



# COMPACTRON

TECHNICAL  
DATA

GENERAL ELECTRIC COMPANY, OWENSBORO, KENTUCKY

from JEDEC release #2906,  
Aug. 1, 1960

## 6C10

TRIPLE TRIODE

The 6C10 is a compactron containing three high- $\mu$  triodes. Features of the device include separate pin connections for all three cathodes, grids, and plates, a button base, and a compact glass envelope. The 6C10 is especially suited for use in resistance-coupled voltage amplifiers, phase inverters, and numerous industrial-control circuits when high voltage-gain is desired.

### GENERAL

#### Electrical

Cathode - Coated Unipotential

Heater Voltage, AC or DC

6.3 $\pm$ 10% Volts  
-0.45 Amperes

Heater Current

Direct Interelectrode Capacitances\*

Grid to Plate, Each Section

1.7  $\mu$ f

Input, Each Section

1.6  $\mu$ f

Output, Section 1

0.30  $\mu$ f

Output, Section 2

0.24  $\mu$ f

Output, Section 3

0.34  $\mu$ f

#### Mechanical

Mounting Position - Any

Envelope - T-9, Glass

Base - E12-70, Button 12-Pin

Outline Drawing - EIA 9-62

Maximum Diameter

1.188 Inches

Maximum Over-all Length

1.938 Inches

Maximum Seated Height

1.500 Inches

### TERMINAL CONNECTIONS

Pin 1 - Heater

Pin 2 - Plate (Section 3)

Pin 3 - Cathode (Section 3)

Pin 4 - Cathode (Section 1)

Pin 5 - Plate (Section 2)

Pin 6 - Cathode (Section 2)

Pin 7 - Grid (Section 2)

Pin 8 - Internal Connection

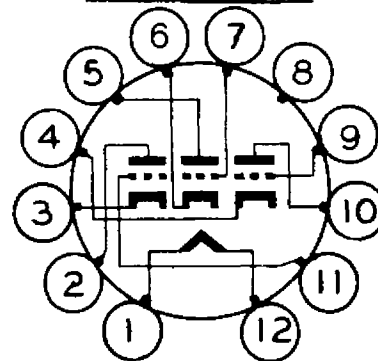
Pin 9 - Grid (Section 1)

Pin 10 - Plate (Section 1)

Pin 11 - Grid (Section 3)

Pin 12 - Heater

### BASING DIAGRAM



EIA 12BQ

MAXIMUM RATINGS

## Design-Maximum Values, Each Section

Plate Voltage	330	Volts
Positive DC Grid Voltage	0	Volts
Negative DC Grid Voltage	50	Volts
Plate Dissipation, Each Plate	1.0	Watts
Total Plate Dissipation, All Plates	3.0	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

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

These values are chosen by the device manufacturer to provide acceptable serviceability of the device, taking responsibility for the effects of changes in operating conditions due to variations in the characteristics of the electron device 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 device under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, variation in characteristics of all other devices in the equipment, equipment control adjustment, load variation, signal variation, and environmental conditions.

CHARACTERISTICS AND TYPICAL OPERATIONClass A<sub>1</sub> Amplifier, Each Section

Plate Voltage	100	250	Volts
Grid Voltage	-1.0	-2.0	Volts
Amplification Factor	100	100	
Plate Resistance, approximate	80000	62500	Ohms
Transconductance	1250	1600	Micromhos
Plate Current	0.5	1.2	Milliamperes

\* Without external shield.

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.

7/14/60

Nov. 28, 1960

Release No. 2906A

Type 6C10

As Registered

Heater Voltage, AC or DC	6.3 ± 10% Volts
Heater Current	0.45 Amperes

As Proposed

Heater Characteristics and Ratings (Design-Maximum Rating System)

	<u>Series Heater Operation*</u>	<u>Parallel Heater Operation*</u>
Heater Voltage, AC or DC	6.3 <sup>∕</sup>	6.3 ± 0.6 Volts
Heater Current	0.6 ± 0.04	0.6 Amperes #
Heater Warm-up Time**	11	--- Seconds

\* For parallel heater operation, the equipment designer shall design the equipment so that the heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance. For series heater operation, the equipment designer shall 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.

<sup>∕</sup> Heater voltage at bogey heater current.

# Heater current at bogey heater voltage.

\*\* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.