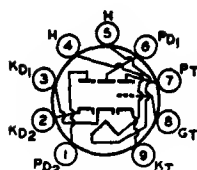


TWIN DIODE— HIGH-MU TWIN TRIODE

6BN8 8BN8

**9ER**

Miniature type used in color and black-and-white television receiver applications. The triode unit is used in burst-amplifier, afc amplifier, and low-frequency oscillator applications. The diode units are used in phase-detector, ratio-detector or discriminator, and horizontal afc discriminator circuits. Outlines section, 6E; requires miniature 9-contact socket. Type 8BN8 is identical with type 6BN8 except for heater ratings.

Heater Voltage (ac/dc)	6.3	8.4	volts
Heater Current	0.6	0.45	ampere
Heater Warm-up Time (Average)	11	11	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances:			
Triode Grid to Triode Plate		2.5	pF
Triode Grid to Cathode and Heater		3.6	pF
Triode Plate to Cathode and Heater		0.25	pF
Plate of Diode Unit No.1 to Triode Grid		0.06 max	pF
Plate of Diode Unit No.2 to Triode Grid		0.1 max	pF
Plate of Diode Unit No.1 to Plate of Diode Unit No.2		0.07 max	pF
Diode Cathode to All Other Electrodes (Each Diode Unit)		5	pF
Diode Plate to Diode Cathode and Heater (Each Diode Unit)		1.9	pF
Diode Cathode to Diode Plate and Heater (Each Diode Unit)		4.8	pF
Diode Plate to All Other Electrodes (Each Diode Unit)		3	pF

Triode Unit as Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	330	volts
Grid Voltage, Positive-bias value	0	volts
Plate Dissipation	1.7	watts

CHARACTERISTICS

Plate Voltage	100	250	volts
Grid Voltage	-1	-3	volts
Amplification Factor	75	70	
Plate Resistance (Approx.)	21000	28000	ohms
Transconductance	3500	2500	μmhos
Plate Current	1.5	1.6	mA
Grid Voltage (Approx.) for plate current of 10 μA	-2.5	-5.5	volts

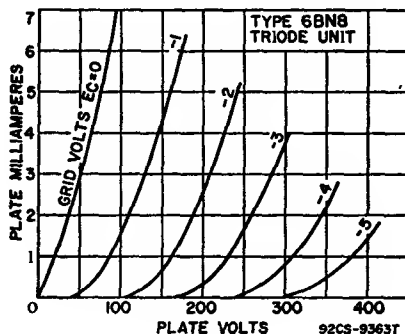
MAXIMUM CIRCUIT VALUE

Grid-Circuit Resistance	1	megohm
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Diode Units

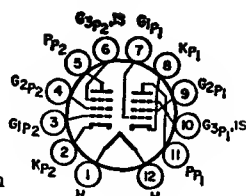
MAXIMUM RATINGS (Design-Maximum Values)

Plate Current (Each Unit):		
Peak	54	mA
Average	9	mA



6BN11**SHARP-CUTOFF
TWIN PENTODE**

Duodecar type used as if-amplifier tube in television receivers. Outlines section, 8B; requires duodecar 12-contact socket.

**12GF**

Heater Voltage	6.3	volts
Heater Current	0.8	ampere
Heater Warm-up Time	—	seconds
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts

Class A₁ Amplifier (Each Unit)**MAXIMUM RATINGS (Design-Maximum Values)**

Plate Voltage	330	volts
Grid-No.2 (Screen-Grid) Supply Voltage	330	volts
Grid-No.2 Voltage	See curve page 300	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	volts
Plate Dissipation	3.1	watts
Grid-No.2 Input	0.65	watt

CHARACTERISTICS

Plate Voltage	125	volts
Grid No.3 (Suppressor Grid)	Connected to cathode at socket	
Grid-No.2 Voltage	125	volts
Cathode-Bias Resistor	56	ohms
Plate Resistance (Approx.)	0.2	megohm
Transconductance	13000	μmhos
Plate Current	11	mA
Grid-No.2 Current	3.8	mA
Grid-No.1 Voltage (Approx.) for plate current of 20 μA	—3	volts

MAXIMUM CIRCUIT VALUE

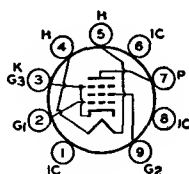
Grid-No.1-Circuit Resistance, for cathode-bias operation	0.25	megohm
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6BQ5

For replacement use type 6BQ5/EL84.

6BQ5/EL84**8BQ5, 10BQ5****POWER PENTODE**

Miniature type used in the output stage of audio-frequency amplifiers. Outlines section, 6G; requires miniature 9-contact socket. Types 8BQ5 and 10BQ5 are identical with type 6BQ5/EL84 except for heater ratings.

**9CV**

	6BQ5/EL84	8BQ5	10BQ5	
Heater Voltage (ac/dc)	6.3	8	10.6	volts
Heater Current	0.76	0.6	0.45	ampere
Heater Warm-up Time (Average)	—	11	11	seconds
Heater-Cathode Voltage:				
Peak value	±100 max	±100 max	±100 max	volts
Average value	100 max	100 max	100 max	volts
Direct Interelectrode Capacitances:				
Grid No.1 to Plate			0.5 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3			10.8	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3			6.5	pF
Grid No.1 to Heater			0.25 max	pF

Class A₁ Amplifier**MAXIMUM RATINGS (Design-Center Values)**

Plate Voltage	300	volts
Grid-No.2 (Screen-Grid) Voltage	300	volts
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	volts
Cathode Current	65	mA