

TYP 95

400.000 Std. 40°C / 10.000 Std. 85°C

PARAMETERÜBERSICHT	
DESCRIPTION	VALUE
Nominal case size (D x L in mm)	35 x 50 to 45 x 100
Rated capacitance range C _R	390 µF to 2200 µF
Tolerance on C _R	± 20 %
Rated voltage range, U _R	350 V to 450 V
Category temperature range	- 40 °C to + 85 °C
Endurance test at 85 °C	3000 h
Useful life at 85 °C	10 000 h
Useful life at 40 °C, 1.4 x I _R applied	400 000 h
Shelf life at 0 V, 85 °C	1000 h
Based on sectional specification	IEC 60384-4/EN130300
Climatic category IEC 60068	40/085/56
Max. RMS Ripple Voltage	12 V

TYP 96

200.000 Std. 40°C / 5.000 Std. 85°C

PARAMETERÜBERSICHT	
DESCRIPTION	VALUE
Nominal case size (D x L in mm)	35 x 50 to 45 x 100
Rated capacitance range C _R	390 µF to 2700 µF
Tolerance on C _R	± 20 %
Rated voltage range, U _R	350 V to 500 V
Category temperature range	- 40 °C to + 85 °C
Endurance test at 85 °C	2000 h
Useful life at 85 °C	5000 h
Useful life at 40 °C, 1.4 x I _R applied	200 000 h
Shelf life at 0 V, 85 °C	1000 h
Based on sectional specification	IEC 60384-4/EN130300
Climatic category IEC 60068	40/085/56
Max. RMS Ripple Voltage	12 V

Aluminium Elkos für die Leistungselektronik

- Hohe Strombelastbarkeit, vibrations sichere Multipin-Montage.
- Lötwärme unempfindlicher PW-4/5-Pin Sockel nach DIN Norm.
- Alternativ 4-Pin „Snap-In“ Sockel, 4T-SI.
- Nennmaße 35 x 50 45 x 100 mm.
- Flexible Leistungsanpassung durch erweiterbare Parallel-Schaltung mehrerer Kondensatoren.
- Vereinfachte Lagerhaltung.

Lieferbare Montagevarianten sowohl für Typ 95 als auch für Typ 96



TYP 95

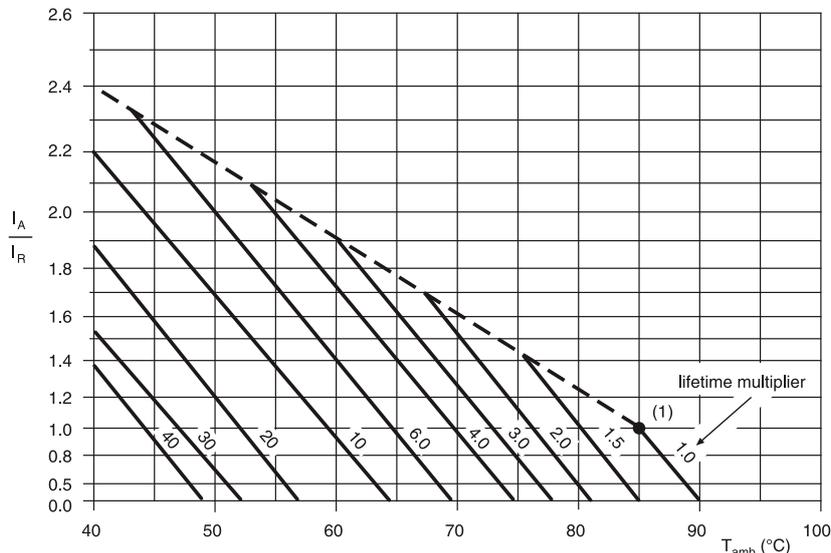
ELECTRICAL DATA AND ORDERING INFORMATION / WERTETABELLE						
U_R (V)	C_R 100 Hz (μ F)	NOMINAL CASE SIZE \varnothing D x L (mm)	I_R 100 Hz 85 °C (A)	I_{L5} 5 min (μ A)	ESR 100 Hz (m Ω)	$Z_{max.}$ 10 kHz (m Ω)
350	560	35 x 50	3.4	396	196	120
	680	35 x 60	4.0	480	162	99
	680	40 x 50	4.1	480	165	102
	820	35 x 70	4.5	578	135	82
	820	40 x 60	4.6	578	137	85
	1000	35 x 80	5.1	704	112	68
	1000	40 x 60	5.0	704	116	73
	1000	45 x 50	5.0	704	121	78
	1500	40 x 80	6.5	1054	79	50
	1500	45 x 70	6.5	1054	82	53
	1800	40 x 100	7.5	1264	66	42
	2200	45 x 100	8.6	1544	57	37
400	470	35 x 50	3.2	380	215	126
	470	40 x 40	3.0	380	222	132
	560	35 x 60	3.7	452	180	105
	560	45 x 40	3.2	452	192	116
	680	35 x 70	4.1	548	149	87
	680	40 x 60	4.3	548	151	89
	680	45 x 50	4.3	548	156	93
	820	35 x 80	4.7	660	125	73
	820	40 x 60	4.6	660	129	77
	1000	35 x 100	5.9	804	102	60
	1000	40 x 70	5.2	804	107	64
	1000	45 x 60	5.4	804	110	67
	1500	40 x 100	7.2	1204	72	43
	1500	45 x 80	6.7	1204	75	47
1800	45 x 100	7.9	1444	63	38	
450	390	35 x 50	2.9	355	246	142
	390	40 x 40	2.8	355	253	148
	470	35 x 60	3.4	427	204	118
	470	40 x 50	3.5	427	208	121
	470	45 x 40	3.0	427	217	129
	560	35 x 70	3.8	508	172	99
	560	40 x 60	4.0	508	174	101
	680	35 x 80	4.3	616	143	82
	680	40 x 60	4.3	616	147	87
	680	45 x 50	4.3	616	153	91
	820	40 x 70	4.8	742	123	72
	820	45 x 60	5.0	742	126	76
	1000	40 x 100	6.0	904	99	57
	1000	45 x 70	5.6	904	104	63
	1200	40 x 100	6.4	1084	85	50
	1500	45 x 100	7.4	1354	71	42

TYP 96

ELECTRICAL DATA AND ORDERING INFORMATION / WERTETABELLE						
U _R (V)	C _R 100 Hz (µF)	NOMINAL CASE SIZE Ø D x L (mm)	I _R 100 Hz 85 °C (A)	I _{L5} 5 min (µA)	ESR 100 Hz (mΩ)	Z _{max.} 10 kHz (mΩ)
350	820	35 x 50	4.0	578	126	82
	820	40 x 40	3.8	578	134	90
	1000	35 x 60	4.7	704	104	67
	1000	40 x 50	4.8	704	108	72
	1200	35 x 70	5.3	844	87	57
	1200	40 x 60	5.4	844	90	59
	1500	35 x 80	6.0	1054	71	47
	1500	40 x 70	6.2	1054	73	49
	1500	45 x 60	6.3	1054	76	52
	1800	40 x 80	6.9	1264	62	41
	1800	45 x 60	6.6	1264	68	48
	2200	40 x 100	8.2	1544	51	34
	2200	45 x 70	7.4	1544	57	41
	2700	45 x 100	9.2	1894	44	30
400	680	35 x 60	4.1	548	134	82
	680	40 x 50	4.2	548	138	85
	820	35 x 60	4.4	660	114	71
	820	40 x 50	4.5	660	119	75
	1000	35 x 70	5.0	804	94	59
	1000	40 x 60	5.1	804	97	62
	1000	45 x 50	5.1	804	103	67
	1200	35 x 80	5.5	964	80	50
	1200	40 x 70	5.7	964	82	52
	1200	45 x 60	5.9	964	85	55
	1500	35 x 100	7.1	1204	64	40
	1500	40 x 80	6.5	1204	67	43
	1500	45 x 70	6.6	1204	69	46
	1800	40 x 100	7.7	1444	56	35
	1800	45 x 80	7.3	1444	59	39
	2200	45 x 100	8.6	1764	48	32
2700	45 x 100	9.1	2164	42	29	
450	560	35 x 60	3.8	508	155	94
	680	35 x 70	4.2	616	129	78
	680	40 x 50	4.2	616	136	85
	820	35 x 80	4.8	742	108	66
	820	40 x 60	4.7	742	112	70
	1000	35 x 100	6.0	904	89	54
	1000	40 x 70	5.3	904	93	58
	1000	45 x 60	5.5	904	97	62
	1200	40 x 80	6.0	1084	78	49
	1200	45 x 70	6.1	1084	81	52
	1500	40 x 100	7.2	1354	63	39
	1500	45 x 80	6.8	1354	67	43
1800	45 x 100	8.0	1624	55	35	
500	390	35 x 60	2.9	394	475	421
	470	35 x 70	3.3	474	395	350
	560	35 x 70	3.6	564	333	296
	560	40 x 60	3.7	564	336	299
	680	35 x 80	4.1	684	275	245
	680	40 x 70	4.2	684	277	247
	820	35 x 100	5.1	824	229	203
	820	40 x 80	4.7	824	231	206
	1000	40 x 100	5.6	1004	189	169
	1000	45 x 70	5.3	1004	195	176
	1200	45 x 100	6.4	1204	160	144
	1500	45 x 100	7.0	1504	131	118

Brauchbarkeitsdauer in Abhängigkeit von Temperatur, Frequenz und Strombelastung

FREQUENCY (Hz)	I _R MULTIPLIER
50	0.9
100	1.0
200	1.2
400	1.3
1000	1.4
10 000	1.5



I_A = Actual ripple current at 100 Hz
 I_R = Rated ripple current at 100 Hz and 85 °C
 (1) = Life at 85°C and I_R ⇒ Typ 95 10.000 Std.
 ⇒ Typ 96 5.000 Std.

ELEKTRISCHE KENNWERTE		
PARAMETER	CONDITIONS	VALUE
Voltage		
Surge voltage	≥ 350 V versions	U _s = 1.1 x U _R
Reverse voltage		U _{rev} ≤ 1
Current		
Leakage current	After 1 min at U _R	I _{L1} ≤ 0.006 C _R x U _R + 4 μA
	After 5 min at U _R	I _{L5} ≤ 0.002 C _R x U _R + 4 μA
Inductance		
Equivalent series inductance (ESL)	All case sizes	Ca. 20 nH

GENORMTE PRÜFPARAMETER			
TEST		PROCEDURE (quick reference)	REQUIREMENTS
NAME OF TEST	REFERENCE		
Endurance	IEC 60384-4/ EN130300 subclause 4.13	T _{amb} = 85 °C; U _R applied Typ 95 ⇒ 3.000 Std. Typ 96 ⇒ 2.000 Std.	ΔC/C: ± 10 % ESR ≤ 1.3 x spec. limit Z ≤ 2 x spec. limit I _{L5} ≤ spec. limit
Useful life	CECC 30301 subclause 4.13	T _{amb} = 85 °C; U _R and I _R applied; Typ 95 ⇒ 10.000 Std. Typ 96 ⇒ 5.000 Std.	ΔC/C: ± 30 % ESR ≤ 3 x spec. limit Z ≤ 3 x spec. limit I _{L5} ≤ spec. limit no short or open circuit, no visible damage total failure percentage: ≤ 3 %
Shelf life	IEC 60384-4/ EN130300 subclause 4.17	T _{amb} = 85 °C; no voltage applied; 1000 h After test: U _R to be applied for 30 min 24 h to 48 h before measurement	ΔC/C: ± 10 % ESR ≤ 1.2 x spec. limit I _{L5} ≤ 2 x spec. limit

Montage PW

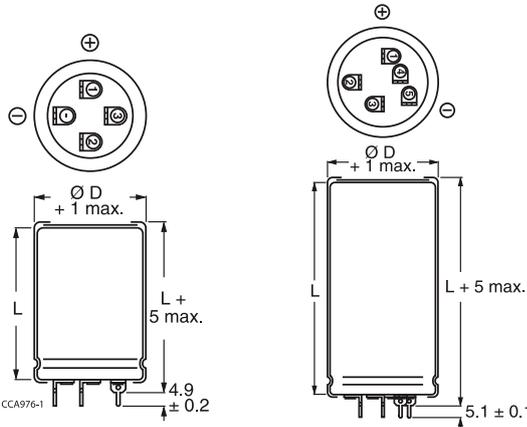
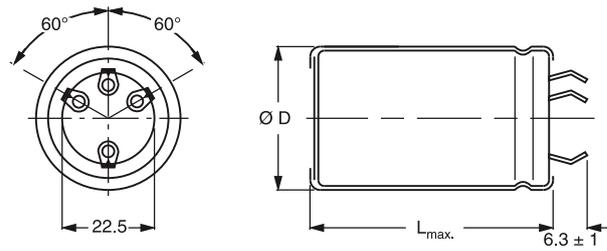


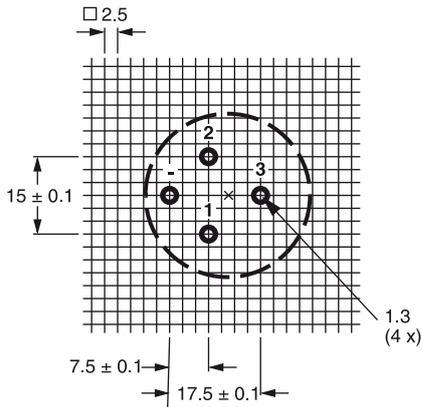
Fig. 2 - Printed wiring pin version
(Case Ø D = 35 mm)

Fig. 4 - Printed wiring pin version
(Case Ø D = 40 mm)

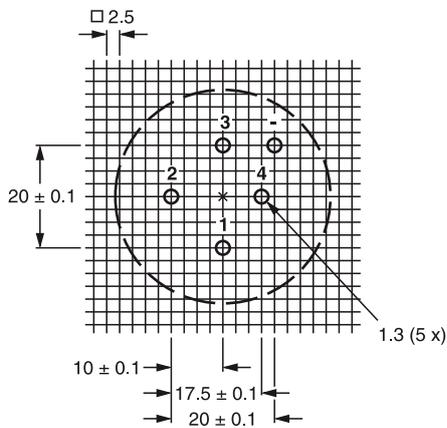
Montage 4T-SI



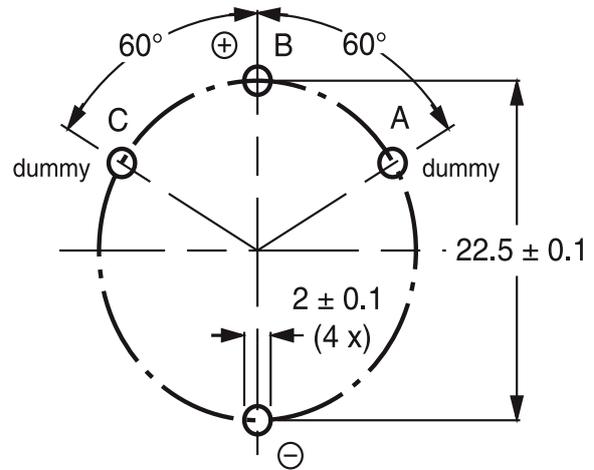
Bottom view



Mounting hole diagram viewed from component side
(Case Ø D = 35 mm)



Mounting hole diagram viewed from component side
(Case Ø D = 40 mm)



Dummy terminals (A and C) must be free from the electrical circuit