

Heater Arrangement:	Series	Parallel	
Heater Voltage (ac/dc)	12.6 $\pm 20\%$	6.3 $\pm 20\%$	volts
Heater Current	0.15	0.3	ampere
Peak Heater-Cathode Voltage		± 100 max.	volts
Direct Interelectrode Capacitances (Approx.):			
Grid-Drive Operation:			
Grid to Plate (Each unit)		1.5	pF
Grid to Cathode and Heater (Each unit)		2.2	pF
Plate to Cathode and Heater:			
Unit No.1		0.5	pF
Unit No.2		0.4	pF
Cathode-Drive Operation:			
Cathode to Plate (Each unit)		0.2	pF
Cathode to Grid and Heater (Each unit)		4.6	pF
Plate to Grid and Heater (Each unit)		1.8	pF
Heater to Cathode (Each unit)		2.4	pF

Class A₁ Amplifier (Each Unit)

MAXIMUM RATINGS (Design-Maximum Values)

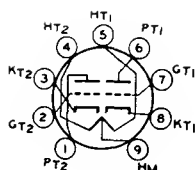
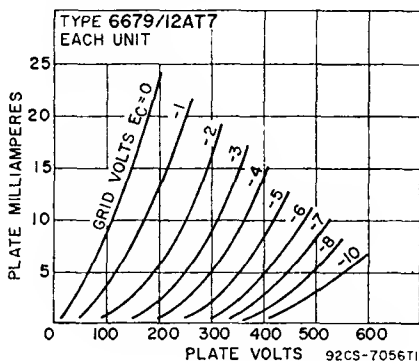
Plate Voltage	330	volts
Grid Voltage:		
Negative bias value	55	volts
Positive bias value	0	volt
Plate Dissipation	2.8	watts

CHARACTERISTICS

Plate Supply Voltage	250	volts
Cathode-Bias Resistor	200	ohms
Amplification Factor	60	
Plate Resistance (Approx.)	10900	ohms
Transconductance	5500	μ mhos
Grid Voltage (Approx.) for plate current of 10 μ A	-12	volts
Plate Current	10	mA

TRANSCONDUCTANCE AT REDUCED HEATER VOLTAGE

Average Value (Each unit)	4400	μ mhos
With heater volts = 10 (Series connection), plate supply volts = 250, and cathode resistor (ohms) bypassed = 200.		



9A

MEDIUM-MU TWIN TRIODE

**6680/
12AU7A**
INDUSTRIAL
TYPE

Miniature type used as a phase inverter or push-pull amplifier in mobile communications equipment. Outlines section, 6B; requires miniature 9-contact socket. For typical operation as a resistance-coupled amplifier, refer to Resistance-Coupled Amplifier section, type 12AU7A conditions.

Heater Arrangement		Series	Parallel	
Heater Voltage (ac/dc)		12.6 $\pm 20\%$	6.3 $\pm 20\%$	volts
Heater Current		0.15	0.3	ampere
Heater-Cathode Voltage:				
Peak value			± 200 max.	volts
Average value			100 max.	volts
Direct Interelectrode Capacitances (Approx.):		Unit No. 1	Unit No. 2	
Grid to Plate		1.5	1.5	pF
Grid to Cathode and Heater		1.6	1.6	pF
Plate to Cathode and Heater		0.4	0.32	pF

Class A₁ Amplifier (Each Unit Unless Otherwise Specified)

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	330	volts
Grid Voltage, positive-bias value	0	volt
Plate Dissipation:		
Each Plate	3	watts
Both Plates (Both units operating)	6	watts

CHARACTERISTICS

Plate Voltage	100	250	volts
Grid Voltage	0	-8.5	volts
Amplification Factor	20	17	
Plate Resistance (Approx.)	6500	7700	ohms
Transconductance	3100	2200	μ mhos
Plate Current	11.8	10.5	mA
Grid Voltage (Approx.) for plate current of 10 μ A	—	-24	volts

MAXIMUM CIRCUIT VALUES

Grid-Circuit Resistance:		
For fixed-bias operation	0.25	megohm
For cathode-bias operation	1	megohm

TRANSCONDUCTANCE AT REDUCED HEATER VOLTAGE

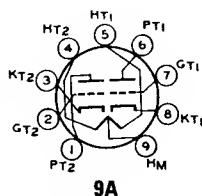
Average Value (Each unit)	1750	μ mhos
With heater volts = 10 (Series connection), plate volts = 250, and grid volts = -8.5.		

6681/ 12AX7A

INDUSTRIAL
TYPE

HIGH-MU TWIN TRIODE

Miniature type used as a phase inverter or twin resistance-coupled amplifier in mobile communications equipment. Outlines section, 6B; requires miniature 9-contact socket. For typical operation as a resistance-coupled amplifier, refer to Resistance-Coupled Amplifier section, type 12AX7A conditions.



Heater Arrangement		Series	Parallel	
Heater Voltage (ac/dc)		12.6 $\pm 20\%$	6.3 $\pm 20\%$	volts
Heater Current		0.15	0.3	ampere
Heater-Cathode Voltage:				
Peak value			± 200 max.	volts
Average value			100 max.	volts
Direct Interelectrode Capacitances (Approx.):		Unit No. 1	Unit No. 2	
Grid to Plate		1.7	1.7	pF
Grid to Cathode and Heater		1.6	1.6	pF
Plate to Cathode and Heater		0.46	0.34	pF

Class A₁ Amplifier (Each Unit)

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	330	volts
Grid Voltage:		
Negative-bias value	55	volts
Positive-bias value	0	volt
Plate Dissipation	1.1	watts