

Grid-No.2 Input:

For grid-No.2 voltages up to 90 volts

0.5 watt

For grid-No.2 voltages between 90 and 180 volts

See curve page 98

Cathode Current

18 mA

CHARACTERISTICS

Plate Supply Voltage	120	180	volts
Grid-No.2 Supply Voltage	120	120	volts
Cathode-Bias Resistor	180	180	ohms
Plate Resistance (Approx.)	0.3	0.5	megohm
Transconductance	5000	5100	μ mhos
Plate Current	7.5	7.7	mA
Grid-No.2 Current	2.5	2.4	mA
Grid-No.1 Voltage for plate current of 10 μ A	-8.5	-8.5	volts

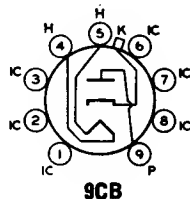
6AL3

Refer to chart at end of section.

6AL3/EY88

HALF-WAVE
VACUUM RECTIFIER

Miniature type used as damper tube in horizontal-deflection circuits of black-and-white television receivers. Outlines section, 7D; requires miniature 9-contact socket. Socket terminals 1, 2, 3, 6, 7, and 8 should not be used as tie points. It is especially important that this tube, like other power-handling tubes, be adequately ventilated. Heater: volts (ac/dc), 6.3; amperes, 1.55.



Damper Service

For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Center Values)

Peak Inverse Plate Voltage# (Absolute maximum)	7500*	volts
Peak Plate Current	550	mA
Average Plate Current	220	mA
Plate Dissipation	5	watts
Peak Heater-Cathode Voltage	6600	volts

* Under no circumstances should this absolute value be exceeded.

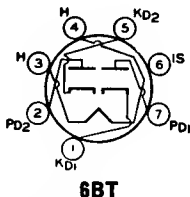
Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

6AL5

3AL5, 12AL5

TWIN DIODE

Miniature, high-perveance type used as detector in FM and television circuits, especially as a ratio detector in ac-operated FM receivers. Each diode section can be used independently of the other, or the two sections can be combined in parallel or full-wave arrangement. Resonant frequency of each unit is approximately 700 MHz. Outlines section, 5B; requires miniature 7-contact socket. Types 3AL5 and 12AL5 are identical with type 6AL5 except for heater ratings.



Heater Voltage (ac/dc)	3AL5	6AL5	12AL5	volts
Heater Current	3.15	6.3	12.6	ampere
Heater Warm-up Time (Average)	0.6	0.3	0.15	seconds
Peak Heater-Cathode Voltage	11	—	—	volts
	± 330 max	± 330 max	± 330 max	

Direct Interelectrode Capacitances:

Plate No.1 to Cathode No.1, Heater, and Internal Shield	2.5	pF
Plate No.2 to Cathode No.2, Heater, and Internal Shield	2.5	pF
Cathode No.1 to Plate No.1, Heater, and Internal Shield	3.4	pF
Cathode No.2 to Plate No.2, Heater, and Internal Shield	3.4	pF
Plate No.1 to Plate No.2	0.068 max	pF

Half-Wave Rectifier

MAXIMUM RATINGS (Design-Center Values)

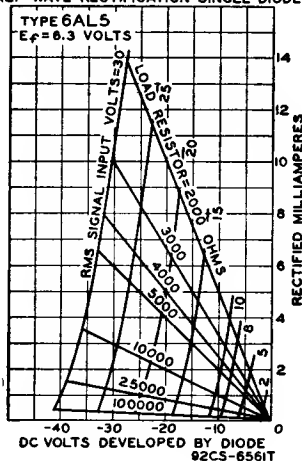
Peak Inverse Plate Voltage	330	volts
Peak Plate Current (Per Plate)	54	mA
Average Output Current (Per Plate)	9	mA

TYPICAL OPERATION

AC Plate Voltage per Plate (rms)	117
Min. Total Effective Plate-Supply Impedance per Plate	300
Average Output Current per Plate	9

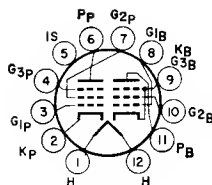
volts
ohms
mA

AVERAGE CHARACTERISTICS
HALF-WAVE RECTIFICATION-SINGLE DIODE



Refer to chart at end of section.

6AL7GT



12BU

**BEAM POWER TUBE—
SHARP-CUTOFF PENTODE**

6AL11

10AL11, 12AL11

Duodecar type used as FM detector and audio-frequency output amplifier in television receivers. Outlines section, 8C; requires duodecar 12-contact socket. Types 10AL11 and 12AL11 are identical with type 6AL11 except for heater ratings.

	6AL11	10AL11	12AL11	
Heater Voltage (ac/dc)	6.3	9.8	12.6	volts
Heater Current	0.9	0.6	0.45	ampere
Heater Warm-up Time (Average)	—	11	11	seconds
Heater-Cathode Voltage:				
Peak value	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	volts
Direct Interelectrode Capacitance:				
Beam Power Unit:				
Grid No.1 to Plate			0.26	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield			11	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield			12	pF
Pentode Unit:				
Grid No.1 to Plate			0.034	pF
Grid No.3 to Plate			3.2	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield			6.5	pF
Grid No.3 to Cathode, Heater, Grid No.1, Grid No.2, Plate, and Internal Shield			7.5	pF
Grid No.1 to Grid No.3			0.24	pF
Pentode Plate to Beam Power Plate			0.12	pF