

8CB11

Compactron Twin Pentode

■ COLOR TV TYPE

■ TRANSCONDUCTANCE = 13000 MICROMHOS

The 8CB11 is a compactron containing two sharp-cutoff pentodes. It is intended primarily for intermediate-frequency amplifier service in color television receivers, and is also useful for bandpass amplifier, burst amplifier, and low-level video amplifier applications.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC* 8.4 Volts

Heater Current• 0.6 ± 0.04 Amperes

Heater Warm-up Time, average♦ 11 Seconds

Direct Interelectrode Capacitances, approximate§

Section 1

Grid-Number 1 to Plate: (1g1 to 1p) 0.028 pf

Input: 1g1 to (h + 1k + 1g2 + 1g3 + 2g3 + i.s.) 12 pf

Output: 1p to (h + 1k + 1g2 + 1g3 + 2g3 + i.s.) ... 2.6 pf

Section 2

Grid-Number 1 to Plate: (2g1 to 2p) 0.02 pf

Input: 2g1 to (h + 2k + 2g2 + 2g3 + 1g3 + i.s.) 12 pf

Output: 2p to (h + 2k + 2g2 + 2g3 + 1g3 + i.s.) ... 2.8 pf

Coupling

Plate, Section 1, to Plate, Section 2:

(1p to 2p), maximum 0.004 pf

Grid-Number 1, Section 1, to Plate, Section 2:

(1g1 to 2p), maximum 0.001 pf

Grid-Number 1, Section 2, to Plate, Section 1:

(2g1 to 1p), maximum 0.002 pf

Grid-Number 1, Section 1, to Grid-Number 1,

Section 2: (1g1 to 2g1), maximum 0.001 pf

MECHANICAL

Operating Position - Any

Envelope - T-9, Glass

Base - E12-70, Button 12-Pin

Outline Drawing - EIA 9-58

Maximum Diameter 1.188 Inches

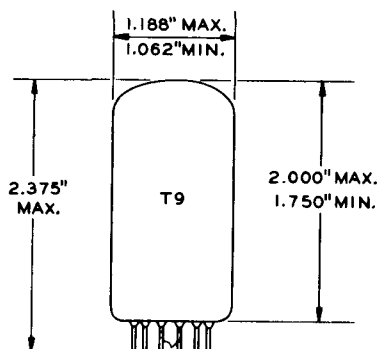
Minimum Diameter 1.062 Inches

Maximum Over-all Length 2.375 Inches

Maximum Seated Height 2.000 Inches

Minimum Seated Height 1.750 Inches

PHYSICAL DIMENSIONS



EIA 9-58

TERMINAL CONNECTIONS

Pin 1 - Heater

Pin 2 - Plate (Section 2)

Pin 3 - Grid Number 2 (Screen) (Section 2)

Pin 4 - Grid Number 3 (Suppressor) (Section 2)

Pin 5 - Grid Number 1 (Section 2)

Pin 6 - Cathode (Section 2)

Pin 7 - Grid Number 3 (Suppressor) (Section 1)
and Internal Shield

Pin 8 - Plate (Section 1)

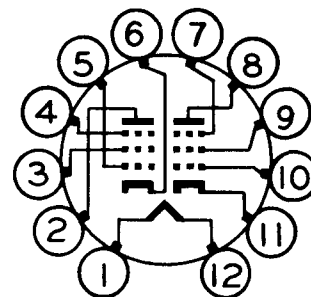
Pin 9 - Grid Number 2 (Screen) (Section 1)

Pin 10 - Grid Number 1 (Section 1)

Pin 11 - Cathode (Section 1)

Pin 12 - Heater

BASING DIAGRAM



EIA 12DM

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an

express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

MAXIMUM RATINGS**DESIGN-MAXIMUM VALUES, Each Section**

Plate Voltage.....	330	Volts
Screen Supply Voltage.....	330	Volts
Screen Voltage - See Screen Rating Chart		
Positive DC Grid-Number 1 Voltage.....	0	Volts
Plate Dissipation.....	3.1	Watts
Screen Dissipation.....	0.65	Watts
Heater-Cathode Voltage		
Heater Positive with respect to Cathode		
DC Component.....	100	Volts
Total DC and Peak.....	200	Volts
Heater Negative with respect to Cathode		
Total DC and Peak.....	200	Volts
Grid-Number 1 Circuit Resistance		
With Cathode Bias.....	0.25	Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION**AVERAGE CHARACTERISTICS, Each Section**

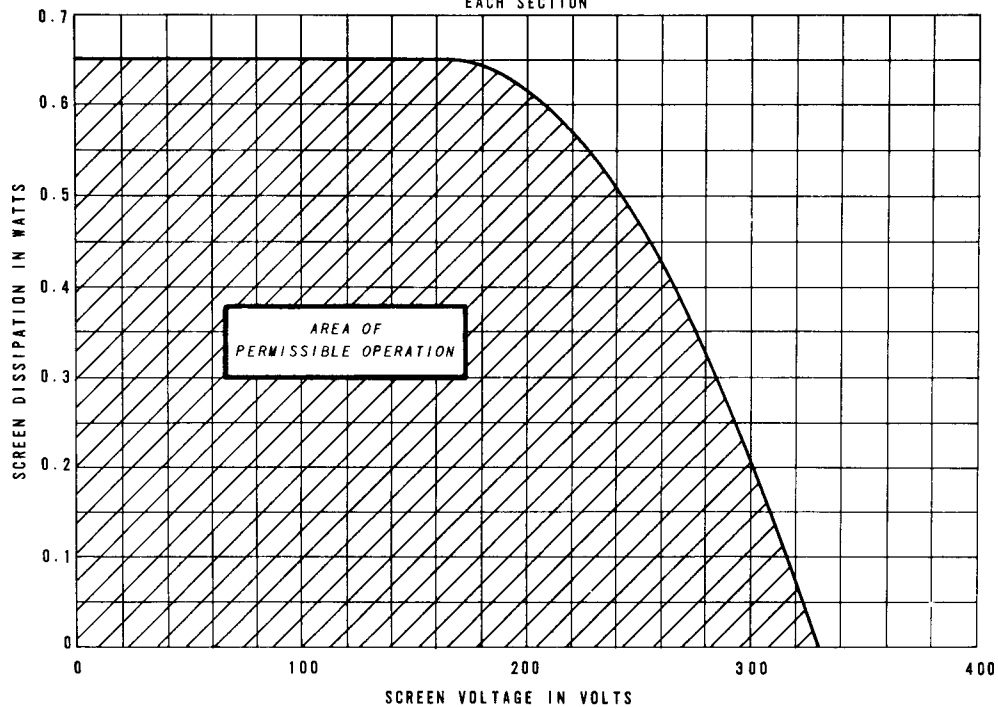
Plate Voltage.....	125	Volts
Suppressor, Connected to Cathode at Socket		
Screen Voltage.....	125	Volts
Cathode-Bias Resistor.....	.56	Ohms
Plate Resistance, approximate.....	0.2	Megohms
Transconductance.....	13000	Micromhos
Plate Current.....	11	Milliamperes
Screen Current.....	3.8	Milliamperes
Grid-Number 1 Voltage, approximate		
I _b = 20 Microamperes.....	-3	Volts

NOTES

- * Heater voltage for a bogey tube at I_f = 0.6 amperes.
- The equipment designer should design the equipment so that heater current is centered at the specified bogey value, with heater supply variations restricted to maintain heater current within the specified tolerance.
- ♦ The time required for the voltage across the heater to reach 80 percent of the bogey value after applying 4 times the bogey heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the bogey heater voltage divided by the bogey heater current.
- § With external shield (EIA 309) connected to cathode of section under test.

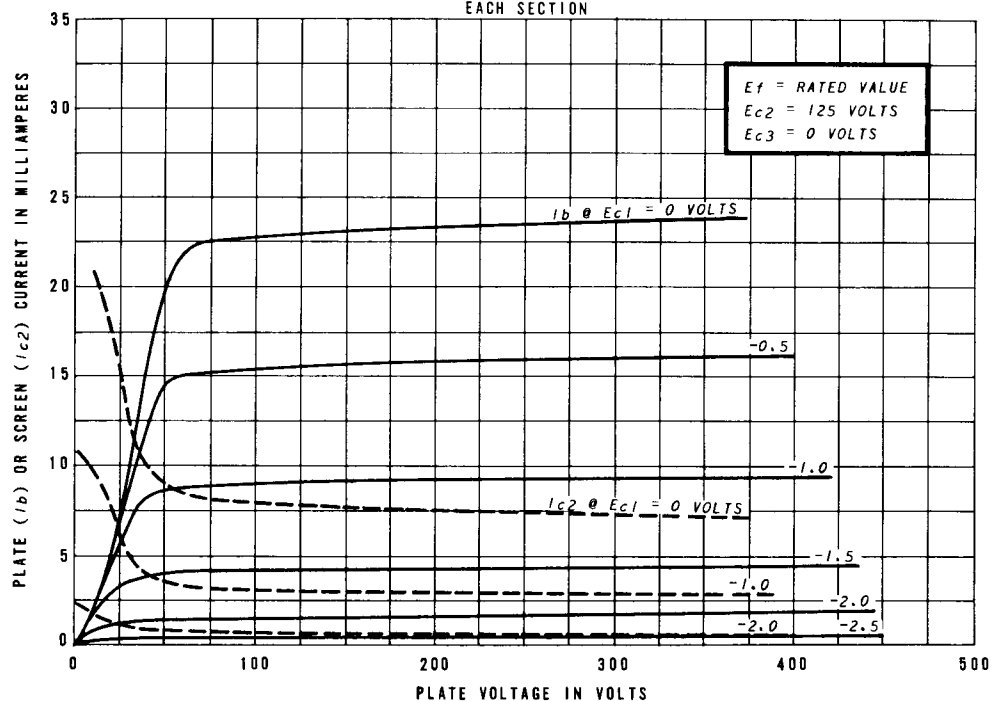
SCREEN RATING CHART

EACH SECTION



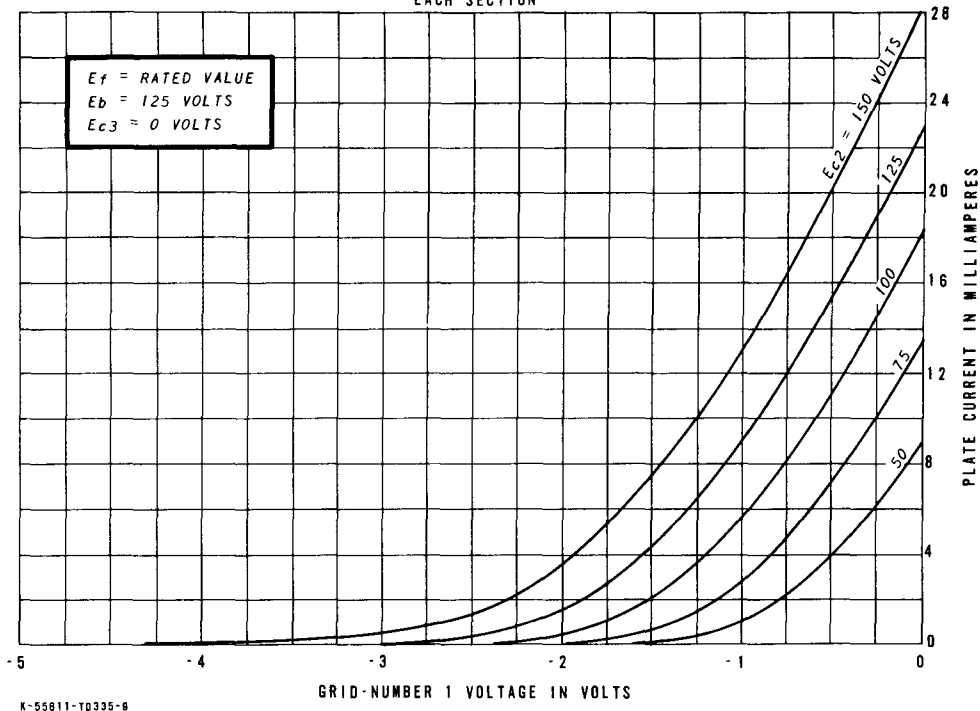
AVERAGE PLATE CHARACTERISTICS

EACH SECTION



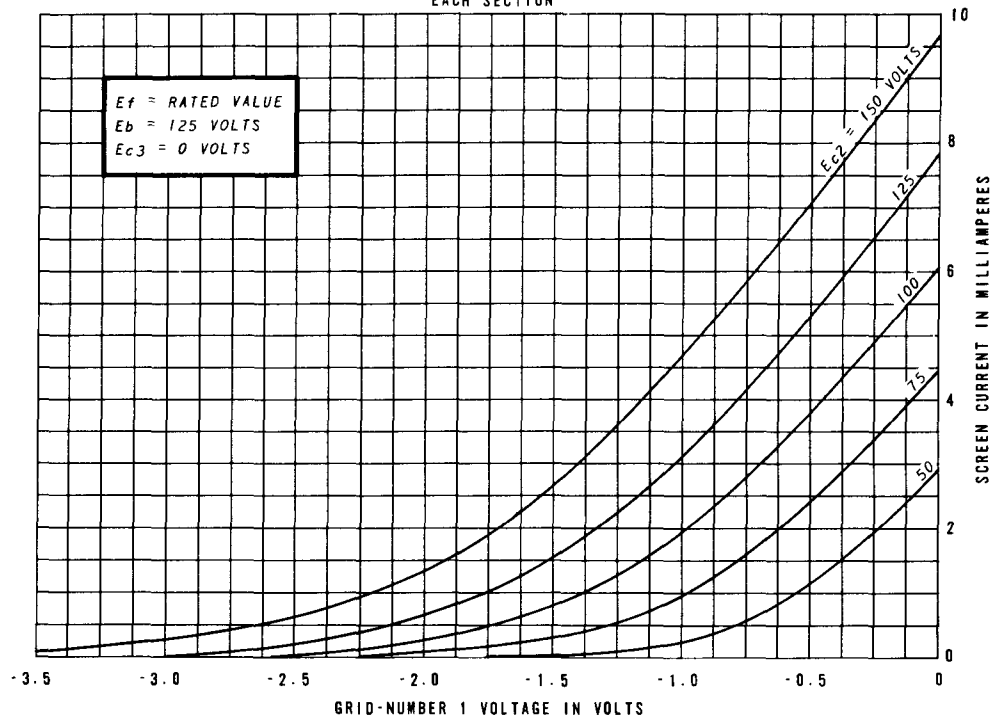
AVERAGE TRANSFER CHARACTERISTICS

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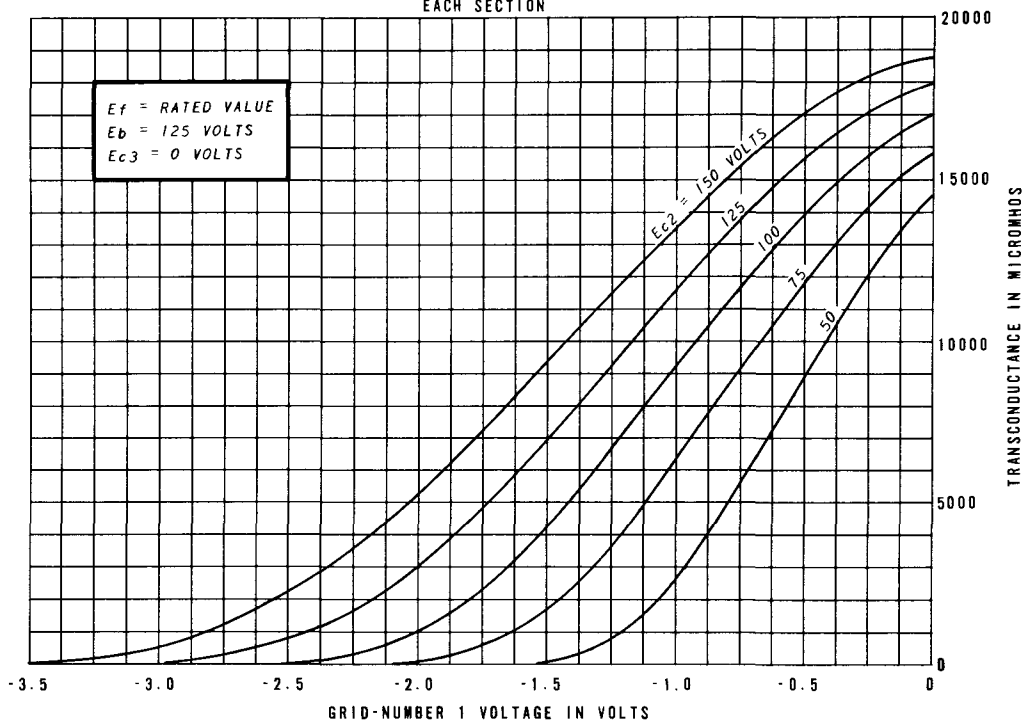
AVERAGE TRANSFER CHARACTERISTICS

EACH SECTION



AVERAGE TRANSFER CHARACTERISTICS

EACH SECTION



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