



3E29

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TWIN-UNIT BEAM POWER AMPLIFIER

Similar to Type 829-B, but intended particularly for pulse modulator service. Unless otherwise specified, values are for both units

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Heater Arrangement	Series	Parallel	
Voltage.	12.6*	6.3*	ac or dc volts
Current.	1.125	2.25	amp

Transconductance, per Unit (Approx.):
for plate current of 60 ma. 8500 μ mhos

Grid-Screen Mu-factor,
per unit. 9

Direct Interelectrode Capacitances (Each Unit):

Grid No.1 to Plate ^o	0.12 max.	μ fd
Input.	14.5	μ fd
Output	7.0	μ fd

Grid-No.2 to Cathode Capacitance,
(Including internal grid-No.2
by-pass capacitor). 65 μ fd

* Should not deviate more than +10% or -5% from value shown.

^o with external shield.

Mechanical:

Mounting Position. Vertical, base up or down
Horizontal, plane of each plate vertical

Overall Length 4-1/8" \pm 3/16"

Seated Length. 3-11/16" \pm 3/16"

Maximum Diameter See Outline Drawing

Bulb T-16

Bulb Terminals (Two) See Outline Drawing

Base Medium Molded-Flare Septar 7-Pin

Basing Designation for BOTTOM VIEW 7BP

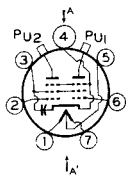
Pin 1-Heater Pin 6-Grid No.1 of Unit No.1

Pin 2-Grid No.1 of Unit No.2 Pin 7-Heater

Pin 3-Grid No.2 of Both Units

Pin 4-Cathode, Grid No.3 Both Units

Pin 5-Heater Center-Tap



PLANE OF ELECTRODES OF EACH UNIT IS PARALLEL TO PLANE THROUGH AXIS OF TUBE AND AA'

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MODULATOR - Rectangular-Wave Modulation

Maximum CCS[•] Ratings, Absolute Values:

(Values for both units in parallel)

For Pulse Length of	7 max.	1.2 max.	μ sec
DC PLATE-SUPPLY VOLTAGE [▲]	5000 max.	5000 max.	volts
INSTANTANEOUS PLATE VOLTAGE. . .	5750 max.	5750 max.	volts
DC GRID-No.2 (SCREEN) SUPPLY VOLT. [▲]	850 max.	850 max.	volts
DC GRID-No.1 (CONTROL GRID) SUPPLY VOLTAGE	-200 max.	-200 max.	volts
INSTANTANEOUS GRID-No.1 VOLT. . .	-600 max.	-600 max.	volts
PEAK POSITIVE GRID-No.1 VOLT. . .	250 max.	250 max.	volts
PEAK PLATE CURRENT	1.5 max.	10 max.	amp
PEAK GRID-No.2 CURRENT	0.5 max.	0.5 max.	amp
PEAK GRID-No.1 CURRENT	0.6 max.	4 max.	amp
PLATE INPUT.	85 max.	60 max.	watts
GRID-No.2 INPUT.	3 max.	3 max.	watts
GRID-No.1 INPUT.	1 max.	1 max.	watt
PLATE DISSIPATION.	15 max.	15 max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	100 max.	100 max.	volts
Heater positive with respect to cathode	100 max.	100 max.	volts

Typical Operation with Rectangular-Wave Shapes:

(In accompanying test circuit)

With duty factor# of	2×10^{-3}	10^{-3}	
DC Plate-Supply Voltage.	2000 . .	5000 . .	volts
DC Grid-No.2 Supply Volt.	650 . .	850 . .	volts
DC Grid-No.1 Supply Volt.	-175 . .	-200 . .	volts
Peak Positive Grid-No.1 Volt.	50 . .	150 . .	volts
Peak Plate Current	5 . .	10 . .	amp
DC Plate Current	10 . .	10 . .	ma.
DC Grid-No.2 Current	1.1 . .	1.7 . .	ma.
DC Grid-No.1 Current	1.0 . .	1.5 . .	ma.
Load Resistance.	300 . .	300 . .	ohms

• Continuous Commercial Service.

▲ For tube protection, it is essential that the dc resistance of the plate supply and of the screen supply be sufficiently large to limit the short-circuit current to 0.5 ampere in either circuit.

Duty factor = pulse length multiplied by repetition rate.

OUTLINE DIMENSIONS for the 3E29 are the same as those shown for Type 829-B

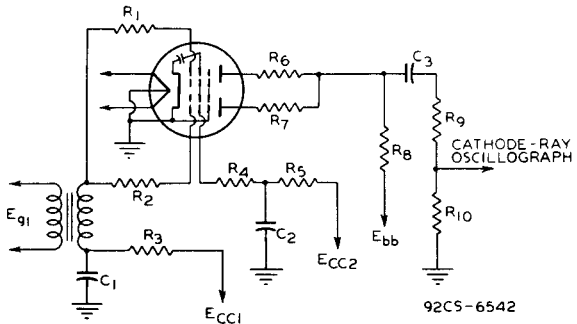


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TEST CIRCUIT



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|-------------------------------|--|
| R1 R2: 20 Ohms, non-inductive | C1: 0.1 μ f, 600 V., DC |
| R3: 1500 Ohms | C2: 0.1 μ f, 1000 V., DC |
| R4: 25 Ohms, non-inductive | C3: 0.1 μ f, 5000 V., DC |
| R5: 1500 Ohms | E _{cc1} : Grid-Supply Voltage |
| R6 R7: 10 Ohms, non-inductive | E _{cc2} : Screen-Supply Voltage |
| R8: 10000 Ohms | E _{bb} : Plate-Supply Voltage |
| R9: 400 Ohms | E _{g1} : Signal Voltage |
| R10: 10 Ohms | |

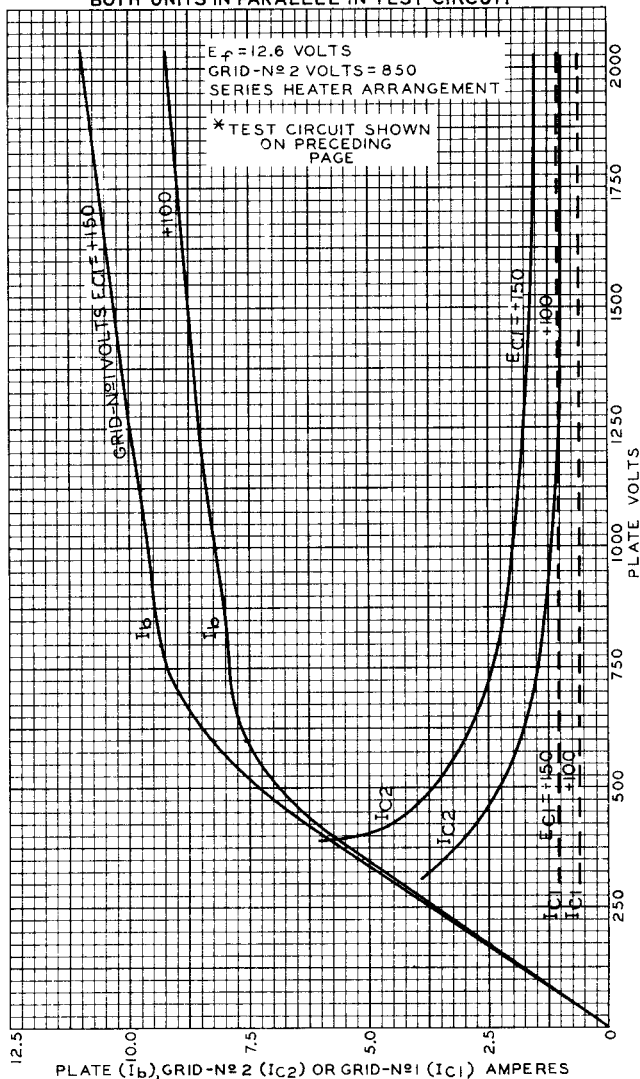
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AVERAGE CHARACTERISTICS BOTH UNITS IN PARALLEL IN TEST CIRCUIT *



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TUBE DEPARTMENT

92CM-6530R1

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY