from JEDEC release #2915, Aug. 1, 1960

engineering data for CBS®

BULLETIN
T-1044

MEDIUM-MU TRIPLE TRIODE

7690

TENTATIVE DATA

CBS Type 7690 is a compact, 12-pin medium-mu triple triode which is especially designed and tested for use in measurement test equipment, instrumentation, and other applications where extreme reliability, stable characteristics, and long life are required. Each section is electrically equivalent to one section of a 12AT7.

This electron tube has a continuous-wound coil heater which is superior to ordinary heaters both electrically and mechanically. Burn-outs are virtually eliminated, heater-cathode leakage is lower, and hum is lower.

An elaborate testing procedure is carried out on these tubes for confidence in their ultimate operation. There is a special 1000-hour life test, and a 5000-hour informational life test.

Additional mechanical features offered by CBS type 7690 include: gold plated base pins which prevent oxidation and improve base pin contact and precisely made and fitted parts in stronger structures.

MECHANICAL DATA

Cathode, coated unipotential	
Bulb	T-7 1/2
Maximum overall height	2.35 inches
Maximum diameter	1.030 inches
Outline, JEDEC	7-3
Base, miniature button, 12-pin	E12-66
Basing	12BA
Mounting position	any

PIN CONNECTIONS

Pin 1:	Cathode (Section 3)	Pin 7:	Heater
Pin 2:	Grid (Section 3)	Pin 8:	Plate (Section 1)
Pin 3:	Cathode (Section 2)	Pin 9:	Grid (Section 2)
Pin 4:	Grid (Section 1)	Pin 10:	Plate (Section 2)
Pin 5:	Cathode (Section 1)	Pin 11:	N.C.
Pin 6:	Heater	Pin 12:	Plate (Section 3)

ELECTRICAL DATA

HEATER CHARACTERISTICS

Voltage, a-c or d-c	6.3	volts
Current	450	ma
Peak heater-cathode voltage, maximum		
Heater negative to cathode	200	volts
Heater positive to cathode*	200	volts

* D-c component 100 volts maximum

MAXIMUM RATINGS (Design maximum values)

Each Section

Plate voltage	330	volts
Plate dissipation	2.8	watts

CHARACTERISTICS AND TYPICAL OPERATION

Class A Amplifier (Each Section)

Plate voltage	100	250	volts
Control-grid voltage	-1.0	-2.0	volts
Cathode-bias resistor	270	200	ohms
Plate resistance (approx.)	15,000	10,900	ohms
Transconductance	4000	5500	μmhos
Amplification factor	60	60	
Plate current	3.7	10.0	ma
Control-grid voltage (approx.) for I_b=10μa	-5	-12	volts

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