

Tung-Sol 7591A and Other Test Results

Note-1 Currents in mA, Gm in umhos, Rp in K Ω , voltages in volts

Note-2 Power rises during test. Mean of initial and value at ~30-sec.

Note-3 TS=Tung-Sol, EH=Electro-Harmonix, GM=6GM5 NOS rebased as 7591.

Note-4 Power faded from initial 346.5Vpp.

Note-5 Power tests are with RL=1650 Ω , Vb=Vg2=400V, Iq=30mA.

Note-6 100% power derived from load line and datasheet plate curves. Vpp=350, P=18.56W.

Note-7 Symbol \uparrow indicates the value continues to rise during test.

Note-8 Vg1 for 60mA is more negative than the initial -10V for 59.6mA due to tube warming during test.

Note-9 Vpp measurements are adjusted by 1.5V for diode drops and peak clipping.

Tube#	Ih	Vg1=-10 Ia	Vg1=-10 Ig2	Ia=60 Vg1	Ia=60 Gm	Ia=60 Rp	Power Vpp	Power Watts	Power %	Notes
Ideal	800	60.0	8.0	-10.00	10200	29.0	350.0	18.6	100	
TS-1	864	68.7	5.0	-11.13	9731	37.0	340.1	17.5	94	
TS-2	860	55.7	4.2	-9.70	9652	37.2	344.3	18.0	97	
TS-3	841	55.9	5.0	-9.70	9249	35.5	347.2	18.3	98	
TS-4	848	69.0	5.4	-11.12	9580	36.1	346.5	18.2	98	
TS-5	843	66.0	4.3	-10.72	10000	36.1	350.3	18.6	100	
TS-6	851	61.2	4.3	-10.26	9485	37.9	345.2	18.1	97	
TS-7	829	55.3	3.6	-9.70	9470	40.3	316.5	15.2	82	
TS-8	841	75.9	6.4	-11.70	9453	34.0	341.5	17.7	95	
RCA	816	52.5 \uparrow	5.4 \uparrow	-9.46	10788	24.5	351.5	18.7	101	
EH-1	983	49.6	2.7	-8.97	9945	113.3	352.7	18.8	102	Note-2
EH-2	983	54.2	3.8	-9.39	10765	80.4	346.0	18.1	98	Note-2
EH-3	972	48.5	2.8	-8.81	9628	124.1	346.3	18.2	98	
EH-4	990	50.4	3.0	-9.04	10404	110.5	350.0	18.6	100	Note-2
GM-1	818	63.5 \uparrow	8.1 \uparrow	-10.48	10773	21.8	344.5	18.0	97	Note-4
GM-2	817	50.6	6.4	-9.03	10245	25.6	331.0	16.6	89	
GM-3	819	59.6	7.3	-10.17	10488	22.7	342.1	17.7	96	Note-8
GM-4	836	61.7	7.5	-10.19	10974	22.2	343.1	17.8	96	

Symbol Definitions:

Gm	transconductance, umhos
Ia	plate (anode) current, mA
Ig2	screen grid current, mA
Ih	heater current, mA
Iq	quiescent current, with no drive, mA
P	power, W
RL	plate load resistance, Ω
Rp	plate resistance
Vb	B+ voltage applied to load resistor, V
Vg1	control grid voltage, V
Vg2	screen grid voltage, V
Vpp	peak-to-peak voltage swing at the plate, V