

ELECTRONIC TUBE REFERENCE

5ES8

Voltage - Dual Triode (similar high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

5ES8 (YCC189) semi-remote-cutoff dual VHF triode for low-noise cascode amplification in television tuners, with 5.6 V 450 mA heater and 9AJ miniature base.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9AJ	BASE PINS	9
NOMINAL HEATER	5.6 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

9AJ - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2P	B	P – Plate (Anode)	CONNECTED
PIN2 – 2G1	B	G1 – Control Grid	CONNECTED
PIN3 – 2K	B	K – Cathode	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – 1P	A	P – Plate (Anode)	CONNECTED
PIN7 – 1G1	A	G1 – Control Grid	CONNECTED
PIN8 – 1K	A	K – Cathode	CONNECTED
PIN9 – IS	A	IS – Internal Screen	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	2600 Ω
TRANSCONDUCTANCE	0.0125 S
AMPLIFICATION FACTOR	34
MAXIMUM PLATE VOLTAGE	130 V
MAXIMUM PLATE DISSIPATION	1.8 W
MAXIMUM CATHODE CURRENT	22 mA
5ES8/YCC189 variable-mu cascode physical triode section 1, grounded-cathode input (pins 6,7,8). Design-center max operating plate 130 V, plate dissipation 1.8 W, cathode current 22 mA, grid negative limit -50 V, grid circuit resistance max 1 MΩ. Max PLATE SUPPLY at zero plate current 550 V is separate rating and not a normal plate operating maximum. Typical V_a 90 V V_g -1.2 V I_a 15 mA, gm 0.0125 A/V, mu 34, rp 2600 Ω. At V_g -5 V gm 625 μmhos (remote cutoff). Cascode supply 180 V, I_a 15 mA, noise figure 6.5 dB. Direct capacitances C_{gp} 1.85 pF, C_{pk} 0.18 pF unshielded/0.17 shielded, Chk 3.0 pF. Heater-cathode limits depend on section and DC/peak/RMS, see parent notes. 9AJ base.	

SECTION2 Triode	
PLATE RESISTANCE	2600 Ω
TRANSCONDUCTANCE	0.0125 S
AMPLIFICATION FACTOR	34
MAXIMUM PLATE VOLTAGE	130 V
MAXIMUM PLATE DISSIPATION	1.8 W
MAXIMUM CATHODE CURRENT	22 mA
5ES8/YCC189 variable-mu cascode physical triode section 2, grounded-grid output (pins 1,2,3). Design-center max operating plate 130 V, plate dissipation 1.8 W, cathode current 22 mA, grid negative limit -50 V, grid circuit resistance max 1 MΩ. Max PLATE SUPPLY at zero plate current 550 V is separate rating and not a normal plate operating maximum. Typical V_a 90 V V_g -1.2 V I_a 15 mA, gm 0.0125 A/V, mu 34, rp 2600 Ω. At V_g -5 V gm 625 μmhos (remote cutoff). Cascode supply 180 V, I_a 15 mA, noise figure 6.5 dB. Direct capacitances C_{gp} 1.85 pF, C_{pk} 0.18 pF unshielded/0.17 shielded, Chk 3.0 pF. Heater-cathode limits depend on section and DC/peak/RMS, see parent notes. 9AJ base.	

5ES8 is a DualTriode device. High-performance frame-grid remote-cutoff twin triode for low-noise cascode television tuner service.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Amperex Condensed

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1963 AMPEREX CONDENSED

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	12500 μ S	EachUnit

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and their source documents.

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