

**Central mounting**

RoHS compliant  
REACH compliant

**Features**

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

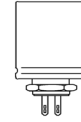
**Applications**

- HiFi
- Signalization
- Industrial

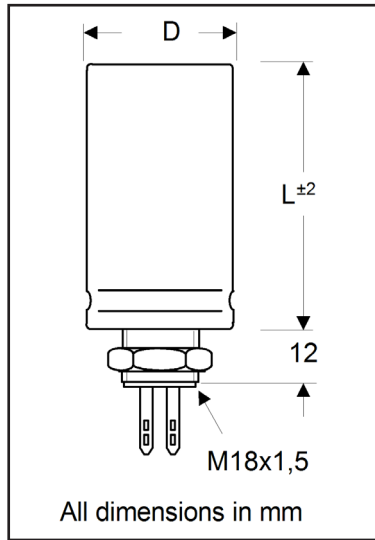
**Different case sizes, voltages and capacitance combinations are available on request. Also in small lots.**

**General specifications**

Items		Characteristics
Rated capacitance range $C_R$		22 ... 22.000 $\mu$ F
Capacitance tolerance		-10; +30 %
Rated voltage range $U_R$		16 ... 450 V
Surge voltage $U_s$		$U_R \leq 315$ V: $U_s = 1,15 U_R$ $U_R > 315$ V: $U_s = 1,10 U_R$
Max. reverse voltage		2 V
Category temperature range S, SZ		- 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		$\geq 2500$ V AC
Sectional specification		IEC 60384-4



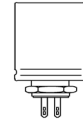
Drawings for series SH



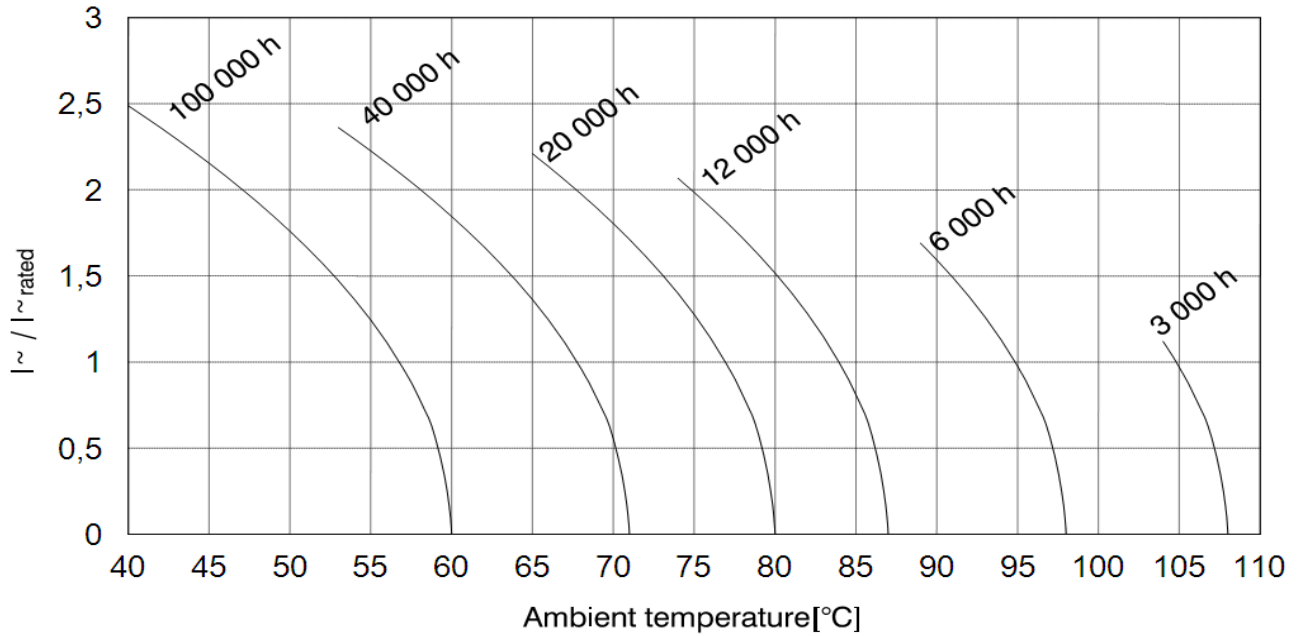
Electrical data and ordering code for series SH

Rated voltage $U_R$ [V]	Rated cap. $C_R$ [ $\mu$ F]	Case size D x L [mm]	Typ. ESR 100 Hz, 20°C [m $\Omega$ ]	$\tan \delta$ 20°C max. [%]	Ripple current $I_{R-100}$ Hz, 105°C [A]	Order code SH...
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. $C_R$ [ $\mu$ F]	Case size D x L [mm]	Typ. ESR 100 Hz, 20°C [m $\Omega$ ]	$\tan \delta$ 20°C max. [%]	Ripple current $I_{R-100}$ Hz, 105°C [A]	Order code SH...
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

