

RADIO MANUFACTURERS ASSOCIATION

ENGINEERING DEPARTMENT



TYPE 6AK7

AMPLIFIER PENTODE

Registration No. 363

February 10, 1944

Physical Specifications

Coated Unipotential Cathode

Base

Bulb

Maximum Diameter

Maximum Overall Length

Maximum Seated Height

Pin Connections

Pin 1 - Shell, Grid #3

Pin 2 - Heater

Pin 3 - Interlead Shield

Pin 4 - Grid #1

Special small Wafer Octal 8-pin,
MT-8 Phenolic

1 5/16"

3 1/4"

2 11/16"

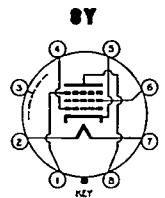
RMA Basing No. 8Y-1-3

Pin 5 - Cathode

Pin 6 - Grid #2

Pin 7 - Heater

Pin 8 - Plate



Mounting Position

Vertical ♦

♦ Horizontal operation permitted if plane of pins #2 & #7 is vertical

Direct Interelectrode Capacitances (Shell connected to Cathode)

Grid to Plate

0.060 Max. uuf

Input: G1 to (F+K+G2+G3 & Shell)

13.0 uuf

Output: P to (F+K+G2+G3 & Shell)

7.5 uuf

Ratings

Heater Voltage (ac or dc)

6.3 volts

Heater Current

0.650 ampere

Maximum Plate Voltage

300 volts

Maximum Screen Voltage

300 volts

Maximum Plate Dissipation

9.0 watts

Maximum Screen Dissipation

1.5 watts

Minimum External Control Grid Bias Voltage

0 volts

Typical Operating Conditions and Characteristics - Amplifier Class A1

Heater Voltage

6.3 volts

Plate Voltage

300 volts

Screen Voltage

150 volts

Control Grid Voltage*

3.0 volts

Peak A-F Grid Signal Voltage

3.0 volts

Plate Resistance

0.13 megohm

Transconductance

11000 umhos

Zero Signal Plate Current

30 ma

Zero Signal Screen Current

7 ma

Maximum Signal Screen Current

30.5 ma

Maximum Signal Screen Current

9 ma

Load Resistance

10000 ohms

Power Output

3.0 watts

%Total Distortion

7 %

*The dc resistance in the grid circuit under maximum rated conditions should not exceed 1 megohm for self-bias for operation and .25 megohm for fixed - bias operation.

NOTE: The sponsor proposes to mark the tube type here described "6AK7/6AG7".

Typical Performance in 4 MC Bandwidth Amplifier - Class A1

Grid-Leak Bias (DC restoration in Grid Circuit)

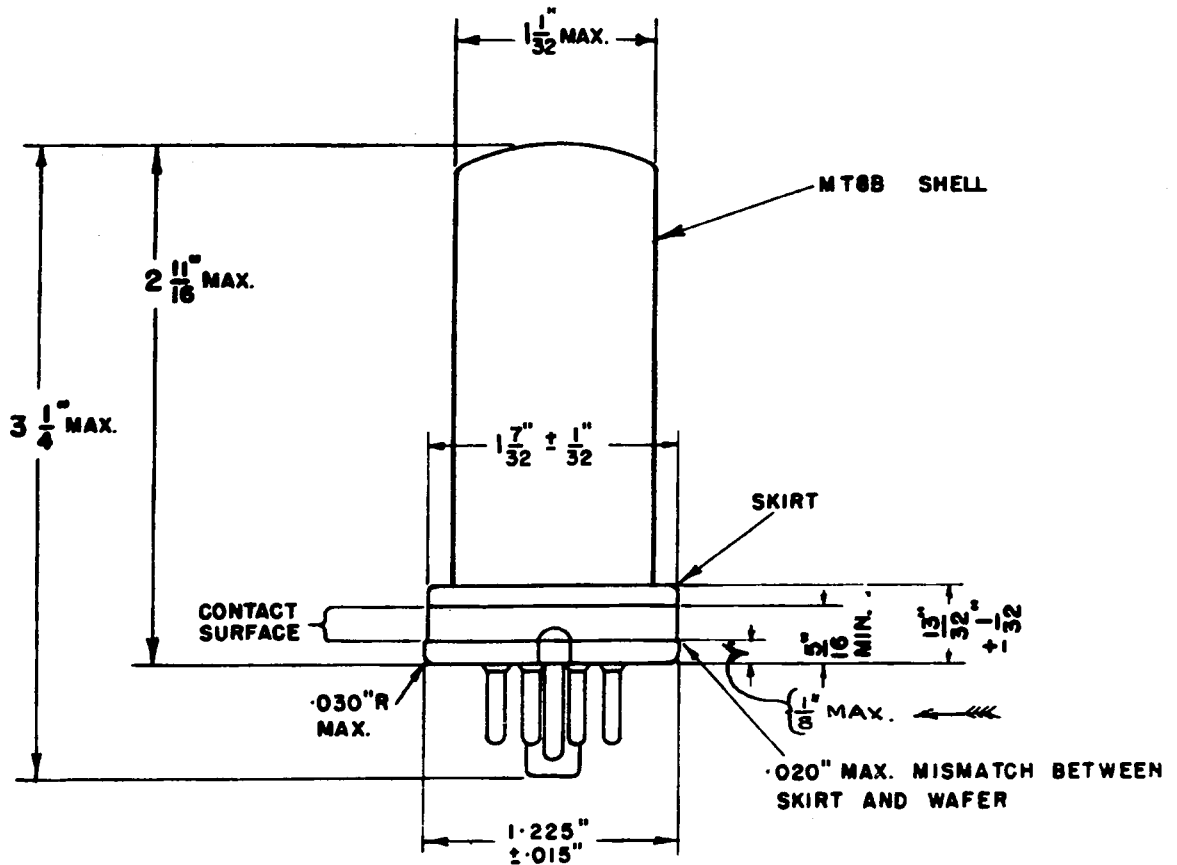
Heater Voltage (Maximum Deviation $\pm 10\%$)	6.3	volts
Plate Supply Voltage	300	volts
Screen Voltage (Good Regulation Necessary)	115	volts
Zero-Signal Grid Voltage	0	volts
Grid Resistor	0.25 to 0.50	megohm
Interlead Shield (Pin #3) connected to Ground		
Signal Voltage (Peak to Peak)	4	volts
Zero-Signal Plate Current	45	ma
Zero-Signal Screen Current	13	ma
Load Resistor	3500	ohms
Voltage Output (Peak to Peak)	135	volts

Cathode Bias

Heater Voltage (Maximum Deviation $\pm 10\%$)	6.3	volts
Plate Supply Voltage	300	volts
Screen Supply Voltage	300	volts
Screen Voltage	125	volts
Series Screen Dropping Resistor	25,000	ohms
Grid Voltage	-2	volts
Cathode Resistor (By-passed 250 uf)	57	ohms
Interlead Shield (Pin #3) connected to Ground		
Signal Voltage (Peak to Peak)	4	volts
Zero-Signal Plate Current	28	ma
Zero-Signal Screen Current	7	ma
Load Resistor	3500	ohms
Voltage Output (Peak to Peak)	140	volts

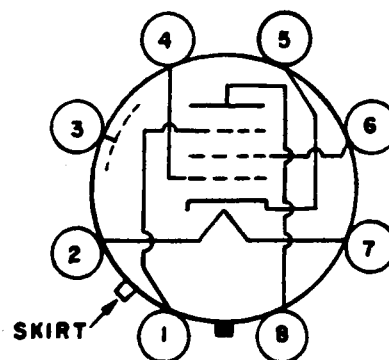
October 20, 1944

RMA TYPE 6AK7



- PIN 1 - SHELL & GRID NO.3
- PIN 2 - HEATER
- PIN 3 - INTER LEAD SHIELD
- PIN 4 - GRID NO.1
- PIN 5 - CATHODE
- PIN 6 - GRID NO.2
- PIN 7 - HEATER
- PIN 8 - PLATE
- SKIRT SIDE - RF GROUND

OTHER BASE DIMENSIONS SAME
AS SMALL WAFER OCTAL - 8 PIN



BOTTOM VIEW