

FEATURES

- 85°C, standard low leakage current series.



SPECIFICATIONS

Item	Performance																
	TL					TLA											
Life	AT 85°C 1000 Hrs					AT 85°C 2000 Hrs											
Operating Temperature Range	40° ~ + 85°C																
Capacitance Tolerance	± 20% (120Hz, 20°C)																
Leakage Current (at 20°C)	I = 0.002CV or 0.4 (µA) whichever is greater (after 2 minutes) Where, C = rated capacitance in µF, V=rated DC working voltage in V.																
Dissipation Factor Tan δ at 120 Hz, 20°C	Rated Voltage	6.3	10	16	25	35	50	63	100								
	Tan δ (max)	0.24	0.21	0.17	0.15	0.12	0.10	0.09	0.08								
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below																
	Rated Voltage		6.3	10	16	25	35	50	63	100							
	Impedance Ratio	Z(-25°C) / Z(+20°C)	5	4	3	2	2	2	2	2							
Z(-40°C) / Z(+20°C)		10	8	6	4	4	3	3	3								
Load Life Test at 20°C (after rated voltage is applied for 1000/2000 hours at 85°C)	Test Time	1000/2000 Hrs					Shelf Life Test at 20°C (after exposure to 85°C for 1000 hours with no voltage applied.)					Test Time	1000 Hrs				
	Capacitance Change	≤ ± 20%										Capacitance Change	≤ ± 30%				
	Dissipation Factor	Less than 200% of specific value										Dissipation Factor	Less than 200% of specific value				
	Leakage Current	Within specified values										Leakage Current	Within specified values				
Ripple Current & Frequency Multipliers	Cap. (µF) \ Freq. (Hz)	60	120	500	1K	10K up	Ripple Current & Temperature Multipliers					Temperature (°C)			Under 50	70	85
	Under 100	0.75	1.00	1.35	1.55	2.00						Multipliers			1.75	1.58	1.00
	220 to 1000	0.83	1.00	1.23	1.32	1.50											
	2200 up above	0.90	1.00	1.12	1.10	1.15											
Standards	Satisfies Characteristic W of JIS C 5141																

DIMENSIONS AND PERMISSIBLE RIPPLE CURRENT

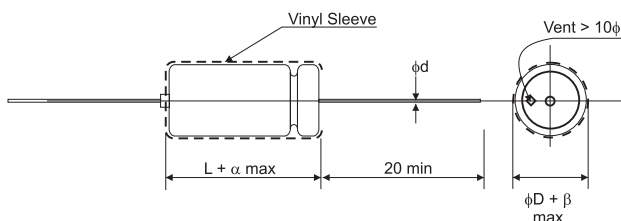
Dimension: φD×L(mm)

Ripple Current: mA/RMS at 120Hz 85°C

VDC	Contents	6.3V(0J)		10V(1A)		16V(1C)		25V(1E)		35V(1V)		50V(1H)		63V(1J)		100V(2A)	
		φDXL	mA	φDXL	mA	φDXL	mA	φDXL	mA	φDXL	mA	φDXL	mA	φDXL	mA	φDXL	mA
0.1	0R1											5 x 12	1.5	5 x 12	3	5 x 12	3
0.22	R22											5 x 12	3.5	5 x 12	4.5	5 x 12	4.5
0.33	R33											5 x 12	5	5 x 12	7.5	5 x 12	7.5
0.47	R47											5 x 12	6	5 x 12	9	5 x 12	9
1	10											5 x 12	10	5 x 12	15	5 x 12	15
2.2	2R2											5 x 12	20	5 x 12	20	5 x 12	30
3.3	3R3											5 x 12	30	5 x 12	42	5 x 12	48
4.7	4R7											5 x 12	50	5 x 12	54	6.3 x 13	61
10	100									5 x 12	66	5 x 12	79	6.3 x 13	79	6.3 x 13	90
22	220					5 x 12	83	5 x 12	89	6.3 x 13	104	6.3 x 13	125	6.3 x 13	139	8 x 16	149
33	330	5 x 12	85	5 x 12	92	5 x 12	102	6.3 x 13	117	6.3 x 13	137	6.3 x 13	171	8 x 13	171	10 x 17	209
47	470	5 x 12	101	5 x 12	117	6.3 x 13	129	6.3 x 13	149	6.3 x 13	182	8 x 13	204	8 x 16	233	10 x 21	261
100	101	6.3 x 13	158	6.3 x 13	171	6.3 x 13	202	8 x 13	243	8 x 16	266	10 x 17	340	10 x 17	356	13 x 22	433
220	221	6.3 x 16	250	6.3 x 16	272	8 x 16	333	8 x 16	412	10 x 21	472	10 x 21	575	13 x 27	601	16 x 33	712
330	331	8 x 16	342	8 x 16	424	10 x 17	467	10 x 17	528	13 x 22	630	13 x 27	736	16 x 27	787	16 x 37	895
470	471	8 x 16	408	8 x 16	506	10 x 21	584	10 x 21	686	13 x 27	786	16 x 27	939	16 x 33	973	18 x 37	1109
1000	102	10 x 17	681	10 x 21	773	10 x 21	927	13 x 27	1046	16 x 27	1226	16 x 37	1458	18 x 43	1559		
2200	222	13 x 22	1151	13 x 22	1248	16 x 27	1536	16 x 33	1719	18 x 37	2009	22 x 43	2440				
3300	332	13 x 27	1473	13 x 27	1597	16 x 27	1882	18 x 37	2246	18 x 43	2533						
4700	472	16 x 27	1879	16 x 27	2038	16 x 37	2390	18 x 43	2760	22 x 43	3190						

LEAD SPACING AND DIAMETER

φ D	5	6.3	8	10	13	16	18	22
φ d		0.6			0.8			1.0
α		1.5			2.0			
β		0.5			1.0			



PART NUMBER EXAMPLE

TL 331 M 1H BK 130 270