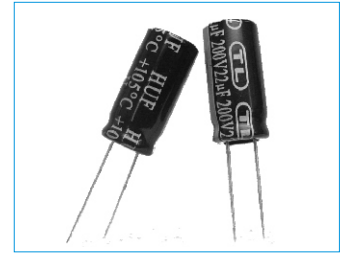


Aluminum Electrolytic Capacitors



HUF For Ballast, Long Life Series

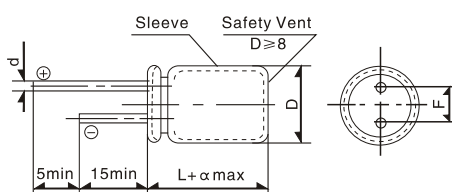
- High ripple current
- High reliability withstanding 12000 hours load life at 105°C
- Suited for ballast and adapter, powersupply



Specifications

Item	Characteristics															
Operating Temperature Range	$U_R \leq 350V: -40^\circ C \sim +105^\circ C$	$U_R > 350V: -25^\circ C \sim +105^\circ C$														
Rated Voltage Range	160V~450V															
Nominal Capacitance Range	4.7 μF ~220 μF															
Capacitance Tolerance	M ($\pm 20\%$) (20°C, 120Hz)															
Leakage Current	$I \leq 0.02C_R U_R + 25$ (μA) C_R : Nominal capacitance (μF) U_R : Rated voltage (V) (20°C, after 5 minutes)															
Dissipation Factor (Max)	<table border="1"> <tr> <td>U_R (V)</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>450</td> </tr> <tr> <td>$\tan \delta$</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> </tr> </table> (20°C, 120Hz)		U_R (V)	160	200	250	350	400	450	$\tan \delta$	0.15	0.15	0.15	0.20	0.20	0.20
U_R (V)	160	200	250	350	400	450										
$\tan \delta$	0.15	0.15	0.15	0.20	0.20	0.20										
Low Temperature Stability (Impedance Ratio)	<table border="1"> <tr> <td>U_R (V)</td> <td>160~250</td> <td>350</td> <td>400</td> <td>450</td> </tr> <tr> <td>$Z(-25^\circ C) / Z(+20^\circ C)$</td> <td>3</td> <td>4</td> <td>6</td> <td>6</td> </tr> </table> (120Hz)		U_R (V)	160~250	350	400	450	$Z(-25^\circ C) / Z(+20^\circ C)$	3	4	6	6				
U_R (V)	160~250	350	400	450												
$Z(-25^\circ C) / Z(+20^\circ C)$	3	4	6	6												
Load Life	After 12000 hour ($\Phi 10$: 10000 hours) application of rated voltage with rated ripple current at 105°C, the capacitors shall meet the following requirement: <table border="1"> <tr> <td>Capacitance change</td> <td>Within $\pm 20\%$ of the initial value .</td> </tr> <tr> <td>Dissipation factor</td> <td>Not more than 200% of the initial specified value.</td> </tr> <tr> <td>Leakage current</td> <td>Not more than the initial specified value.</td> </tr> </table>		Capacitance change	Within $\pm 20\%$ of the initial value .	Dissipation factor	Not more than 200% of the initial specified value.	Leakage current	Not more than the initial specified value.								
Capacitance change	Within $\pm 20\%$ of the initial value .															
Dissipation factor	Not more than 200% of the initial specified value.															
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Shelf Life	After storage for 1000 hours at +105°C, the capacitors shall meet the requirement of load life above .															
Rated Ripple Current & Frequency Multipliers	<table border="1"> <tr> <td>Frequency</td> <td>50Hz</td> <td>120Hz</td> <td>300Hz</td> <td>1kHz</td> <td>10kHz</td> <td>100kHz</td> </tr> <tr> <td>Multiplier</td> <td>0.4</td> <td>0.5</td> <td>0.6</td> <td>0.8</td> <td>0.9</td> <td>1.0</td> </tr> </table>		Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	100kHz	Multiplier	0.4	0.5	0.6	0.8	0.9	1.0
Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	100kHz										
Multiplier	0.4	0.5	0.6	0.8	0.9	1.0										
Rated Ripple Current & Temperature Multipliers	<table border="1"> <tr> <td>Temperature</td> <td>+50°C</td> <td>+70°C</td> <td>+85°C</td> <td>+105°C</td> </tr> <tr> <td>Multiplier</td> <td>2.1</td> <td>1.8</td> <td>1.4</td> <td>1.0</td> </tr> </table>		Temperature	+50°C	+70°C	+85°C	+105°C	Multiplier	2.1	1.8	1.4	1.0				
Temperature	+50°C	+70°C	+85°C	+105°C												
Multiplier	2.1	1.8	1.4	1.0												

Dimensions



D	± 0.5		± 1.0										
	6.3	8	10	12.5	16	18	20	25					
L	11.5	15	12.5	16	20	20	25	20	25	31.5	35.5	20	25
F ± 0.5	3.5		5			7.5							
d ± 0.1	0.6						0.8						
α	1.5			2.0									

HUF Series

■ Nominal capacitance, rated voltage, rated ripple current and case size table

U _R (V) Item C _R μF	160		200		250		350		400		450				
	ΦD×L mm	I~	ΦD×L mm	I~	ΦD×L mm	I~	ΦD×L mm	I~	ΦD×L mm	I~	ΦD×L mm	I~			
4.7	Rated ripple current (mA rms) (105°C, 100kHz) ↘											10×16	180	10×20	120
6.8			10×16	230	10×16	240	10×16	220	10×16	220	10×20	150			
10	10×16	250	10×16	250	10×20	280	10×20	280	10×20	250	12.5×20	320			
22	10×20	500	10×20	500	12.5×20	600	12.5×20	350	12.5×25 16×20	430 430	16×25 18×20	560 560			
33	10×20	500	12.5×20	600	12.5×20	600	16×20	500	16×25 18×20	640 640	16×31.5 18×25	700 700			
47	12.5×20	660	12.5×20	660	12.5×25 16×20	720 720	16×25 18×20	660 660	16×31.5 18×25	840 840	18×31.5	880			
68	12.5×25 16×20	760 760	12.5×25 16×20	760 760	16×25 18×20	920 920	16×31.5 18×25	850 850	18×31.5	1000					
100	16×25 18×20	1120 1120	16×25 18×20	1120 1120	16×31.5 18×25	1200 1200									
150	16×31.5 18×25	1360 1360	16×31.5 18×25	1360 1360	18×31.5	1500									
220	16×31.5 18×25	1400 1400	18×31.5	1700											