



Excellence in Electronics

PENTODE

**TYPE
1AE4**

The 1AE4 is a filament type sharp cut-off pentode of miniature construction designed for RF applications in portable equipment.

MECHANICAL DATA

ENVELOPE: T-5½ Glass

BASE: Miniature Button 7-Pin

TERMINAL CONNECTIONS:

- Pin 1 Negative Filament and Grid #3
- Pin 2 Plate
- Pin 3 Grid #2

- Pin 4 No Connection
- Pin 5 Negative Filament, Grid #3
- Pin 6 Grid #1
- Pin 7 Positive Filament

MOUNTING POSITION: Any

ELECTRICAL DATA

DIRECT INTERELECTRODE CAPACITANCES: ($\mu\text{pfd.}$) *

Grid #1 to Plate	0.008 max.
Input	3.6
Output	4.4

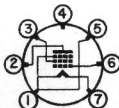
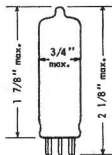
DESIGN CENTER MAXIMUM RATINGS:

Filament Voltage (dc)	1.25 ± 15% volts
Plate Voltage	90 volts
Grid #2 Voltage	90 volts
Grid #1 Voltage	90 volts
Negative - Bias Value	50 volts
Positive - Bias Value	0 volts
Total Cathode Current	11 ma.

CHARACTERISTICS AND TYPICAL OPERATION - CLASS A1 AMPLIFIER:

Filament Voltage (dc)	1.25 ± 15% volts
Filament Current	0.1 amps.
Plate Voltage	90 volts
Grid #2 Voltage	90 volts
Grid #1 Voltage	0 volts
Plate Resistance	0.5 meg.
Transconductance	1550 μmhos
Plate Current	3.5 ma.
Grid #2 Current	1.2 ma.
Grid #1 Voltage (approx. for $I_b = 50 \mu\text{a.}$)	-5 volts

* With external Shield #316.



BOTTOM VIEW

6AR

Tentative Date

RAYTHEON MANUFACTURING COMPANY

RECEIVING AND CATHODE RAY TUBE OPERATIONS

LIMITES MAXIMALES D'UTILISATION

Système des limites absolues

Tension filament	Vf	1,50 V max 1,00 V min
Tension d'anode	Va	100 V max
Tension de grille n° 2	Vg ₂	100 V max
Tension de grille n° 1		
Valeur positive	Vg ₁	0 V max
Valeur négative	-Vg ₁	50 V max
Courant moyen de cathode	Ik	11 mA max

CARACTERISTIQUES NOMINALES

Tension d'anode	Va	90 V
Tension de grille n° 2	Vg ₂	90 V
Tension de grille n° 1	Vg ₁	0 V
Courant d'anode	Ia	3,5 mA
Courant de grille n° 2	Ig ₂	1 mA
Pente.....	S	1,55 mA/V
Résistance interne	ρ	0,5 M Ω
Tension de grille n° 1 pour un courant d'anode de 50 μ A.....	Vg ₁ bl	- 5 V

CARACTERISTIQUES GENERALES

Cathode à chauffage direct

Alimentation du filament en parallèle

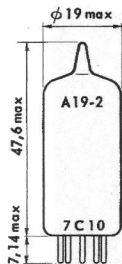
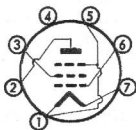
Tension filament	Vf	1,25 V
Courant filament	If	100 mA
Ampoule		A 19-2
Embase		7 C 10 (7 broches)
Position de montage		quelconque

Capacités interélectrodes (avec blindage externe)

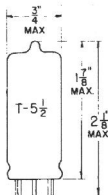
Capacité grille/ anode	Ca/ g	8 mpF max
Capacité d'entrée	Ce	3,6 pF
Capacité de sortie	Cs	4,4 pF

BROCHAGE ET ENCOMBREMENT

Broche n° 1	- Filament, grille n° 3
Broche n° 2	Anode
Broche n° 3	Grille n° 2
Broche n° 4	Non connectée
Broche n° 5	- Filament, grille n° 3
Broche n° 6	Grille n° 1
Broche n° 7	+ Filament



TUNG-SOL

PENTODE
MINIATURE TYPE

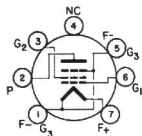
GLASS BULB

MINIATURE BUTTON
7 PIN BASE ET-1
OUTLINE DRAWING
JEDEC 5-2

FILAMENT

1.25±0.19 VOLTS 0.1 AMP.

ANY MOUNTING POSITION



BOTTOM VIEW

BASING DIAGRAM
JEDEC 6AR

THE 1AE4 IS A FILAMENT TYPE SHARP CUT-OFF PENTODE IN THE 7 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR RF APPLICATIONS IN PORTABLE EQUIPMENT.

DIRECT INTERELECTRODE CAPACITANCES

WITH EXTERNAL SHIELD #313

GRID #1 TO PLATE (MAX.)	0.008	pf
INPUT	3.6	pf
OUTPUT	4.4	pf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

FILAMENT VOLTAGE (DC)	1.25±0.19	VOLTS
MAXIMUM PLATE VOLTAGE	90	VOLTS
MAXIMUM GRID #2 VOLTAGE	90	VOLTS
MAXIMUM GRID #1 VOLTAGE		
NEGATIVE-BIAS VALUE	50	VOLTS
POSITIVE-BIAS VALUE	0	VOLTS
MAXIMUM TOTAL CATHODE CURRENT	11	MA.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A₁ AMPLIFIER

PLATE VOLTAGE	90	VOLTS
GRID #2 VOLTAGE	90	VOLTS
GRID #1 VOLTAGE	0	VOLTS
PLATE RESISTANCE	0.5	MEG OHM
TRANSCONDUCTANCE	1550	μMHOS
PLATE CURRENT	3.5	MA.
GRID #2 CURRENT	1.2	MA.
GRID #1 VOLTAGE (APPROX. FOR I _b = 50 μA)	-5	VOLTS