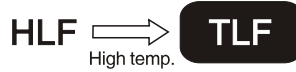
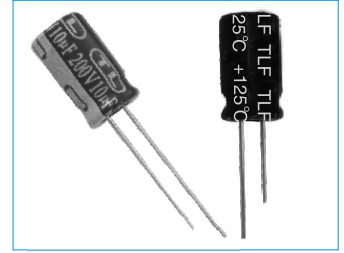


Aluminum Electrolytic Capacitors



TLF For Ballast, High Temperature Series

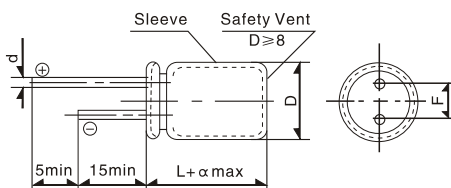
- Low ESR characteristic for 125°C high temperature
- Suited for ballast and application



Specifications

Item	Characteristics																						
Operating Temperature Range	$U_R \leq 250V: -40^\circ C \sim +125^\circ C$	$U_R > 250V: -25^\circ C \sim +125^\circ C$																					
Rated Voltage Range	160V~450V																						
Nominal Capacitance Range	1.0 μ F~47 μ F																						
Capacitance Tolerance	M ($\pm 20\%$) (20°C, 120Hz)																						
Leakage Current	$I \leq 0.02C_R U_R + 15$ (μ A) C_R : Nominal capacitance (μ F) 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</td> <td>200</td> <td>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>3</td> <td>3</td> <td>4</td> <td>6</td> <td>6</td> </tr> <tr> <td>$Z(-40^\circ C) / Z(+20^\circ C)$</td> <td>4</td> <td>4</td> <td>4</td> <td>—</td> <td>—</td> <td>—</td> </tr> </table> (120Hz)		U_R (V)	160	200	250	350	400	450	$Z(-25^\circ C) / Z(+20^\circ C)$	3	3	3	4	6	6	$Z(-40^\circ C) / Z(+20^\circ C)$	4	4	4	—	—	—
U_R (V)	160	200	250	350	400	450																	
$Z(-25^\circ C) / Z(+20^\circ C)$	3	3	3	4	6	6																	
$Z(-40^\circ C) / Z(+20^\circ C)$	4	4	4	—	—	—																	
Load Life	After 3000 hour ($\Phi 10$: 2000 hours) application of rated voltage with rated ripple current at 125°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.																						
Leakage current	Not more than the initial specified value.																						
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																	
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Rated Ripple Current & Temperature Multipliers	<table border="1"> <tr> <td>Temperature</td> <td>+85°C</td> <td>+105°C</td> <td>+125°C</td> </tr> <tr> <td>Multiplier</td> <td>2.5</td> <td>1.60</td> <td>1.00</td> </tr> </table>		Temperature	+85°C	+105°C	+125°C	Multiplier	2.5	1.60	1.00													
Temperature	+85°C	+105°C	+125°C																				
Multiplier	2.5	1.60	1.00																				

Dimensions



		(mm)						
$D \pm 0.1$		10	12.5	16				
L		12.5	16	20	20	25	20	25
F ± 0.5		5				7.5		
d ± 0.1		0.6				0.8		
α		1.5		2.0				

TLF 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	
	D×L mm	I~	D×L mm	I~	D×L mm	I~	D×L mm	I~	D×L mm	I~	D×L mm	I~
1.0									10×12.5	60	10×16	60
2.2							10×12.5	80	10×12.5	90	10×16	70
3.3	Rated ripple current (mA rms) (125°C, 100kHz)				10×12.5	90	10×16	110	10×16	120	10×16	100
4.7	10×12.5	90	10×12.5	100	10×16	100	10×16	130	10×20	130	10×20	130
10	10×16	140	10×16	160	10×20	170	12.5×20	220	12.5×20	250	12.5×25	200
22	10×20	280	10×20	280	12.5×20	300	16×20	350	16×25	400		
33	12.5×20	400	12.5×20	400	12.5×25	450						
47	12.5×25	520	12.5×25	520	16×25	580						