cathode resistor (ohms) bypassed = 68.

ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY