

ES1101
RADIATION COOLED TRIODE
TENTATIVE

GENERAL

The ES1101 is an indirectly heated power triode intended for use under zero bias conditions in Class B Push Pull Audio Amplifiers. It has a maximum anode dissipation of 40 watts and a maximum power output per pair of valves of 200 watts.

RATING

Heater Voltage (volts)	V_h	7.5
Heater Current (amps)	I_h	1.2
Maximum Anode Voltage (volts)	$V_a(\max)$	1250
Maximum (Mean) Cathode Current (mA)	$I_k(\text{av})\max$	200
Maximum Anode Dissipation (watts)	$P_a(\max)$	40
Mutual Conductance (mA/V)	g_m	3.0*
Amplification Factor	μ	72*
Anode Impedance (kilohms)	r_a	24*

* Measured at $V_a=1000V$; $I_a=40mA$

INTER-ELECTRODE CAPACITANCES (pF)

Anode/Grid	C_{a-g}	4.0
Anode/Cathode	C_{a-k}	1.0
Grid/Cathode	C_{g-k}	5.2

DIMENSIONS

Maximum Overall Length	(mm)	156
Maximum Seated Height	(mm)	141
Maximum Diameter	(mm)	52
Approximate Nett Weight	(ozs)	2
Approximate Packed Weight	(ozs)	4

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MOUNTING POSITION—Vertical, base downwards

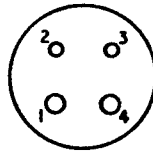
TYPICAL OPERATION—Push Pull Class B Audio Output
 (Values per valve)

Anode Voltage (volts)	V_a	1000	1250
Anode Current (no signal) (mA)	$I_{a(0)}$	25	20
Anode Current (maximum signal) (mA)	$I_{a(\text{max sig})}$	137	120
Grid Bias (volts)	V_g	0	—4.0
Grid Current (Mean) (mA)	$I_{g(\text{av})}$	25	20
Grid Current (Peak) (mA)	$I_{g(\text{pk})}$	50	42
Input Voltage (grid to grid) (peak) (volts)	$V_{in(g-g)}$	200	200
Drive Power (watts)	P_{dr}	2.5	2.2
Anode Dissipation (no signal) (watts)	$P_{a(0)}$	12.5	12.5
Anode Dissipation (max signal) (watts)	$P_{a(\text{max sig})}$	25	25
Anode Load (anode to anode) (kilohms)	R_{a-a}	10	13
Power output (total) (watts)	P_{out}	175	200
Distortion (%)	D	6	6
Input Impedance (grid to grid) (kilohms)	$Z_{in(g-g)}$	4	4.5
Output Impedance (kilohms)	Z_{out}	15	15

The above conditions apply to speech and music only. For continuous sine wave modulation the anode load should be increased by not less than 20% to avoid excessive dissipation.

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BASE—UX4



Viewed from free end of pins.

TOP CAP—CT2

CONNECTIONS

Pin 1	Heater	h
Pin 2	Cathode	k
Pin 3	Grid	g
Pin 4	Heater	h
Cap	Anode	a