

February 1, 1961

HIGH PERVEANCE TRIODE-SHARP CUTOFF PENTODE TYPE 7734

The 7734 is a 9-pin miniature high perveance triode and sharp cutoff pentode type designed for service in electronically regulated power supplies. The triode unit is used as a series regulating tube which is controlled by the pentode unit acting as a d-c amplifier. Heater-cathode leakage and hum are controlled in pentode unit.

ELECTRICAL:

Cathodes	Coated Unipotential
Heater:	
Voltage	6.3 Volts
Current	0.90 Ampere
Direct Interelectrode Capacitances (Unshielded)	
Triode Unit:	
Grid to Plate	7.5 $\mu\mu\text{f}$
Input	5.5 $\mu\mu\text{f}$
Output	1.3 $\mu\mu\text{f}$
Pentode Unit:	
Grid 1 to Plate	0.2 $\mu\mu\text{f}$
Input	8.0 $\mu\mu\text{f}$
Output	2.4 $\mu\mu\text{f}$

MECHANICAL:

Bulb	T-6½
Base	9-Pin Miniature (JEDEC E9-1)
Outline	6-3
Basing	9LC
Mounting Position	Any

AVERAGE CHARACTERISTICS

	Pentode	Triode	
Plate Voltage	150	150	Volts
Grid 2 Voltage	150	-	Volts
Grid 1 Voltage	-2	-21	Volts
Plate Resistance	340000	1,080	Ohms
Transconductance	3200	5000	μmhos
Amplification Factor	-	5.4	
Grid 1 Cutoff Voltage	-8⊕	-42♣	Volts
Plate Current	5.5	35	Ma.
Grid 2 Current	1.7	-	Ma.

MAXIMUM RATINGS

Design Maximum Values	Unit	Unit	
Plate Voltage	330	275	max. Volts
Grid 2 Supply Voltage	275	-	max. Volts
Grid 2 Voltage	See Grid 2 Input Rating Curve		
Plate Dissipation	1.0	7.0	max. Watts
Grid 2 Dissipation	0.5	-	max. Watts
Cathode Current:			
Average	-	50	max. Ma.
Peak	-	175	max. Ma.
Heater Cathode Voltage:			
Heater Negative with Respect to Cathode	300	300	max. Volts
Heater Positive with Respect to Cathode	100	100	max. Volts

LIMITING CIRCUIT VALUES

Grid Circuit Resistance:			
Self Bias	2.2	2.2	max. Megohms
Zero Bias Characteristic (Triode Unit)			
Plate Voltage		50	Volts
Grid Voltage		0	Volts
Plate Current		70	Ma.
Plate Resistance Characteristic (Pentode Unit)			
Plate Voltage		100	Volts
Grid 2 Voltage		50	Volts
Plate Current		100	$\mu\text{amperes}$
Plate Resistance		>7	Megohms

⊕ For plate current of 50 microamperes.

♣ For plate current of 500 microamperes.

Equivalent Noise and Hum (Pentode Section)

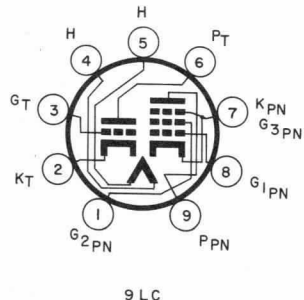
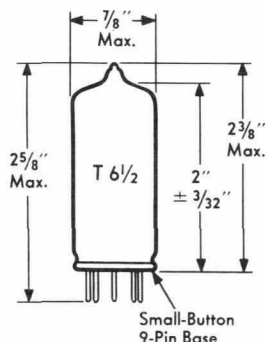
Referenced to the grid. Conditions as follows:

Plate and Screen Grid Supply Voltage	225	V.D.C.
Plate Load Resistor	250,000	ohms
Screen Grid Series Resistor	1,000,000	ohms
Cathode Resistor	5,100	ohms
Heater Voltage	6.3	V.A.C.

Heater Transformer Center Tap Tied to Ground.

Measured with an amplifier having bandwidth of 25 to 10,000 cps.

Average with grid resistor 1 megohm and 2000 μf cathode by-pass capacitor: 15 μv volts rms.

Average with grid resistor 1 megohm and cathode resistor unby-passed: 80 μv volts rms.


AVERAGE PLATE CHARACTERISTICS

