

February 1, 1957

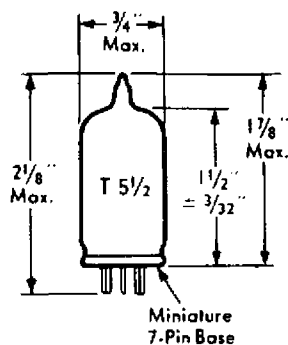
Dual-Control Pentode Type WL-6954

The WL-6954 is a sharp-cutoff dual-control pentode of 7-pin miniature construction designed for service in industrial and military equipment as a gating, mixing or delay tube.

GENERAL DATA

ELECTRICAL:

Cathode		Coated Unipotential
Heater		
Voltage (ac or dc)	6.3	Volts
Current	0.3	Ampere
Direct Interelectrode Capacitances (Unshielded)		
Grid 1 to Plate	0.0035 max.	μuf
Grid 3 to Plate	1.5 max.	μuf
Grid 1 Input	6.0	μuf
Output	5.0	μuf
Grid 3 to All Other Elements	3.0	μuf
Coupling (Grid 1 to Grid 3)	0.09 max.	μuf



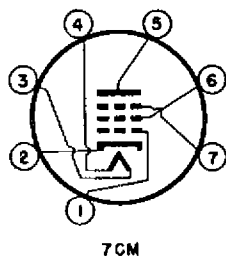
OUTLINE DRAWING

MECHANICAL:

Bulb	T-5 1/2
Base	Miniature 7-Pin (JETEC E7-1)
Outline	5-2
Basing	7CM
Mounting Position	Any

CHARACTERISTICS

Plate Voltage	150	Volts
Grid 2 (Screen) Voltage	150	Volts
Grid 3 Voltage	-3.0	Volts
Grid 1 Voltage	-1.0	Volts
Plate Resistance	50,000	Ohms
Transconductance		
Grid 1 to Plate	2050	μmhos
Grid 3 to Plate	1000	μmhos
Plate Current	5.8	Ma.
Grid 2 Current	6.6	Ma.
Grid 1 Cutoff $\square$	-6.5	Volts
Grid 3 Cutoff $\blacklozenge$	-9.5	Volts



SOCKET CONNECTIONS
BOTTOM VIEW

MAXIMUM RATINGS

(DESIGN CENTER VALUES)

PIN 1 - GRID 1	Plate Voltage	300 max.	Volts
PIN 2 - CATHODE AND INTERNAL SHIELD	Grid 2 Supply Voltage	300 max.	Volts
PIN 3 - HEATER	Grid 2 Voltage		See Grid 2 Input Rating Chart
PIN 4 - HEATER	Positive Grid 1 Voltage	0 max.	Volts
PIN 5 - PLATE	Plate Dissipation	3.0 max.	Watts
PIN 6 - GRID 2	Grid 2 Dissipation	1.0 max.	Watt
PIN 7 - GRID 3	Heater-Cathode Voltage:		
	Heater Positive with Respect to Cathode:		
	DC Component	100 max.	Volts
	Total DC and Peak	200 max.	Volts
	Heater Negative with Respect to Cathode:		
	Total DC and Peak	200 max.	Volts

TEST LIMITS

	Min.	Max.	
HEATER CURRENT	0.275	0.325	Ampere
Heater Volts = 6.3			
PLATE CURRENT			
Heater Volts = 6.3			
Plate Volts = 250			
Grid 2 Volts = 150			
(1) Cathode Bias Resistor § = 68 Ohms	5.5	12.5	Ma.
(2) Grid 1 Volts = -8.0	0	35	μamp
(3) Grid 3 Volts = -15.0 & Grid 1 Volts = -2.0	0	100	μamp
GRID 2 CURRENT			
Heater Volts = 6.3			
Plate Volts = 250			
Grid 2 Volts = 150			
Cathode Bias Resistor § = 68 Ohms	3.3	5.9	Ma.
GRID 1 TRANSCONDUCTANCE			
Heater Volts = 6.3			
Plate Volts = 250			
Grid 2 Volts = 150			
Cathode Bias Resistor § = 68 Ohms			
Initial	3500	5600	μmhos
After 500 hrs. Life Test	3000		μmhos
INTERELECTRODE CAPACITANCES (Shielded) ▲			
Grid 1 to Plate		0.0035	μmf
Input	4.4	6.6	μmf
Output	3.5	6.5	μmf
HEATER-CATHODE LEAKAGE			
Heater 100 Volts Positive			
With Respect to Cathode	0	20	μamp
Heater 100 Volts Negative			
With Respect to Cathode	0	20	μamp
TOTAL GRID CURRENT	0	-1.0	μamp
Heater Volts = 6.3			
Plate Volts = 250			
Grid 2 Volts = 150			
Grid 1 Volts = -1.5			
EMISSION	60		Ma.
Heater Volts = 6.3			
Plate Volts = 20			
Grid 2 Volts = 20			
Grid 1 Volts = 20 ‡			
LIFE TEST (Group A)	500		Hours
Heater Volts = 6.3			
Plate Volts = 250			
Grid 2 Volts = 150			
Grid 3 Volts = 0			
Grid 1 Volts = -4.0			
Load Resistance = 250,000 Ohms			
RADIO FREQUENCY NOISE (Calibrating R.F. Signal is 30 Millivolts)			
Heater Volts = 6.3			
Plate Volts = 250			
Grid 2 Volts = 150			
Cathode Resistor = 68 Ohms			
VIBRATION SIGNAL OUTPUT (at 25 cycles with 2.5G accelerations -		100	millivolts
Heater Volts = 6.3			
Plate Resistor = 2000 Ohms			
Plate Volts = 250			
Grid 1 Resistor = 1.0 Megohm			
Grid 2 Volts = 150			
Grid 3 Resistor = 1.0 Megohm			
Cathode Bias Resistor = 68 Ohms			

NOTES

- For Plate Current of 10 μamp.
- ▲ For Plate Current of 100 μamp.
- § Bypassed by Capacitor whose impedance is 5 ohms or less at frequency used.
- ▲ JETEC Shield No. 316 connected to cathode.
- ‡ Cathode-Bias Resistor equals 0.