

ROGERS

4ES8
5ES8
7ES8

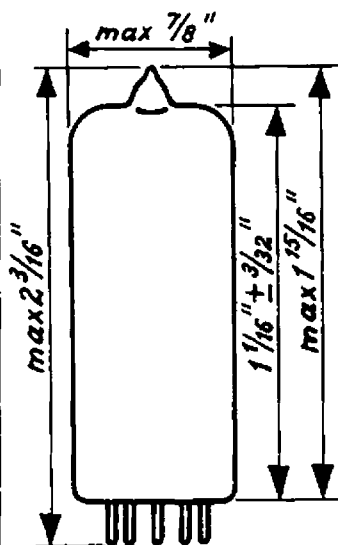
DESCRIPTION

Double triode with high transconductance, variable mu and low noise for use as V.H.F. cascode amplifier in T.V. tuners.

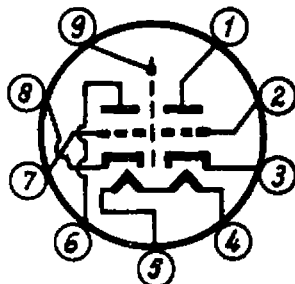
MECHANICAL DATA

Cathode	coated, unipotential
Base	E9-1
Bulb	T6 1/2
Outline	6-2
Basing	9 DE
Mounting position	any

TUBE OUTLINE



BOTTOM VIEW OF BASE



BASE PIN No.

1	Plate	} grounded-grid output section
2	Grid	
3	Cathode	
4	Heater	} grounded-cathode input section
5	Heater	
6	Plate	
7	Grid	} grounded-cathode input section
8	Cathode	
9	Internal shield	

HEATER DATA

	4ES8	5ES8	7ES8
Heater voltage	4.5	5.6	7.2 volts
Heater current	0.6	0.45	0.3 amp

DIRECT INTERELECTRODE CAPACITANCES

	<u>without</u> <u>external shield</u>	<u>with</u> <u>external shield</u>	
<u>Grounded-cathode section</u>			
Grid to all other elements except plate	3.5	3.5	μF
Plate to all other elements except grid	1.7	2.3	μF
Plate to grid	1.9	1.9	μF
Grid to heater	< 0.28	< 0.28	μF

DIRECT INTERELECTRODE CAPACITANCES (continued)

	<u>without</u>	<u>with</u>	
	<u>external shield</u>	<u>external shield</u>	
<u>Grounded grid section</u>			
Cathode to all other elements except plate	6.0	6.0	μμF
Plate to all other elements except cathode	3.4	4.0	μμF
Plate to grid	1.9	1.9	μμF
Cathode to heater	3.0	3.0	μμF
Plate to cathode	0.18	0.17	μμF
<u>Between grounded-cathode and grounded-grid section</u>			
Plate to plate	< 0.045	< 0.015	μμF
Grid (grounded-cathode section) to plate (grounded-grid section)	< 0.004	< 0.004	μμF

MAXIMUM RATINGS (design center values, each section)

Plate voltage (without current)	550 volts max.
Plate voltage	130 volts max.
Plate dissipation	1.8 watts max.
Cathode current	22 mamps max.
Negative grid voltage	50 volts max.
Grid circuit resistance	
grounded-cathode section	1 megohm max.
grounded-grid section	0.5 megohm max.
Cathode to heater voltage	
grounded-cathode section	80 volts max.
grounded-grid section (cathode positive)	180 volts max. ¹⁾
Circuit resistance between cathode and heater	20000 ohms max.

TYPICAL CHARACTERISTICS (each section)

Plate voltage	90	90	90 volts
Grid bias	-1.4	-5	-9 volts
Plate current	15		mamps
Transconductance	12500	625	125 micromhos
Plate resistance	2500		ohms

REMARK

In order not to exceed the maximum permissible plate voltage when the cascode amplifier is controlled, it is necessary to use a voltage divider for the grid of the grounded-grid section.

¹⁾ D.C. component max. 130 volts.