

  
**SIEMENS**

# Industrial Receiving Tubes



# Industrial Receiving Tubes

## Twin Diode

Type	Order No.	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	Q 32-X 809	Twin diode	6.3	0.3	360	10	60	360	

## Triodes

Type	Order No.	Design and Application	Heating		Characteristics			Max. Ratings		Remarks
			$E_f$ V	$I_f$ A	$I_b$ mA	$S_m$ mA/V	$\mu$	$I_k$ mA	$P_p$ W	
E 86 C 8562	Q 32-X 806	UHF-Triode up to 800 Mc	6.3	0.165	12	14	68	20	2.4	
E 88 C 8556	Q 32-X 808	UHF-Triode up to 1000 Mc	6.3	0.155	12.5	13.5	65	15	2.4	
EC 8010	Q 32-X 874	UHF-Power-Triode up to 1000 Mc	6.3	0.28	25	28	60	35	4.5	
ED 8000	Q 32-X 875	Power Triode	6.3	0.8	150	16	3.6	180	17	
7586	Q 34-X 8001	Nuvistor-Triode	6.3	0.135	9	10	28	15	1	

## Twin Triodes

E 80 CC 6085	Q 32-X 801	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	Q 32-X 802	Twin triode for af 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	Q 32-X 803	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	Q 32-X 804	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	Q 32-X 807	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	Q 32-X 825	Twin triode for computer	6.3	0.4	8.5	6.0	27	15	2	
E 188 CC 7308	Q 32-X 839	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	Q 32-X 815	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	Q 32-X 816	High transconductance, low noise power twin triode	6.3	0.475	30	20	25	40	3	$R_{ep} = 200 \Omega$
ECC 2000	Q 32-X 903	High transconductance low noise universal twin triode	6.3	0.33	27	22/17.5	28/27	40	2.7	
ECC 8100	Q 32-X 904	High transconductance, low noise universal twin triode	6.3	0.33	25	16/20	30	30	2.5	
5751	Q 32-X 8013	Twin triode for voltage amplifiers	6.3 12.6	0.35 0.175	1	1.2	70	9	0.8	
5814 A	Q 32-X 8015	Twin triode for amplifiers and blocking oscillators	6.3 12.6	0.35 0.175	10.5	2.2	17	22	3	$I_k \text{ peak max} = 300 \text{ mA}$
6463	Q 32-X 8030	Twin triode for computer	6.3 12.6	0.6 0.3	14.5	5.2	20	31	4.4	

# Industrial Receiving Tubes

## Pentodes

Type	Order No.	Design and Application	Heating		Characteristics			Max. Ratings		Remarks
			$E_f$ V	$I_f$ A	$I_b$ mA	$S_m$ mA/V	$\mu_{g_2, g_1}$	$I_k$ mA	$P_p$ W	
E 80 F 6084	Q 32-X 820	Low Hum Pentode for Audio and Measuring Amplifiers	6.3	0.3	3	1.85	25	9	1.3	
E 83 F 6689	Q 32-X 824	Pentode for broadband RF- and IF-Amplifiers	6.3	0.3	10	9	38	16	2.1	
E 180 F 6688	Q 32-X 821	Broadband pentode	6.3	0.3	13	16.5	50	25	3	$r_g(100 \text{ Mc}) = 2 \text{ k}\Omega$
E 280 F 7722	Q 32-X 813	High transconductance, low noise universal broadband pentode	6.3	0.315	20	26	60	30	4	$S_m/C = 2.2 \text{ mA/VpF}$
EF 732	Q 32-X 862	Subminiature Pentode	6.3	0.15	7.5	5		15	1	
EF 800	Q 32-X 863	Pentode for RF- and IF-Amplifiers	6.3	0.275	10	7.5	50	12.5	1.7	
EF 804 S	Q 32-X 865	Low Hum Pentode for Audio Amplifiers	6.3	0.17	3.2	2	38	6	1	
1 AD 4	Q 32-X 5002	Subminiature RF-Pentode	1.25	0.1	3.3	2.2	17.5	8.5	0.5	$E_a = 45 \text{ V}$
6AK5W 5654	Q 32-X 5001	Universal broadband pentode	6.3	0.175	7.5	5	32.5	20	1.65	$S_m C = 0.75 \text{ mA/VpF}$
7721 D 3 a	Q 31-X 601	High transconductance, low noise broadband pentode	6.3	0.315	22	35	80	30	4.2	

## Power Pentodes

E 55 L 8233	Q 32-X 819	High transconductance power pentode	6.3	0.6	50	45	30	75	10	
E 80 L 6227	Q 32-X 829	Power pentode for af amplifiers	6.3	0.75	30	9	21.5	50	8	
E 81 L	Q 32-X 822	Power pentode	6.3	0.375	20	11	36	30	4.5	
E 84 L 7320	Q 32-X 805	Power pentode for af and broadband amplifiers	6.3	0.76	48	11.3	19	100	13.5	
E 130 L 7534	Q 32-X 830	High transconductance power pentode	6.3	1.7	100	27.5	6.5	300	27.5	
E 235 L 7751	Q 32-X 811	Power pentode, especially for stabilized power supplies	6.3	1.2	100	14	5.6	220	15	
E 236 L	Q 32-X 812	Power pentode for horizontal deflection	6.3	1.2	100	14	5.6	220	15	$E_{b \text{ peak max}} = 7 \text{ kV}$
E 282 F	Q 32-X 814	High transconductance, low distortion broadband power pentode	6.3	0.35	35	26	27	50	4.2	$S_m/C = 2.2 \text{ mA/VpF}$
E 810 F 7788	Q 32-X 817	High transconductance broadband power pentode	6.3	0.34	35	50	57	50	5	
EL 156	Q 32-X 869	Power pentode	6.3	1.9	100	11	15	180	50	
EL 803	Q 32-X 870	Broadband power pentode	6.3	0.65	36	10.5	22	70	9	
F 2 a 11	Q 31-X 1002	High transconductance power tetrode	6.3	2.0	100	18	17.5	140	30	

## Triodes-Pentodes

E 80 CF 7643	Q 32-X 832	Triode for oscillators up to 300 Mc	6.3	0.33	14	5		18	1.75	
		Pentode for af and rf amplifiers			10	6.2	40	18	2.15	

## Communication Receiving Tubes



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

## Stabilizers

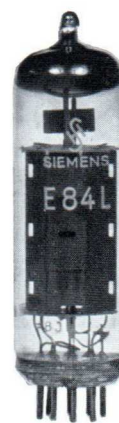


Type	ZZ 1020	85 A 2	ZZ 1040	108 C 1
Overall length max.	28 mm	546 mm	65.7 mm	67.3 mm
Diameter max.	10 mm	19 mm	30.2 mm	19 mm

## Industrial Receiving Tubes



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

## Communication Receiving Tubes

Type	Order No.	Design and Application	Heating		Characteristics			Max. Ratings		Remarks
			$E_f$ V	$I_f$ A	$I_b$ mA	$S_m$ mA/V	$\mu$	$I_k$ mA	$P_p$ W	
CC a	Q 31-X 501	High transconductance, low noise universal twin triode	6.3	0.3	15	12.5	33	20	1.5	$R_{ep} = 300 \Omega$
C 3 g	Q 31-X 407	High transconductance, pow noise broadband pentode	6.3	0.37	13	14	—	30	3.5	$R_{ep} = 450 \Omega$
C 3 m	Q 31-X 409	Universal pentode	20	0.125	16	6.5	—	30	4	
C 3 o	Q 31-X 408		6.3	0.4						
D 3 a	Q 31-X 601	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	Q 31-X 1001	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, C3c, C3e, C3e spez, C3f, Da, Ec, Ed, E2c, E2d, E2e, Z2b, Z2c, Z2e

## Stabilizers

Type	Order No.	Design	Ionization Voltage	Tube voltage Drop	$I_{b \text{ ogey}}$	Regulation Range	Dynamic Internal Resistance
			V	V	mA	mA	$\Omega$
85 A 2 0 G 3	Q 66-X 6004	Precision regulator tube	125	83 to 87	5.5	1 to 10	280
108 C 1 0 B 2 0B2 WA	Q 66-X 7001	Regulator tube	127	106 to 111	17.5	5 to 30	100
150 C 2 0 A 2 0A2 WA	Q 66-X 7005	Regulator tube	180	144 to 164	17.5	5 to 30	100
ZZ 1010	Q 66-X 4852	Regulator tube	112	83.6 to 85.2	30	4 to 70	100
ZZ 1020	Q 66-X 4853	Regulator tube	112	83.9 to 85.3	8	1.7 to 8	480
ZZ 1030	Q 66-X 4854	Regulator tube	155	123 to 127	0.1	0.09 to 0.5	12
ZZ 1040	Q 66-X 4855	Regulator tube	125	98 to 101	60	5 to 60	

Further information from the nearest Siemens sales office or  
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