

The type 6690 is a short subminiature medium-mu double triode capable of operation in the video region. This type is characterized by stable performance under severe environmental conditions. It is designed for service where extreme conditions of mechanical shock, vibration, and acceleration are to be encountered.

MECHANICAL DATA

GENERAL

Style	subminiature	Maximum Diameter	0.400 inch
Cathode	coated unipotential	Maximum overall bulb length	1.000 inch
Bulb	T-3	Minimum Lead Length	1.500 inches
Base	ES-10; Subminiature Button Flexible Leads	Mounting Position	any
Outline		<u>RATINGS (1)</u>	
Baseing	30°C		

Connections

Lead 1 - #2 plate Lead 5 - #1 plate
Lead 2 - #2 grid Lead 6 - heater
Lead 3 - heater Lead 7 - #1 grid
Lead 4 - #2 cathode Lead 8 - #1 cathode

Maximum Impact Acceleration (2)	880 g
Maximum acceleration parallel to axis of the tube (3)	10,000 g
Maximum acceleration perpendicular to axis of the tube (4)	1500 g
Maximum vibration acceleration	15 g
Maximum bulb temperature	250°C

ELECTRICAL DATA

GENERAL

Direct Intraelectrode Capacitance (5)		
	Min	Max
Grid to Plate (each section)	1.5	2.1 μ f
Input (each section)	2.0	3.2 μ f
Output		
Section 1	1.0	1.8 μ f
Section 2	1.2	2.2 μ f
Heater Voltage (a.c. or d.c.)	6.3 volts	
Heater Current		100 ma

CHARACTERISTICS (each section)

Conditions	
Heater Voltage	6.3 volts
Plate voltage	100 volts
Cathode Bias Resistor	100 ohms
Plate Current	8.0 ma
Transconductance	4800 μ mhos
Amplification Factor	35
Maximum Grid Voltage for 30 μ a Plate Current	-10.5 volts
Noise Output voltage (sections connected in parallel) (8) max	100 mv post centrifuge

RATINGS (1) Absolute Values

Heater Voltage (7)	6.3 $\pm$ 10% volts
Max. Plate Voltage (dc)	120 volts
Max. Plate dissipation (each section)	1.1 watts
Max. Heater-Cathode voltage	$\pm$ 350 Vdc

Life Expectancy	
30°C Ambient Temperature	500 hours

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NOTES

- (1) Limitations beyond which normal tube performance and tube life may be impaired.
- (2) Forces in any direction as applied by the Navy Type High-Impact (Fly weight) Shock Machine for Electronic Devices, or equivalent (Hammer angle = 60°).
- (3) Forces as produced in a centrifuge with bases of the tube toward or away from the center of rotation. Maximum force to be applied within 20 seconds.
- (4) Forces as produced in a centrifuge at a one inch radius, 7500 rpm, for a duration of 3 min.
- (5) Vibrational forces in any direction at 40 cycles per second.
- (6) With external shield of 0.405 inch diameter connected to cathode of section under test.
- (7) Tube life and reliability of performance are directly related to the degree of regulation of the heater voltage to its center-rated value of 6.3 volts.
- (8) Across plate resistor of 2,000 ohms with applied vibrational acceleration of 15g at 40 cycles per second. CK = 100 μ f; RK = 100 ohms; Plate supply impedance not to exceed that of a 40 μ f capacitor.