

# HITACHI

## 6KN8 · 4KN8

### TWIN TRIODE

#### for VHF cascode amplifier application

The Hitachi 6KN8 and 4KN8 are miniature, medium-mu twin triode designed for use as a cascode connected VHF amplifier of television tuners. As 6KN8 and 4KN8 have considerably high transconductance and low interelectrode capacitance with their special frame grid structure, these tubes enable the television tuner to have high gain and low noise characteristics.

The Hitachi 6KN8 and 4KN8 are newly registered JEDEC type name and have been famous by the name of Hitachi 6R-HH8 and 4R-HH8.

#### ELECTRICAL DATA

Cathode ..... Coated Unipotential

Heater ;

	4KN8	6KN8
Heater Voltage .....	4.2	6.3 Volts
Heater Current .....	0.6	0.4 Amperes
Heater Warm up Time .....	11	- Seconds

Maximum Heater-Cathode Voltage

Heater Negative with Respect to Cathode		
DC Component .....	220	220 Volts
Total DC and Peak .....	220	220 Volts
Heater Positive with Respect to Cathode		
DC Component .....	110	110 Volts
Total DC and Peak .....	220	220 Volts

Direct Interelectrode Capacitance (with external shield)

	Unit No. 1	Unit No. 2
Grid to Plate .....	1.7	1.7 $\mu\text{f}$
Input : grounded cathode .....	3.6	- $\mu\text{f}$
grounded grid .....	-	6.0 $\mu\text{f}$
Output : grounded cathode .....	2.4	- $\mu\text{f}$
grounded grid .....	-	3.6 $\mu\text{f}$
Plate to Cathode .....	0.17	0.17 $\mu\text{f}$
Heater to Cathode .....	2.5	2.5 $\mu\text{f}$
Plate to Plate, max. ....	0.015	$\mu\text{f}$

**MAXIMUM RATINGS** (Absolute Maximum System, A-class Amplifier)

Plate Voltage*	220 Volts
Plate Dissipation	2.2 Watts
DC Cathode Current	22 Milliamperes
Fixed Bias Grid Circuit Resistance	1 Megohms

**TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS**

Class A<sub>1</sub> Amplifier (each unit)

Plate Voltage	110 Volts
Grid Voltage	-1 Volts
Amplification Factor	45
Plate Resistance (approx.)	2,800 Ohms
Transconductance	16,000 Micromhos
Plate Current	16 Milliamperes
Grid Voltage, approximately for G <sub>m</sub> = 50 Micromhos	-5 Volts

Cascode Amplifier

Plate Supply Voltage	220 Volts
Grid Supply Voltage	0 Volts
Grid Circuit Resistance	1 Megohms
Plate Current	17 Milliamperes
Transconductance	16,500 Micromhos

Note\*: When the tube is used as a cascode amplifier and the two sections are connected in series, this voltage may be as high as 330 Volts maximum under cutoff condition.

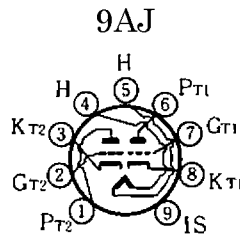
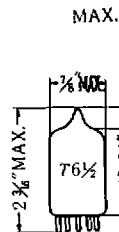


PLATE CHARACTERISTICS (1)  
(each section)

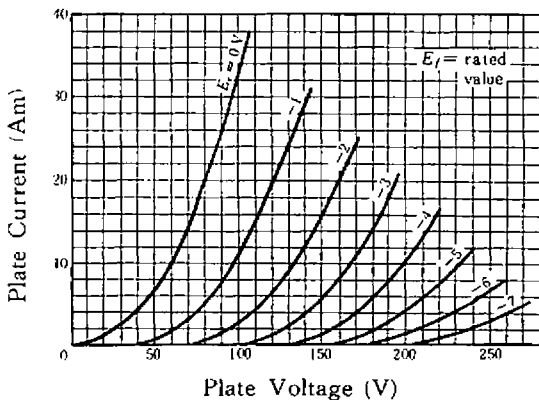
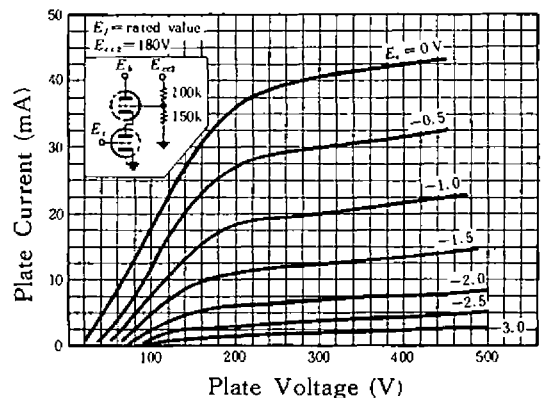
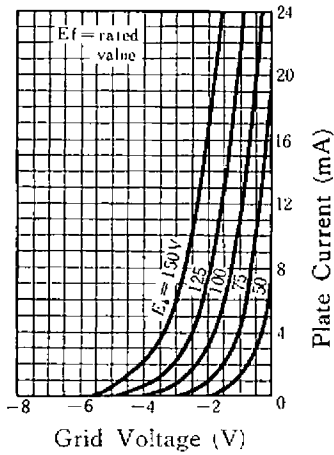


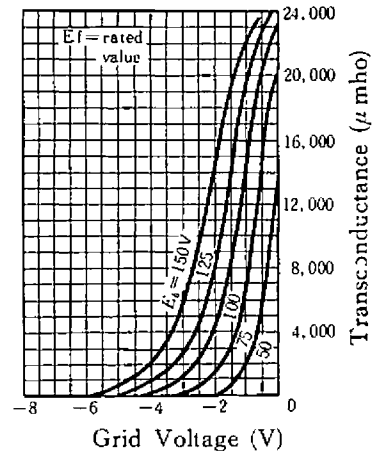
PLATE CHARACTERISTICS (2)  
(cascode connection)



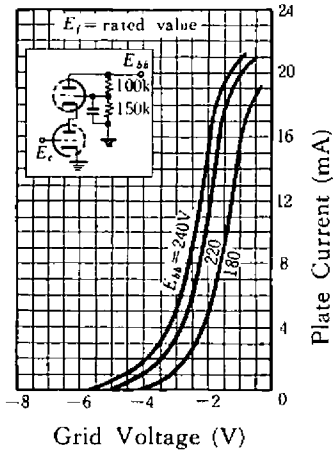
GRID CHARACTERISTICS (1)  
(each section)



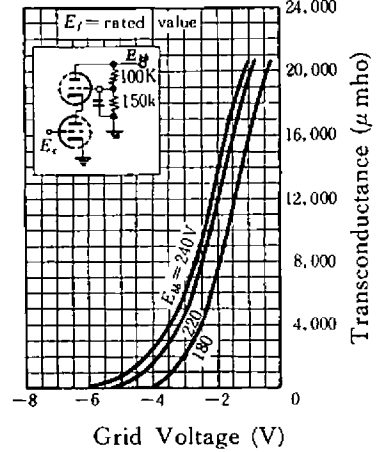
GRID CHARACTERISTICS (2)  
(each section)



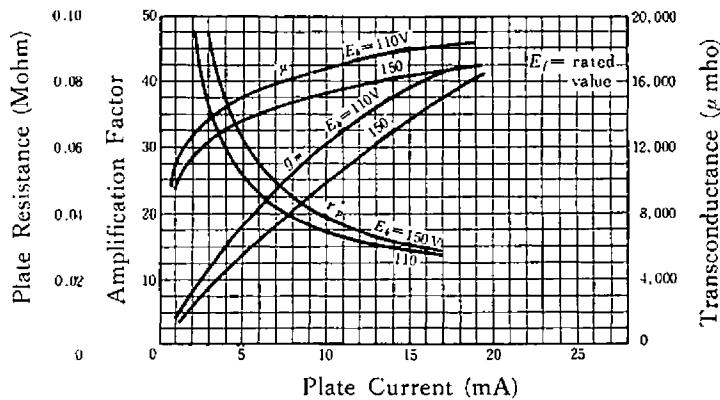
GRID CHARACTERISTICS (3)  
(cascode connection)



GRID CHARACTERISTICS (4)  
(cascode connection)



AVERAGE CHARACTERISTICS  
(each section)



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