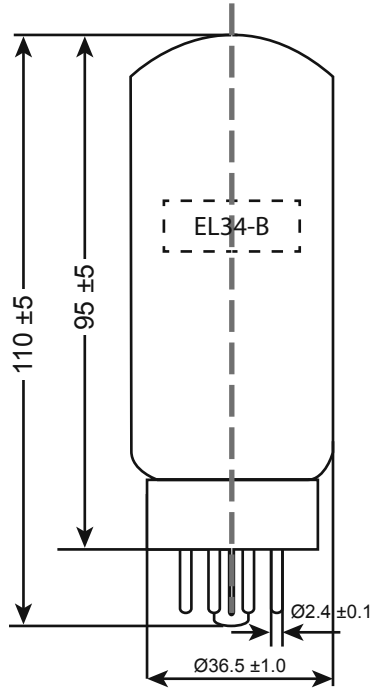


1. Overview

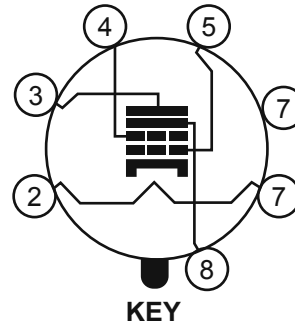
The EL34 is a beam-power pentode primarily designed for use in audio frequency power amplifier applications. Features of the tube include high power output capabilities, high plate and screen dissipation ratings.

2. Specifications

Heater	
U_H	6.3 V
I_H	1.5 A
Maximum Ratings	
Plate Voltage	800 V
Grid #2 Voltage	500 V
Grid #1 Voltage	-100 V
Plate Dissipation	25 W
Grid #2 Dissipation	8 W
Cathode current	150 mA
Grid #1 Resistance	
Cathode Bias	0.7 M Ω
Fixed Bias	0.5 M Ω
Heater-Cathode Voltage	± 100 V
Glass shell temperature	250 $^{\circ}$ C
Direct Interelectrode Capacitances	
Input	15.2 PF
Output	8.4 PF
Transfer Capacitance	1.1 PF
Grid #1-Heater	1.0 PF
Heater-Cathode	10 PF
Static Parameter	
U_a	250 V
U_{g_2}	250 V
U_{g_3}	0 V
$-U_{g_1}$	12.2 V
I_a	100 mA
G_m	11 mA/V
r_i	15 k Ω
$\mu_{g_1-g_2}$	11



BASING DIAGRAM



Terminal Connections

- Pin 1 – No Connection
- Pin 2 – Heater
- Pin 3 – Plate
- Pin 4 – Grid Number 2 (Screen)
- Pin 5 – Grid Number 1
- Pin 7 – Heater
- Pin 8 – Cathode and Beam Plates

Characteristics And Typical Operation Class A1 Amplifier		
U _a (b)	265	265 V
U _a	250	250 V
U _{g₂}	R _{g₂} = 2 k	R _{g₂} = 0
U _{g₃}	0	0 V
U _{g₁}	14.5	13.5 V
I _a (0)	70	100 mA
I _{g₂} (0)	10	14.9 mA
G _m	9	11 mA/V
r _i	18	15 kΩ
R _L	3	2 kΩ
P _{out}	8	11 W
D _{tot}	10	10%

Class B1 Amplifier		
Ua	375	400 V
▲Rg ₂	600	800 Ω
Ug ₃	0	0 V
-Ug ₁	33	36 V
Ia(0)	2 x 30	2 x 30 mA
Ia (max . sig)	2 x 107.5	2 x 110.5 mA
Ig ₂ (0)	2 x 4.7	2 x 4.5 mA
Ig ₂ (max . sig)	2 x 23.5	2 x 23 mA
R _L (a - a)	3.5	3.5 kΩ
Ū (g ₁ —g ₁)(r.M.S)	46.7	50 V
Pout	48	54 W
Dtot	2.8	1.6%

▲Rg₂ common screen grid resistor; non decouple

Class B1 Amplifier, Ultra Linear Connection (43% tapping points)	
Ua	430 V
Rg ₂	2 x 1 kΩ
Ia (0)	2 x 62.5 mA
Ia (max . sig)	2 x 65 mA
Ig ₂ (0)	2 x 10 mA
Ig ₂ (max . sig)	2 x 10.2 mA
R _k	2 x 470 Ω
Ū (g ₁ —g ₁)(r.M.S)	35 V
R _L (a-a)	6 kΩ
Pout	20 W
Dtot	0.35%

