

TYPICAL OPERATING CONDITIONS FOR RELAY SERVICE

RMS Anode Voltage	117	volts
Grid No.2	Connected to cathode at socket	
RMS Grid-No.1 Bias Voltage	5	volts
Peak Grid-No.1 Signal Voltage	5	volts
Grid-No.1-Circuit Resistance	0.1	megohm
Anode-Circuit Resistance#	5000	ohms

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	10	megohms
------------------------------------	----	---------

■ Averaged over any interval of 30 sec. max.

□ Approximately 180° out of phase with the anode voltage.

Sufficient resistance, including the tube load, must be used under any conditions of operation to prevent exceeding the current ratings.

5696A

Refer to chart at end of section.

5718

Refer to chart at end of section.

5719

Refer to chart at end of section.

5725

Refer to chart at end of section.

5725/6AS6W

Refer to chart at end of section.

5726

Refer to chart at end of section.

5726/6AL5W

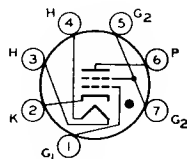
Refer to chart at end of section.

**5726/6AL5W/
6097**

Refer to chart at end of section.

5727**INDUSTRIAL
TYPE****GAS THYRATRON**

Miniature type "Premium" gas-tetrode thyatron for use in relay, grid-controlled rectifier and pulse-modulator applications. Outlines section, 5C; requires miniature 7-contact socket.

**7BN**

Heater Voltage (ac/dc)	6.3 $\pm 10\%$	volts
Heater Current	0.6	ampere
Cathode:		
Minimum heating time prior to tube conduction	20	seconds
Direct Interelectrode Capacitances (Approx.):		
Grid No.1 to anode	0.026	pF
Grid No.1 to cathode, grid No.2, and heater	2.4	pF
Anode to cathode, grid No.2, and heater	1.6	pF
Ionization Time (Approx.):		
For dc anode volts = 100, grid-No.1 volts (square-wave pulse) = 50, peak anode amperes during conduction = 0.5	0.5	μ s
Deionization Time (Approx.):		
For dc anode volts = 125, dc anode amperes = 0.1, grid-No.1 resistor (ohms) = 1000, and grid-No.1 volts = -100	35	μ s
For dc anode volts = 125, dc anode amperes = 0.1, grid-No.1 resistor (ohms) = 1000, and grid-No.1 volts = -100	75	μ s
Maximum Critical Grid-No.1 Current:		
For anode-supply volts (rms) = 460, and average anode amperes = 0.1	0.5	μ A
Anode Voltage Drop (Approx.)	8	volts
Grid-No.1 Control Ratio (Approx.) with grid-No.1 resistor (megohms) = 0, grid-No.2 volts = 0	250	
Grid-No.2 Control Ratio (Approx.) with grid-No.1 resistor (megohms) = 0, grid-No.2 resistor (megohms) = 0, grid-No.1 volts = 0	1000	

Relay and Grid-Controlled Rectifier Service

MAXIMUM RATINGS (Absolute-Maximum Values)

For anode-supply frequency of 60 Hz

Peak Anode Voltage:		
Forward	650	volts
Inverse	1300	volts
Grid-No.2 (Shield-Grid) Voltage:		
Peak, before tube conduction	-100	volts
Average [■] , during tube conduction	-10	volts
Grid-No.1 (Control-Grid) Voltage:		
Peak, before tube conduction	-100	volts
Average [■] , during tube conduction	-10	volts
Cathode Current:		
Peak	0.5	ampere
Average [■]	0.1	ampere
Fault, for duration of 0.1 second max.	10	amperes
Grid-No.2 Current:		
Average [■]	10	mA
Grid-No.1 Current:		
Average [■]	10	mA
Heater-Cathode Voltage:		
Peak	+25, -100	volts
Bulb Temperature (At hottest point on bulb surface)	150	°C
Ambient Temperature	-75	°C

TYPICAL OPERATION FOR RELAY SERVICE

RMS Anode Voltage	117	400	volts
Grid-No.2 Voltage	0	0	volts
RMS Grid-No.1 Bias Voltage [□]	5	—	volts
DC Grid-No.1 Bias Voltage	—	-6	volts
Peak Grid-No.1 Signal Voltage	5	6	volts
Grid-No.1-Circuit Resistance	1	1	megohm
Anode-Circuit Resistance [#]	1200	2000	ohms

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	10	megohms
------------------------------	----	---------

Pulse-Modulated Service

For rectangular-wave shapes, duty cycle of 0.001 max., pulse duration of 5 μ s max., and pulse-repetition rate of 500 pps max.

MAXIMUM RATINGS (Absolute-Maximum Values)

Peak Anode Voltage:		
Forward	500	volts
Inverse	100	volts
Grid-No.2 (Shield-Grid) Voltage:		
Peak, before tube conduction	-50	volts
Average, during tube conduction	-10	volts
Grid-No.1 (Control-Grid) Voltage:		
Peak, before tube conduction	-100	volts
Average, during tube conduction	-10	volts
Cathode Current:		
Peak	10	amperes
Average	10	mA
Rate of change	100	A/ μ s
Peak Grid-No.2 Current	20	mA
Peak Grid-No.1 Current	20	mA
Heater-Cathode Voltage:		
Peak	$\pm$ 0	volt
Bulb Temperature (At hottest point on bulb surface)	150	°C
Ambient Temperature	-75	°C

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance	0.5	megohm
Grid-No.2-Circuit Resistance	25000 max. 2000 min.	ohms ohms

* For pulse-modulator service, tolerance is $\pm 10\%$, -5% .

■ Averaged over any interval of 30 seconds maximum.

□ Approximately 180° out of phase with the anode voltage.

Sufficient resistance, including the tube load, must be used under any conditions of operation to prevent exceeding the current ratings.

Special Ratings and Performance Data

SHOCK RATING

Impact Acceleration 750 max. g

FATIGUE RATING

Vibrational Acceleration 2.5 max. g

HEATER-CYCLING LIFE PERFORMANCE

Cycles of Intermittent Operation 2000 min. cycles

Operating Considerations

Sufficient anode-circuit resistance, including the tube load, must be used under any conditions of operation to prevent exceeding the current ratings of the tube.

Curve shown under type 2D21 also applies to type 5727

5734 Refer to chart at end of section.

5749 Refer to chart at end of section.

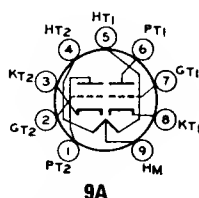
5749/6BA6W Refer to chart at end of section.

5750 Refer to chart at end of section.

5751INDUSTRIAL
TYPE

HIGH-MU TWIN TRIODE

Miniature type "Premium" high-mu twin triode used as a phase inverter and as a high gain amplifier in industrial control devices. Outlines section, 6B; requires miniature 9-contact socket.



Heater Arrangement:	Series	Parallel	
Heater Voltage (ac/dc)	12.6 $\pm$ 10%	6.3 $\pm$ 10%	volts
Heater Current	0.175	0.350	ampere
Heater-Cathode Voltage:			
Peak		$\pm$ 100 max.	volts

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	0.8	watt
Bulb Temperature (At hottest point on bulb surface)	165	$^{\circ}$ C

CHARACTERISTICS

Plate Voltage	100	250	volts
Grid Voltage	-1	-3	volts
Amplification Factor	70	70	
Plate Resistance	58000	58000	ohms
Transconductance	1200	1200	μ mhos
Plate Current	0.9	1.0	mA

Special Ratings & Performance Data

SHOCK RATING

Impact Acceleration 600 max. g