



SIEMENS



Special Quality Tubes

Special Quality Tubes

Twin Diode

Type	Design and Application	Heating		Maximum Ratings				Remarks
		E_f V	I_f A	$E_{b \text{ peak}}$ V	I_b mA	$I_{b \text{ peak}}$ mA	$E_{fk \text{ peak}}$ V	
E 91 AA 5726	Twin diode	6.3	0.3	360	10	60	360	

Triodes

Type	Design and Application	Heating		Characteristics			Max. Ratings		Remarks
		E_f V	I_f A	I_b mA	S_m mA/V	μ	I_k mA	P_p W	
E 86 C	UHF-Triode up to 800 Mc	6.3	0.165	12	14	68	20	2.4	
E 88 C	UHF-Triode up to 1000 Mc	6.3	0.155	12.5	13.5	65	15	2.4	
EC 8010	UHF-Power-Triode up to 1000 Mc	6.3	0.28	25	28	60	35	4.5	
ED 8000	High Transconductance Power Triode for electronically stabilized power supply	6.3	0.8	150	16	3.6	180	17	

Twin Triodes

E 80 CC 6085	Twin triode for af and automatic control amplifiers	6.3 12.6	0.6 0.3	6	2.7	27	12	2	
E 81 CC 6201	Twin triode for rf amplifiers, oscillators and mixers up to 300 Mc	6.3 12.6	0.3 0.15	10	5.5	60	18	2.8	$S_c = 1.8 \text{ mA/V}$
E 82 CC 6189	Twin triode for af amplifiers and multivibrators	6.3 12.6	0.3 0.15	10.5	2.2	17	22	3	
E 83 CC 6057	Low microphonic twin triode for af voltage amplifiers	6.3 12.6	0.3 0.15	1.25	1.6	100	9	1.2	
E 88 CC 6922	High transconductance, low noise universal twin triode	6.3	0.3	15	12.5	33	20	1.5	$r_g (100 \text{ Mc}) = 3 \text{ k}\Omega$
E 90 CC 5920	Twin triode for computer	6.3	0.4	8.5	6.0	27	15	2	
E 188 CC 7308	High transconductance, low microphonic twin triode	6.3	0.335	15	12.5	33	22	1.65	$r_g (100 \text{ Mc}) = 3 \text{ k}\Omega$
E 283 CC	Low hum, low microphonic twin triode for af voltage amplifiers	6.3	0.33	1.25	1.6	100	9	1.2	$E_{\text{hum}} < 5 \mu\text{V}$
E 288 CC 8223	High transconductance, low noise power twin triode	6.3	0.475	30	20	25	40	3	$R_{\text{eq}} = 200 \Omega$
ECC 2000	High transconductance low noise universal twin triode	6.3	0.33	27	22/17.5	28/27	40	2.7	
ECC 8100	High transconductance, low noise universal twin triode	6.3	0.33	25	16/20	30	40	2.5	
5751	Twin triode for voltage amplifiers	6.3 12.6	0.35 0.175	1	1.2	70	9	0.8	
5814 A	Twin triode for amplifiers and blocking oscillators	6.3 12.6	0.35 0.175	10.5	2.2	17	22	3	
6463	Twin triode for computer	6.3 12.6	0.6 0.3	14.5	5.2	20	31	4.4	$I_{k \text{ peak max}} = 300 \text{ mA}$

Special Quality Tubes

Pentodes

Type	Design and Application	Heating		Characteristics			Max. Ratings		Remarks
		E_t V	I_t A	I_b mA	S_m mA/V	u_{g_2, g_1}	I_k mA	P_p W	
E 80 F 6084	Low Hum Pentode for Audio and Measuring Amplifiers	6.3	0.3	3	1.85	25	9	1.3	
E 83 F 6689	Pentode for broadband RF- and IF-Amplifiers	6.3	0.3	10	9	38	16	2.1	
E 180 F 6688	Broadband pentode	6.3	0.3	13	16.5	50	25	3	r_g (100 Mc) = 2k Ω
E 280 F 7722	High transconductance, low noise universal broadband pentode	6.3	0.315	20	26	60	30	4	$S_m/C = 2.2$ mA/VpF
5654 6 AK 5 W	Universal broadband pentode	6.3	0.175	7.5	5	32.5	20	1.65	$S_m C = 0.75$ mA/VpF
7721	High transconductance, low noise broadband pentode	6.3	0.315	22	35	80	30	4.2	

Power Pentodes

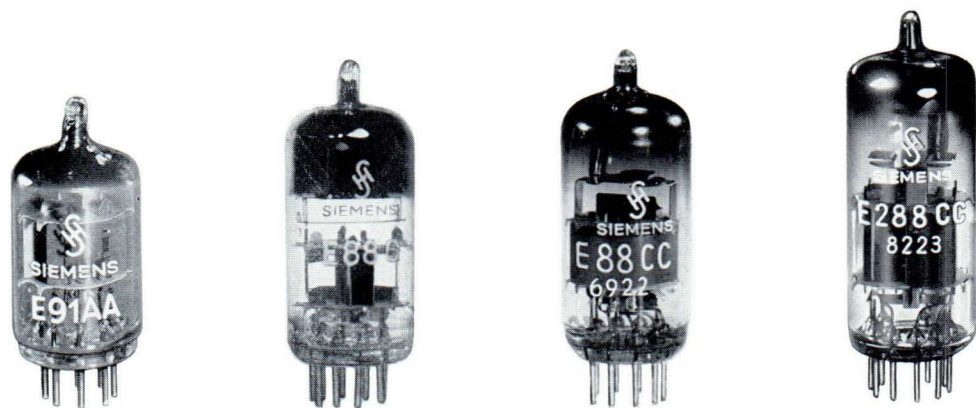
E 55 L 8233	High transconductance power pentode	6.3	0.6	50	45	30	75	10	
E 80 L 6227	Power pentode for af amplifiers	6.3	0.75	30	9	21.5	50	8	
E 84 L 7320	Power pentode for af and broadband amplifiers	6.3	0.76	48	11.3	19	100	13.5	
E 130 L 7534	High transconductance power pentode	6.3	1.7	100	27.5	6.5	300	27.5	
E 235 L 7751	Power pentode, especially for stabilized power supplies	6.3	1.2	100	14	5.6	220	15	
E 236 L	Power pentode for horizontal deflection	6.3	1.2	100	14	5.6	220	15	$E_{b \text{ peak max}} = 7$ kV
E 282 F	High transconductance, low distortion broadband power pentode	6.3	0.35	35	26	27	50	4.2	$S_m/C = 2.2$ mA/VpF
E 810 F 7788	High transconductance broadband power pentode	6.3	0.34	35	50	57	50	5	
EL 3010	High transconductance pentode	6.3 12.6	2.2 1.1	200	80	16	350	35	
EL 8000	High transconductance pentode	6.3 0.55		65	60	80	100	12	
F 2 a 11	High transconductance power tetrode	6.3	2.0	100	18	17.5	140	30	

Triodes-Pentodes

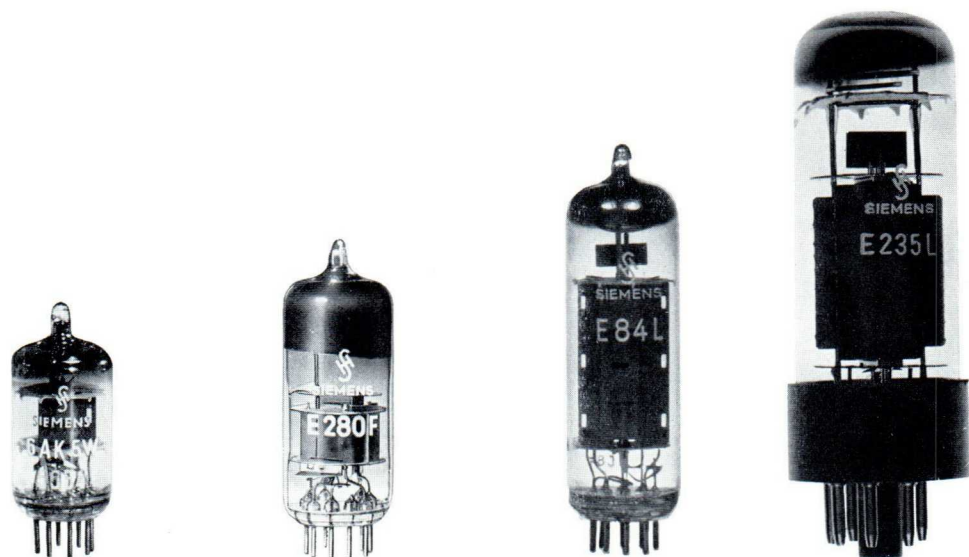
E 80 CF 7643	Triode for oscillators up to 300 Mc	6.3	0.33	14	5	40	18	1.75	
	Pentode for af and rf amplifiers			10	6.2		18	2.15	
ECF 8070	Triode for oscillators up to 300 Mc	6.3	0.38	14	5.5	70	15	1.5	
	pentode for af and rf amplifiers			10	12		18	2	

Special Quality Tubes

4



Type	E 91 AA/5726	E 88 C	E 88 CC/6922	E 288 CC/8223
Overall length max.	45.1 mm	56.2 mm	56.2 mm	61.7 mm
Diameter max.	19 mm	22.2 mm	22.2 mm	22.2 mm



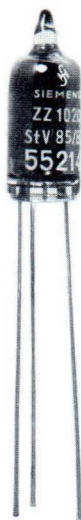
Type	5654	E 280 F	E 84 L	E 235 L/7751
Overall length max.	45.1 mm	61.7 mm	78.4 mm	100 mm
Diameter max.	19 mm	22.2 mm	22.2 mm	33 mm

Tubes for Telecommunication Systems



Type	CC a	D 3 a	C 3 m
Overall length max.	56.2 mm	61.7 mm	69.4 mm
Diameter max.	22.2 mm	22.2 mm	32 mm

Voltage Regulator Tubes



Type	ZZ 1020	85 A 2	ZZ 1040	108 C 1
Overall length max.	28 mm	546 mm	65.7 mm	67.3 mm
Diameter max.	10 mm	19 mm	30.2 mm	19 mm

Tubes for Telecommunication Systems

Type	Design and Application	Heating		Characteristics			Max. Ratings		Remarks
		E_f V	I_f A	I_b mA	S_m mA/V	μ	I_K mA	P_p W	
CC a	High transconductance, low noise universal twin triode	6.3	0.3	15	12.5	33	20	1.5	$R_{eq} = 300 \Omega$
C 3 g	High transconductance, low noise broadband pentode	6.3	0.37	13	14	—	30	3.5	$R_{eq} = 450 \Omega$
C 3 m } C 3 o }	Universal pentode	20	0.125	16	6.5	—	30	4	
		6.3	0.4						
D 3 a	High transconductance, low noise broadband pentode	6.3	0.315	22	35	—	30	4.2	$S_m/C = 2.9 \text{ mA/VpF}$
F 2 a	Power tetrode	6.3	2.0	100	18	—	140	30	

For replacement purposes further tubes for telecommunication systems are available
Aa, Ba, Bas, Be, Bh, Bi, Cd, Ce, Cf, C3b, C3e, C3f, Da, Ec, Ed, E2d, E2e, Z2b, Z2c, Z2e

Voltage Regulator Tubes

Type	Design	Ionization Voltage	Tube voltage Drop	$I_{b\text{ogey}}$	Regulation Range	Dynamic Internal Resistance
		V	V	mA	mA	Ω
85 A 2 0 G 3	Precision regulator tube	125	83 to 87	5.5	1 to 10	280
108 C 1 0 B 2	Regulator tube	127	106 to 111	17.5	5 to 30	100
150 C 2 0 A 2	Regulator tube	180	144 to 164	17.5	5 to 30	100
ZZ 1010	Regulator tube	112	83.6 to 85.2	30	4 to 70	100
ZZ 1020 STV 85/8	Regulator tube	112	83.9 to 85.3	8	1.7 to 8	480
ZZ 1030 STV 500/01	Regulator tube	155	123 to 127	0.1	0.09 to 0.5	12
ZZ 1040 STV 100/60	Regulator tube	125	98 to 101	60	5 to 60	

For further information, please write to Siemens AG
Werk für Röhren, 8000 München 80, St.-Martin-Str. 76