

Datasheet EI EL34



EL34 is A.F. Output Pentode suitable for use in power amplification

Quick reference data

- Anode current $I_a=100\text{mA}$
- Transconductance $S=12,5\text{mA/V}$
- Amplification $m_{g2g1}=11$
- Output power, Class B $W_O=100\text{W}$

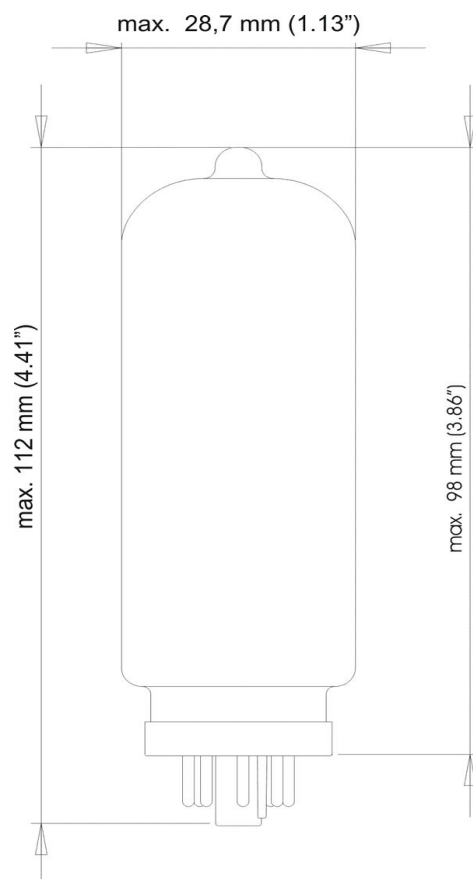
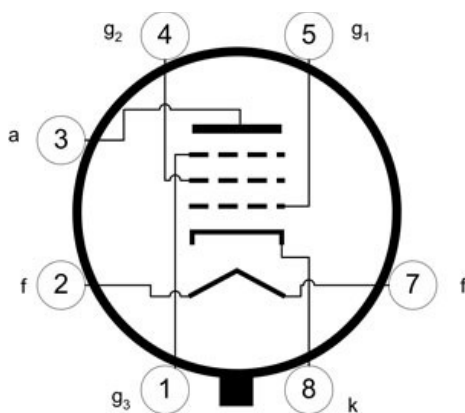
Heating

Heating is indirect by AC or DC, with parallel supply.

Heater voltage	Vf	6,3	(V)
Heater current	If	1,5	(A)

Dimensions and connections

Base: Octal



Datasheet EI EL34

Operating characteristics – Class A

Supply voltage	Vb	265	265	(V)
Anode voltage	Va	250	250	(V)
Grid No. 2 series resistor	Rg2	2	0	(kW)
Grid No. 3 voltage	Vg3	0	0	(V)
Grid No 1 . voltage	Vg1	-14,5	-13,5	(V)
Anode current	Ia	70	100	(mA)
Grid No. 2 current	Ig2	10	14,9	(mA)
Transconductance	S	11	12,5	(mA/V)
Amplification factor	mg2g1	11	11	
Internal resistance	Ri	20	17	(kW)
Load resistance	Raa	3	2	(kW)
Grid No. 1 driving voltage	Vi	9,3	8,7	(VRMS)
Output Power	WO	8	11	(W)
Distortion	dtot	10	10	(%)
Grid No. 1 driving voltage for WO = 50 mW	Vi	0.65	0,5	(VRMS)

Datasheet EI EL34

Operating characteristics - Class B, two tubes in push-pull

Common grid No.2 series resistor (non decoupled)	Rg2	1000			470			(W)
Grid No.1 voltage	Vg1	-38			-32			(V)
Grid No. 3 voltage	Vg3	0			0			(V)
Grid No. 1 driving voltage	Vi	0	27	27	0	22,7	22,7	(VRMS)
Load resistance	Raa	3,4	4		2,8	3,8		(kW)
Stupply voltage	Vb	425	425	400	375	375	350	(V)
Anode voltage	Va	420	400	375	370	350	325	(V)
Anode current	Ia	2×30	2×120	2×100	2×35	2×120	2×93	(mA)
Grid No. 2 current	Ig2	2×4,4	2×25	2×25	2×4.7	2×25	2×25	(mA)
Output power	WO	0	55	45	0	44	36	(W)
Distortion	dtot	5	6		5	6		(%)

Common grid No.2 series resistor (non decoupled)	Rg2	750			750			(W)
Grid No.1 voltage	Vg1	-36			-39			(V)
Grid No. 3 voltage	Vg3	0			0			(V)
Grid No. 1 driving voltage	Vi	0	25,8	25,8	0	23,4	23,4	(VRMS)
Load resistance	Raa	4	5		11	11		(kW)
Stupply voltage	Vb	500	500	475	800	800	750	(V)
Anode voltage	Va	495	475	450	795	775	725	(V)
Anode current	Ia	2×30	2×125	2×102	2×25	2×91	2×84	(mA)
Grid No. 2 current	Ig2	2×4	2×25	2×25	2×3	2×19	2×19	(mA)
Output power	WO	0	75	58	0	100	90	(W)
Distortion	dtot	5	6		5	6		(%)

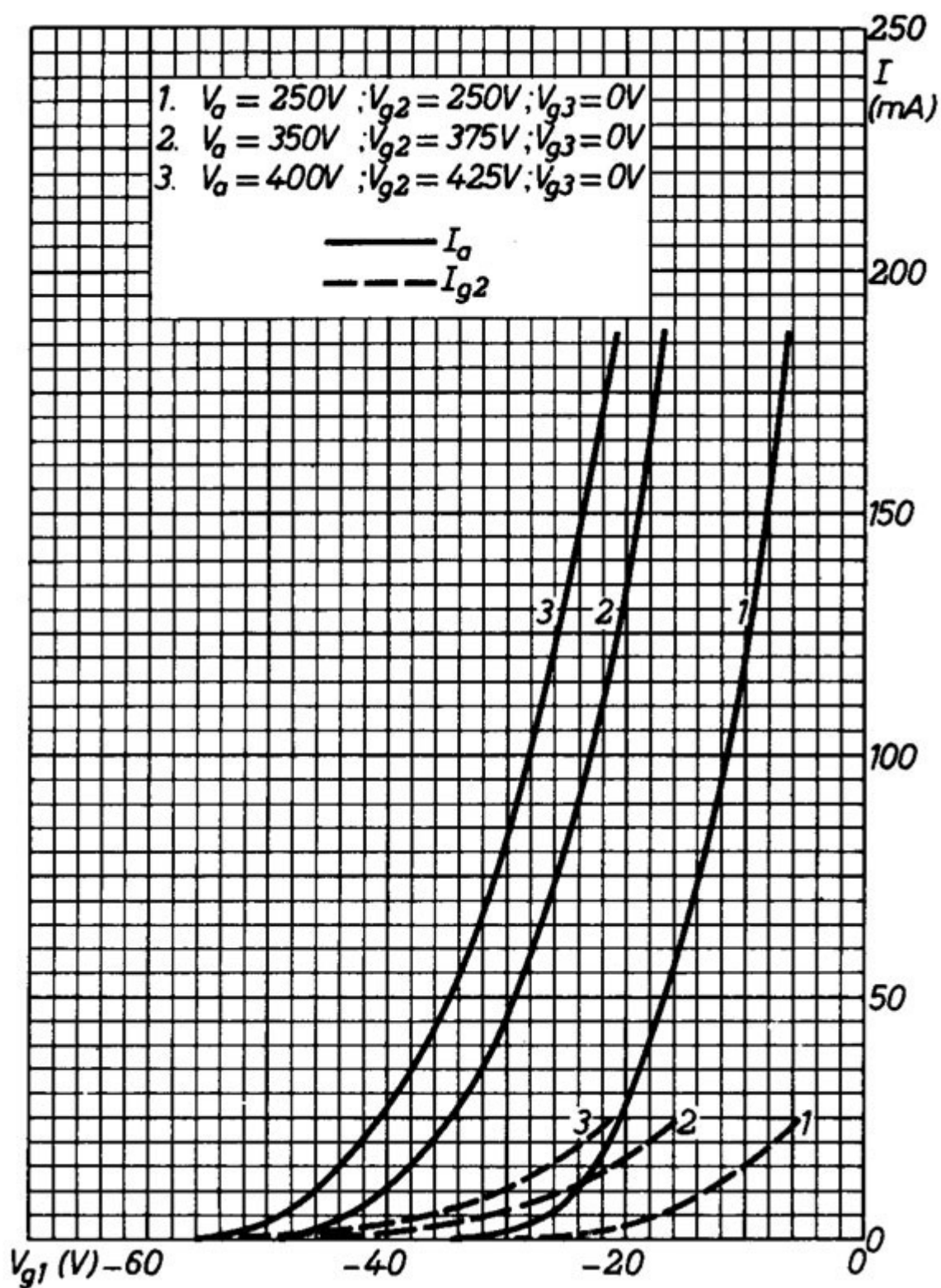
Datasheet EI EL34

Operating characteristics - Class AB, two tubes in push-pull

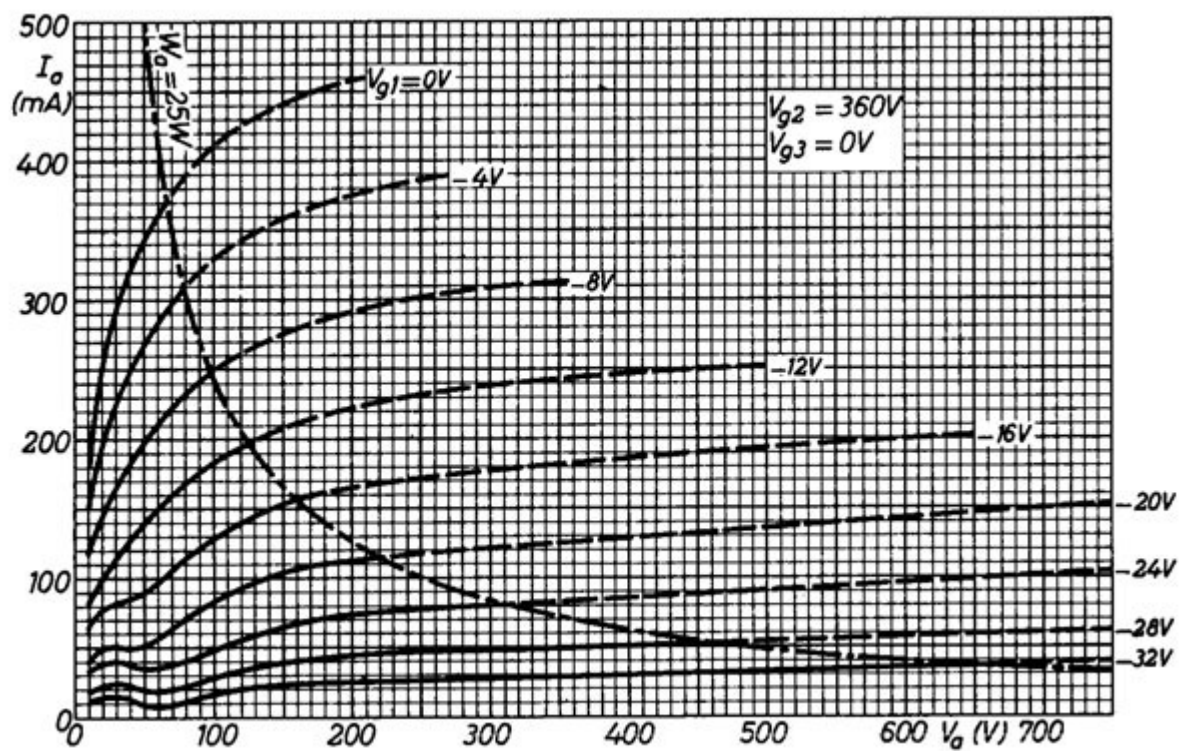
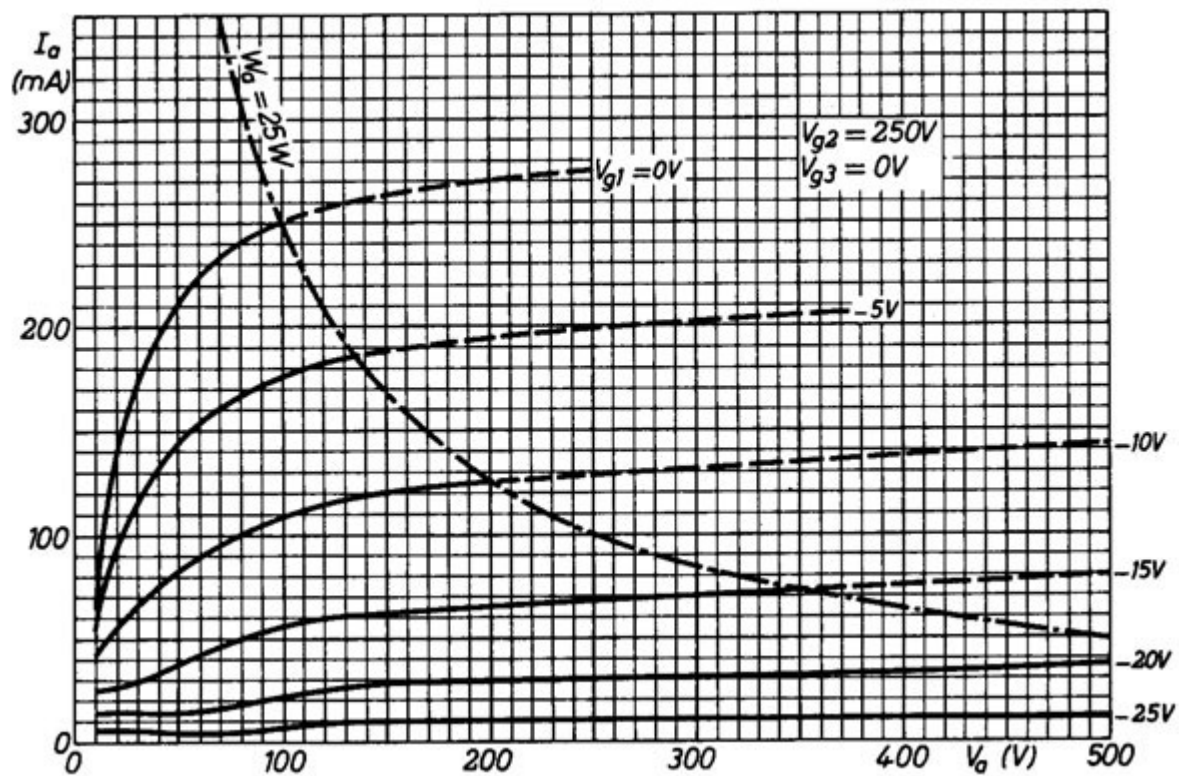
Load resistance	Raa	3,4		(kW)
Common grid No.2 series resistor (non decoupled)	Rg2	470		(W)
Common cathode resistor	Rk	130		(W)
Grid No. 3 voltage	Vg3	0		(V)
Grid No. 1 driving voltage	Vi	0	21	(V)
Stupply voltage	Vb	375	375	(V)
Anode to earth voltage	Va+VRk	355	350	(V)
Anode current	Ia	2×75	2×95	(mA)
Grid No. 2 current	Ig2	2×11.5	2×22.5	(mA)
Output power	WO	0	35	(W)
Distortion	dtot	5		(%)

Limiting - maximal values (design center rating system)

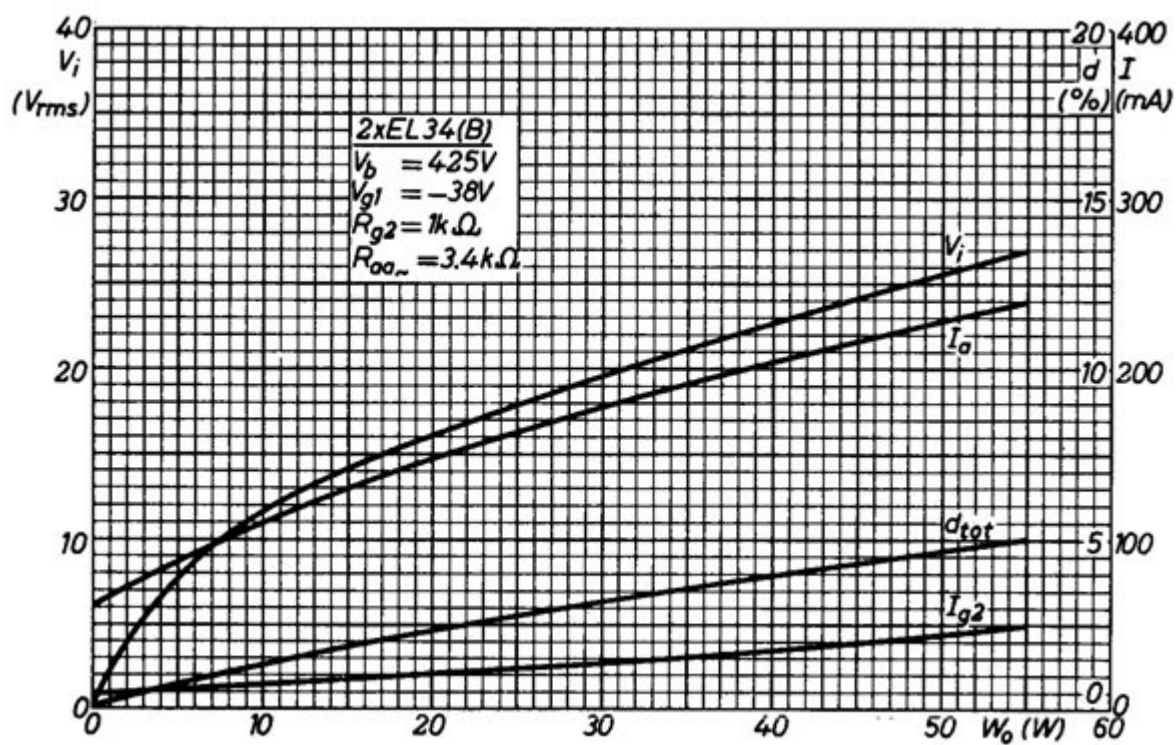
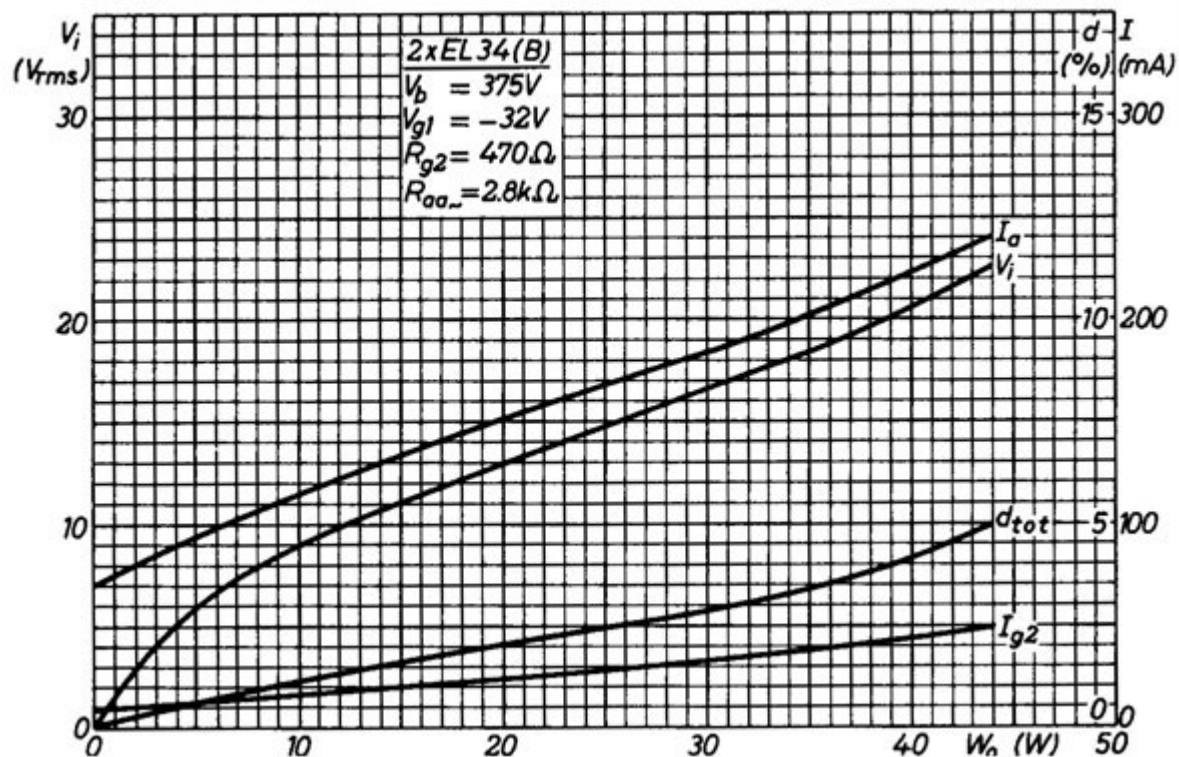
Anode voltage	Vao	2000	(V)
	Va	800	
Grid No. 2 voltage	Vg2o	800	(V)
	Vg2	500	
Anode dissipation	Wa(Vi=0)	25	(W)
	Wa(Vi>0)	27,5	
Grid No. 2 dissipation	Wg2	8	(W)
Cathode current	Ik	150	(mA)
Grid No. 1 resistor	Rg1(Class A & AB)	0,7	(MW)
	Rg1(Class B)	0,5	
Cathode to heater voltage	Vkf	100	(V)



Datasheet EI EL34



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