

FEATURES

- 105°C, 1000 hours assured.
- Excellent temperature performance.



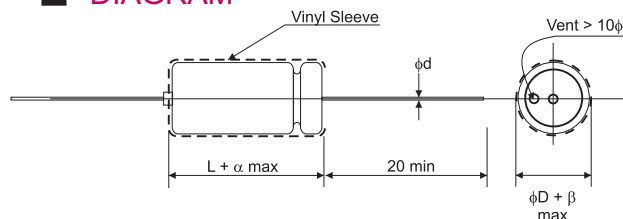
SPECIFICATIONS

Item	Performance																				
Operating Temperature Range	6.3 ~ 250V							350V ~ 450V													
	-40°C ~ + 105°C							-25°C ~ + 105°C													
Capacitance Tolerance	± 20% (120Hz, 20°C)																				
Leakage Current (at 20°C)	Rated Voltage	≤ 100V					>100V														
	Time	after 2 minutes					After 5 minutes														
	Leakage Current	I = 0.02CV or 3 (μA) Whichever is greater					CV ≤ 100 I = 0.03CV +15 (μA)			CV >1000 I = 0.02CV +25 (μA)											
When C= rated capacitance in μ F. 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	160	200	250	350	400	450						
	Tan δ (max)	0.23	0.20	0.17	0.15	0.12	0.10	0.09	0.08	0.12	0.14	0.17	0.20	0.25	0.25						
When the capacitance exceed 1000μ F 0.02 shall be added every 1000μ F increase.																					
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	160	200	250	350	400	450					
	Impedance	Z(-25°C)	φD<16	4	3	3	2	2	2	2	2	3	6	8	12	14	16				
		/Z(+20°C)	φD>16	6	4	4	3	3	3	3	3	4	8	10							
Ratio	Z(-40°C)	φD<16	8	6	6	4	4	3	3	3	4	8	10								
	/Z(+20°C)	φD>16	12	10	8	8	8	8	6	6											
Load Life Test at 20°C (after rated voltage applied for 1000 hours at 105°C)	Test Time	1000 Hrs					Shelf Life Test at 20°C (after rated voltage applied for 1000 hours without voltage applied)					Test Time					1000 Hrs				
	Capacitance Change	≤ ± 20%										Capacitance Change					≤ ± 20%				
	Dissipation Factor	Less than 200% of specified value.										Dissipation Factor					Less than 200% of specified value				
	Leakage Current	Within specified value										Leakage		6.3 ~ 100V			Within specified value				
												Current		160 ~ 450V			Less than 200% of specified value				
Ripple Current & Frequency Multipliers	Freq. (Hz)	Cap. (μF)	60	120	500	1K	10K up	Ripple Current & Temperature Multipliers				Temperature (°C)		Under 50	70	85	105				
			Multipliers		1.95		1.78		1.40		1.00										
	Under 100		0.70	1.00	1.30	1.40	1.50														
	220 to 1000		0.75	1.00	1.20	1.30	1.35														
2200 up above		0.80	1.00	1.10	1.12	1.15															
Standards	Satisfies Characteristic W of JIS C 5141																				

LEAD SPACING AND DIAMETER

φD	5	6.3	8	10	13	16	18	22	25
φd	0.6			0.8			1.0		
α	1.5			2.0					
β	0.5			1.0					

DIAGRAM



PART NUMBER EXAMPLE

TG 470 M 1A TR 050 120

DIMENSIONS AND PERMISSABLE RIPPLE CURRENT

Dimension: $\phi D \times L$ (mm)

Ripple Current: mA/RMS at 120Hz 105°C

μF	Code	6.3v(0J)		10V(1A)		16V(1C)		25V(1E)		35V(1V)		50V(1H)		63V(1J)	
		$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA
0.1	0R1											5 x 12	2	5 x 12	3
0.22	R22											5 x 12	3.5	5 x 12	4.5
0.33	R33											5 x 12	5	5 x 12	7.5
0.47	R47											5 x 12	6	5 x 12	9
1	010											5 x 12	10	5 x 12	15
2.2	2R2											5 x 12	20	5 x 12	30
3.3	3R3											5 x 12	34	5 x 12	32
4.7	4R7											5 x 12	34	5 x 12	36
10	100											5 x 12	50	6.3 x 13	56
22	220							5 x 12	63	6.3 x 13	73	6.3 x 13	80	6.3 x 13	90
33	330					5 x 12	73	6.3 x 13	78	6.3 x 13	96	6.3 x 13	105	8 x 13	123
47	470			5 x 12	77	6.3 x 13	93	6.3 x 13	99	6.3 x 16	114	8 x 16	140	8 x 16	162
100	101	6.3 x 13	113	6.3 x 13	121	6.3 x 13	145	8 x 13	166	8 x 16	180	10 x 17	225	10 x 17	248
220	221	6.3 x 13	172	6.3 x 13	185	8 x 13	231	8 x 16	246	10 x 17	305	10 x 21	349	13 x 22	420
330	331	8 x 16	236	8 x 16	253	8 x 16	323	10 x 17	345	10 x 21	391	13 x 22	450	13 x 27	495
470	471	8 x 16	281	8 x 16	302	10 x 17	359	10 x 21	432	13 x 22	490	13 x 22	561	13 x 27	632
1000	102	10 x 17	453	10 x 17	486	10 x 21	569	13 x 22	662	13 x 27	721	16 x 33	875	18 x 37	984
2200	222	13 x 22	740	13 x 22	793	13 x 27	926	16 x 27	1024	16 x 37	1177	18 x 40	1408		
3300	332	13 x 22	906	13 x 27	1015	16 x 27	1173	16 x 33	1300	16 x 40	1449	22 x 43	1724		
4700	472	13 x 27	1168	16 x 27	1252	16 x 37	1443	18 x 42	1638	22 x 43	1878				

μF	Code	100V (2A)		160V(2C)		200V(2D)		250V(2E)		350V(2V)		400V(2G)		450V(2W)	
		$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA
0.1	0R1	5 x 12	3												
0.22	R22	5 x 12	5												
0.33	R33	5 x 12	8												
0.47	R47	5 x 12	9												
1	010	5 x 12	15	6.3 x 13	7	6.3 x 16	9	6.3 x 16	12	8 x 16	13	8 x 16	15	8 x 16	15
2.2	2R2	5 x 12	30	6.3 x 13	15	8 x 16	16	8 x 16	17	8 x 20	19	10 x 21	23	10 x 21	23
3.3	3R3	5 x 12	32	8 x 16	21	8 x 16	26	8 x 20	31	8 x 20	33	10 x 21	36	10 x 21	36
4.7	4R7	6.3 x 13	38	8 x 16	31	8 x 16	33	10 x 17	38	10 x 21	44	13 x 22	46	13 x 22	46
10	100	6.3 x 13	64	10 x 17	60	10 x 21	66	10 x 21	72	13 x 22	77	13 x 27	82	13 x 27	82
22	220	8 x 16	106	13 x 22	121	13 x 22	121	13 x 27	126	13 x 27	132	16 x 37	143	16 x 37	143
33	330	10 x 17	150	13 x 22	154	13 x 27	167	16 x 27	178	16 x 33	186	16 x 42	201	16 x 42	201
47	470	10 x 21	180	13 x 27	198	16 x 32	214	16 x 33	241	16 x 42	253	22 x 43	402	22 x 43	402
100	101	13 x 22	287	16 x 33	345	16 x 37	368	18 x 43	391	22 x 43	402	25 x 52	448	25 x 52	448
220	221	13 x 27	458	18 x 42	586	22 x 43	609	22 x 43	632						
330	331	13 x 36	582	22 x 43	632										
470	471	16 x 32	713												
1000	102	18 x 40	1096												