



■ FEATURES

- All contacts welded
- Central mounting
- Soldering lug terminals
- High reliability

■ APPLICATIONS

- HiFi
- Signalization
- Industrial

RoHS compliant
 REACH compliant

■ GENERAL SPECIFICATIONS

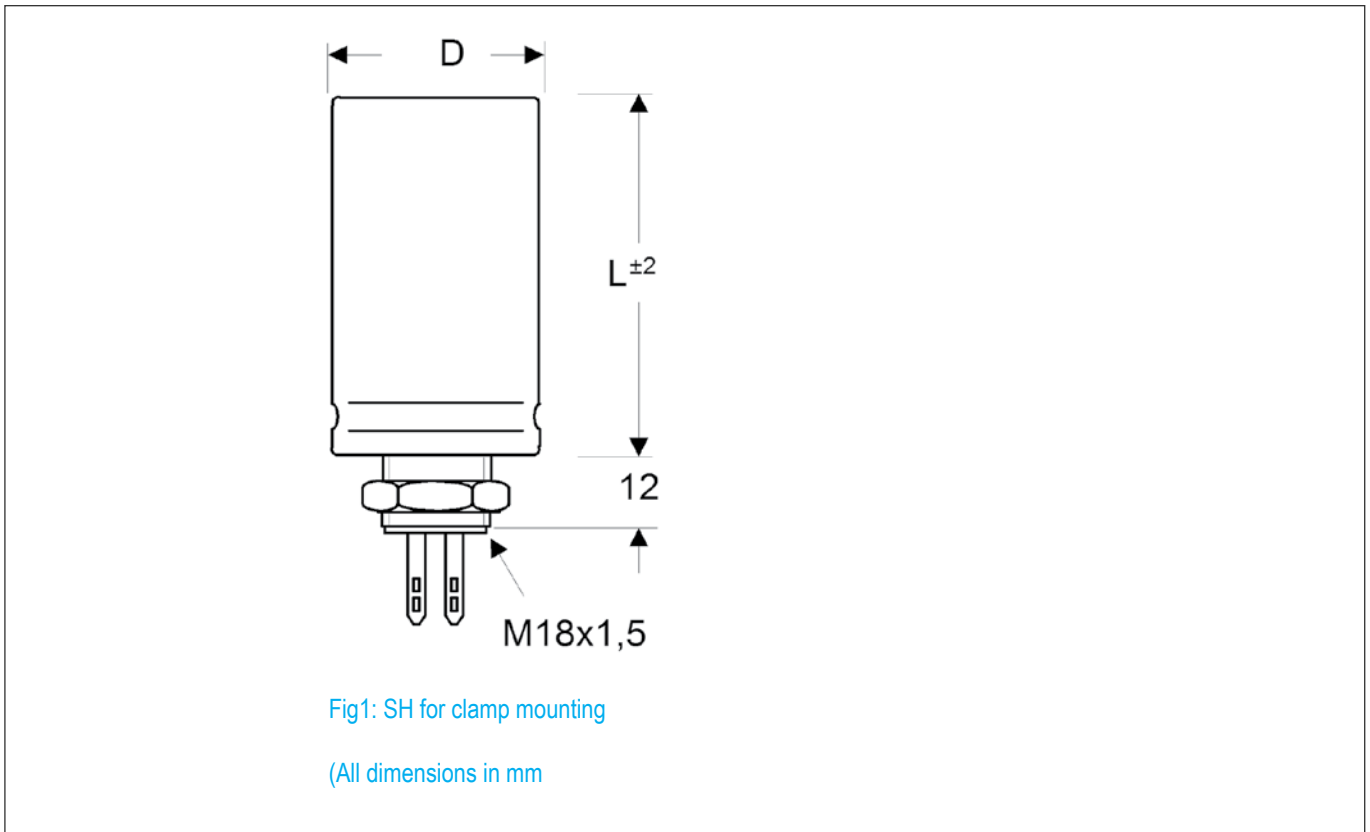
Items	Characteristics
Rated capacitance range C_R	22... 22.000 μF
Capacitance tolerance	-10 +30 %
Rated voltage range U	16 ... 450 V
Surge voltage U_S	$U_R \leq 315 \text{ V}: U_S = 1,15 U_R$; $U_R > 315 \text{ V}: U_S = 1,10 U_R$
Max. reverse voltage	2 V
Category temperature range	- 40°C ... + 105 °C
Leakage current I_L after 5 min @ U_R	$\leq 0,008 * C_R [\mu\text{F}] * U_R [\text{V}] + 6 \mu\text{A} [\mu\text{A}]$
Useful life 3000 h @ 105 °C ; U_R ; I_R	Requirements $\Delta C/C \leq 30 \%$ of initial value ; ESR $\leq 300 \%$ of specified ; limit $I_L \leq$ specified limit
Endurance test 2000 h @ 105 °C , U_R	Requirements $\Delta C/C \leq 20 \%$ of initial value ; ESR $\leq 130 \%$ of specified ; limit $I_L \leq$ specified limit
Climatic category IEC 60068	40/105/56
Voltage proof of the external insulation	$\geq 2500 \text{ V AC}$
Sectional specification	IEC 60384-4

Different voltages and capacitance combinations are available on request. Also in small lots.

Stand: 05/2015



■ DRAWINGS FOR SERIES SH



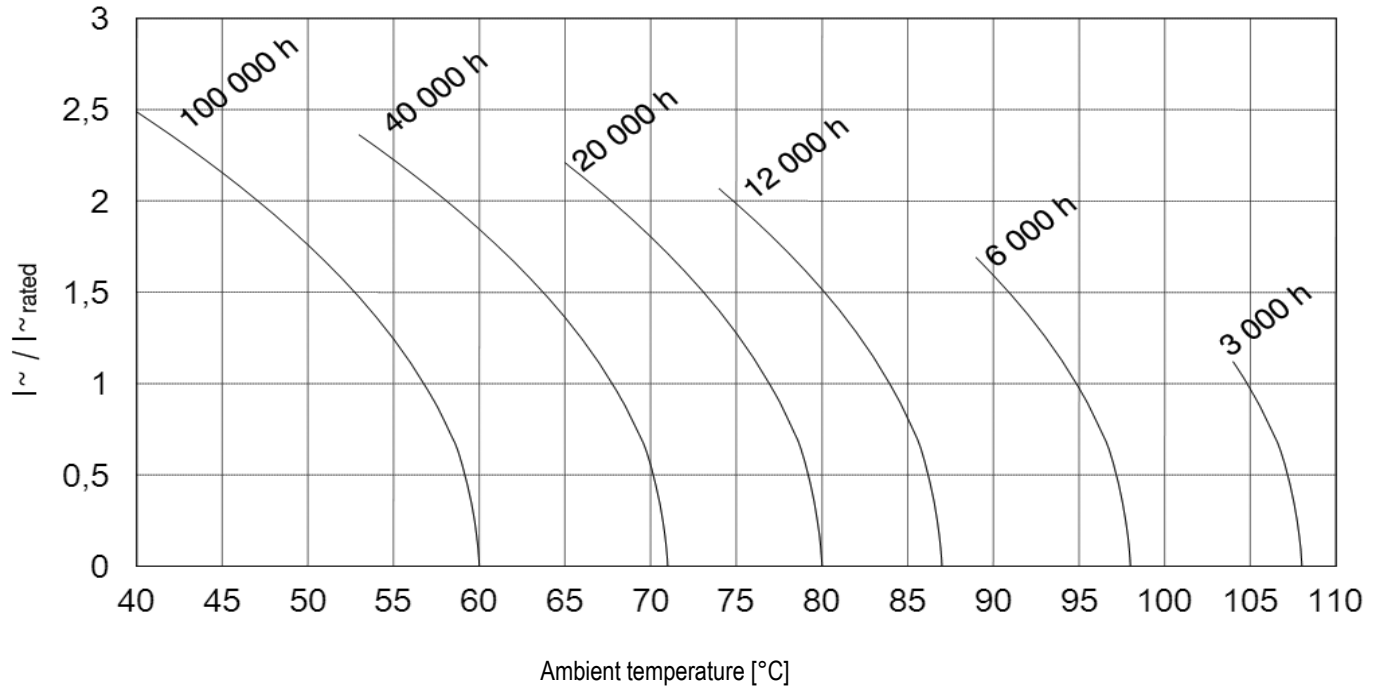
■ ELECTRICAL DATA AND ORDERING CODE FOR SERIES SH

Rated voltage U_R [V]	Rated cap. C_R [μ F]	Case size D x L [mm]	Typ. ESR 100 Hz, 20°C [m Ω]	$\tan \delta_{100\text{Hz}}$ 20°C max. [%]	Ripple current IR~ 100 Hz, 85°C [A]	Order code s...
16	10000	30 x 40	30	30	1,9	10301630040
	22000	35 x 54	20	36	2,8	22301635054
25	2200	25 x 40	32	15	1,7	22202525040
	4700	25 x 40	30	18	1,7	47202525040
	10000	30 x 54	27	22	2,2	10302530054
	22000	35 x 54	17	30	3,0	22302535054
40	1000	25 x 40	50	11	1,3	10204025040
	2200	25 x 40	45	12	1,4	22204025040
	4700	30 x 40	40	14	1,6	47204030040
	10000	35 x 54	23	20	2,6	10304035054
63	470	25 x 40	113	10	0,9	47106325040
	1000	25 x 40	93	10	1,0	10206325040
	2200	25 x 40	63	12	1,2	22206325040
	4700	30 x 54	37	13	1,9	47206330054
	10000	35 x 70	21	14	3,1	10306335070
100	220	25 x 40	233	8	0,6	22110025040
	470	25 x 40	167	9	0,7	47110025040
	560	25 x 40	140	10	0,8	56110025040

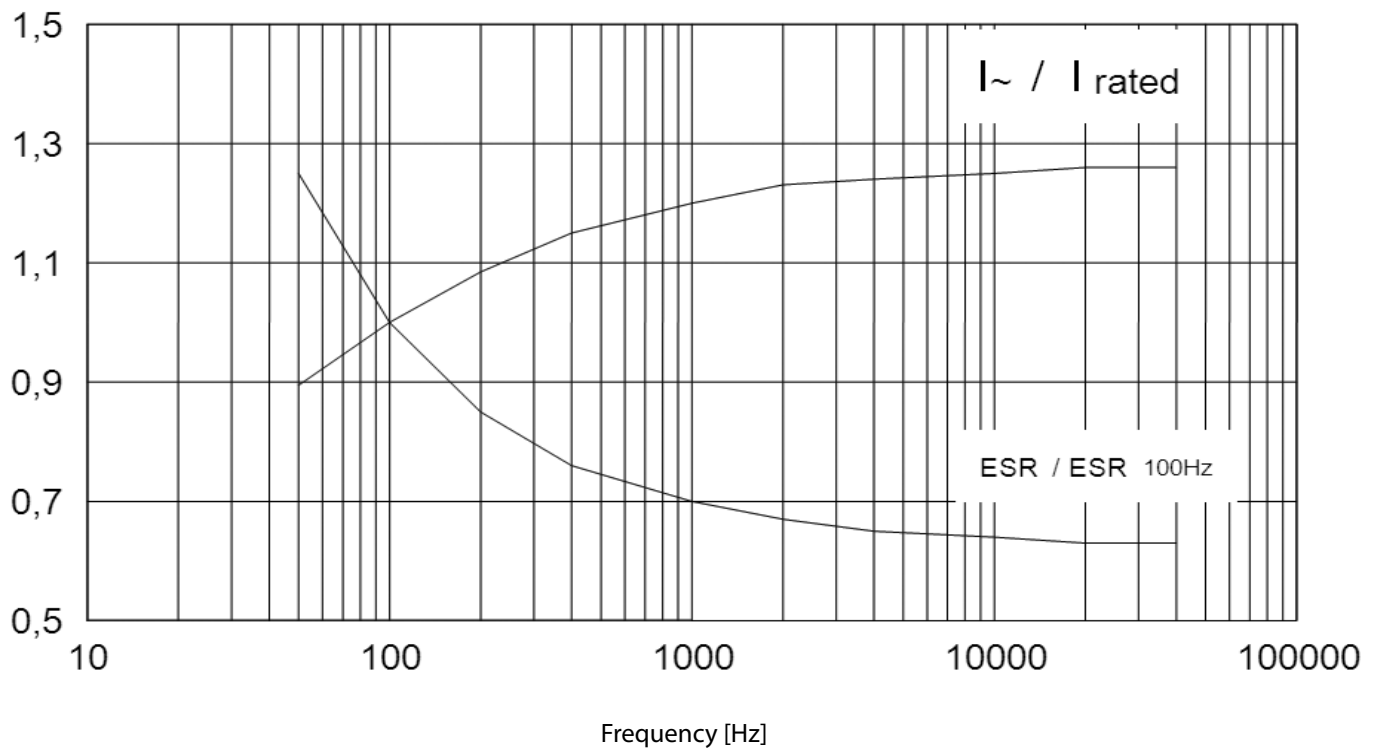
Rated voltage U_R [V]	Rated cap. C_R [μ F]	Case size D x L [mm]	Typ. ESR 100 Hz, 20°C [m Ω]	$\tan \delta_{100\text{Hz}}$ 20°C max. [%]	Ripple current IR~ 100 Hz, 85°C [A]	Order code s...
100	1000	25 x 54	107	10	1,0	10210025054
	2200	35 x 54	60	12	1,6	22210035054
160	100	25 x 40	500	8	0,7	10116025040
	220	25 x 40	400	9	0,8	22116025040
	470	30 x 54	200	9	1,4	47116030054
	1000	35 x 70	93	10	2,5	10216035070
250	100	25 x 40	493	7	0,7	10125025040
	220	25 x 54	347	8	1,0	22125025054
	470	35 x 54	167	8	1,7	47125035054
350	47	25 x 40	1267	7	0,5	47035025040
	100	25 x 40	1000	7	0,5	10135025040
	220	25 x 54	387	7	0,9	22135025054
	470	35 x 70	187	8	1,8	47135035070
450	22	25 x 40	1600	8	0,4	22045025040
	33	25 x 40	1200	8	0,5	33045025040
	47	25 x 40	1000	8	0,5	47045025040
	100	30 x 54	547	8	0,8	10145030054
	220	35 x 54	213	8	1,5	22145035054



■ USEFUL LIFE AS A FUNCTION OF AMBIENT TEMPERATURE AND ACTUAL RIPPLE CURRENT



■ RIPPLE CURRENT AND ESR AS A FUNCTION OF FREQUENCY F



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