

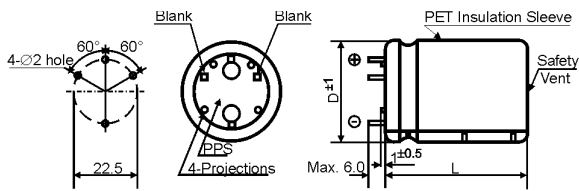
These capacitors combine both the advantage of screw type capacitors (high CV values and **high ripple currents**) as well as the compact size and the termination of snap mount parts.

► **Specifications /**

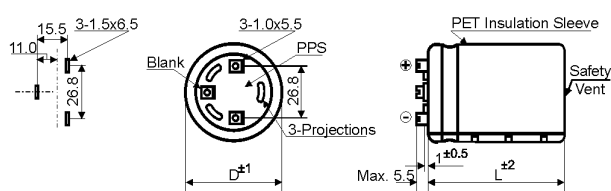
Items	Characteristics
Temperature range	-40°C ~ + 85°C (200VDC - 500VDC) -25°C ~ + 85°C (550VDC - 600VDC)
Rated voltage	200VDC - 600VDC
Surge voltage	Repetitive max. 30 sec per 6 Minutes
Leakage current at 20°C	0.01 • C • V _r [µA] or 3 mA, which is smaller.
Capacitance tolerance	+/- 20%
Useful life	6000h at 85°C
Field failure rate	0.5 FIT = 0.5 • 10 ⁻⁹ Failures/hour
Failure rate	Less than 0.1% within the useful life



► **Outline Drawing /**



Circuit board hole dimension (Unit: mm)



Circuit board hole dimension (Unit: mm)

Shape / Form: S (D = 41, 46mm)

Shape / Form: T (D = 51mm)

► **Ripple Current Multiplier /**

Frequency [Hz]	50/60	120	300	1k	≥ 10k
multiplier 200V – 500V	0.7	1.0	1.1	1.3	1.4
multiplier 550V – 600V	0.7	1.0	1.2	1.5	1.7

Forced cooling [m/sec]	v < 0.5	v ≥ 0.5
multiplier	1.0	1.1

Temperature [°C]	40	60	70	85
multiplier 200V – 500V	2.0	1.6	1.4	1.0
multiplier 550V – 600V	1.7	1.5	1.2	1.0

► **Product Code /**

Example: PS2 400V 1200µF ±20% 46x70mm Shape „S“

PS2	2G	122	M	S	H	()																																	
Type of series	Rated voltage code	Capacitance code	Capacitance tolerance	Terminal symbol code	Case code diameter	Length code																																	
	<table border="1" style="font-size: small;"> <thead> <tr> <th>Code</th><th>Voltage</th><th>Code</th><th>Voltage</th></tr> </thead> <tbody> <tr><td>2D</td><td>200</td><td>2W</td><td>450</td></tr> <tr><td>2E</td><td>250</td><td>2H</td><td>500</td></tr> <tr><td>2G</td><td>400</td><td>2L</td><td>550</td></tr> <tr><td>420V</td><td>420</td><td>600V</td><td>600</td></tr> </tbody> </table>	Code	Voltage	Code	Voltage	2D	200	2W	450	2E	250	2H	500	2G	400	2L	550	420V	420	600V	600	<p>The first two digits are significant. The last digit indicates the number of following zeros in µF.</p>	<table border="1" style="font-size: small;"> <tbody> <tr><td>S: 4-pin terminal</td></tr> <tr><td>T: T-Type terminal</td></tr> </tbody> </table>	S: 4-pin terminal	T: T-Type terminal	<table border="1" style="font-size: small;"> <thead> <tr> <th>Code</th><th>∅D</th></tr> </thead> <tbody> <tr><td>B</td><td>41</td></tr> <tr><td>H</td><td>46</td></tr> <tr><td>C</td><td>51</td></tr> </tbody> </table>	Code	∅D	B	41	H	46	C	51	<table border="1" style="font-size: small;"> <thead> <tr> <th>Code</th><th>L</th></tr> </thead> <tbody> <tr><td>Ly</td><td>y</td></tr> </tbody> </table>	Code	L	Ly	y
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Rated Voltage Code (Surge Voltage) V_r [V DC]	Capacitance C_r [μ F]	Dissipation factor $\tan \delta$	Ripple Current	Ripple Current	ESR (typ) at 20°C/100Hz [m Ω]	DxL [mm]	Product Code
			at 40°C/120Hz [A RMS]	at 85°C/120Hz I_r [A RMS]			
200 2D (250)	1 800	0.15	12.72	6.36	63	41x45	PS22D182MSB
	2 200	0.15	13.96	6.98	52	41x55	PS22D222MSB
	2 700	0.15	14.48	7.24	42	46x51	PS22D272MSH
	3 300	0.15	15.56	7.78	35	51x51	PS22D332MTC
		0.15	16.18	8.09	34	46x61	PS22D332MSH
		0.15	16.42	8.21	34	41x64	PS22D332MSB
	3 900	0.15	17.08	8.54	30	51x61	PS22D392MTC
		0.15	17.56	8.78	29	46x70	PS22D392MSH
4 700	0.15	18.68	9.34	25	51x70	PS22D472MTC	
5 200	0.15	19.65	9.82	23	51x70	PS22D522MTCL70	
250 2E (300)	1 200	0.15	10.38	5.19	95	41x45	PS22E122MSB
	1 800	0.15	11.82	5.91	63	46x51	PS22E182MSH
		0.15	12.64	6.32	63	41x55	PS22E182MSB
	2 200	0.15	13.20	6.60	52	46x61	PS22E222MSH
		0.15	14.10	7.05	52	41x64	PS22E222MSB
	2 700	0.15	14.08	7.04	43	51x51	PS22E272MTC
	3 300	0.15	15.70	7.85	35	51x61	PS22E332MTC
		0.15	16.14	8.07	34	46x70	PS22E332MSH
3 900	0.15	17.00	8.50	30	51x70	PS22E392MTC	
400 2G (450)	560	0.15	9.28	4.64	101	41x45	PS22G561MSB
	680	0.15	10.16	5.08	83	41x55	PS22G681MSB
	820	0.15	11.28	5.64	69	46x51	PS22G821MSH
	1 000	0.15	12.46	6.23	56	41x64	PS22G102MSB
		0.15	12.60	6.30	56	46x61	PS22G102MSH
		0.15	12.94	6.47	57	51x51	PS22G102MTC
		0.15	13.44	6.72	75	41x78	PS22G102MSBL78
	1 100	0.15	13.38	6.69	71	41x68	PS22G112MSBL68
	1 200	0.15	13.78	6.89	47	46x70	PS22G122MSH
		0.15	14.32	7.16	47	51x61	PS22G122MTC
	1 400	0.15	14.87	7.44	56	46x70	PS22G142MSHL70
		0.15	15.91	7.95	57	41x78	PS22G142MSBL78
	1 500	0.15	15.96	7.98	38	51x70	PS22G152MTC
1 700	0.15	13.64	6.82	35	46x70	PS22G172MSHL70	
1 800	0.15	17.47	8.73	46	51x70	PS22G182MTCL70	
420 420V (470)	470	0.15	8.16	4.08	158	41x45	PS2420V471MSB
	680	0.15	9.76	4.88	109	41x55	PS2420V681MSB
		0.15	9.86	4.93	109	46x51	PS2420V681MSH
	820	0.15	10.82	5.41	90	41x64	PS2420V821MSB
		0.15	11.24	5.62	91	51x51	PS2420V821MTC
	1 000	0.15	12.08	6.04	74	46x61	PS2420V102MSH
		0.15	12.41	6.20	75	51x51	PS2420V102MTCL51
	1 200	0.15	13.22	6.61	62	46x70	PS2420V122MSH
0.15		13.76	6.88	62	51x61	PS2420V122MTC	
1 500	0.15	15.32	7.66	50	51x70	PS2420V152MTC	
450 2W (500)	390	0.15	7.44	3.72	190	41x45	PS22W391MSB
	560	0.15	8.86	4.43	132	41x55	PS22W561MSB
		0.15	9.20	4.60	135	41x61	PS22W561MSBL61
	680	0.15	9.86	4.93	109	46x51	PS22W681MSH
	820	0.15	10.82	5.41	90	41x64	PS22W821MSB
		0.15	10.96	5.48	90	46x61	PS22W821MSH
		0.15	11.24	5.62	91	51x51	PS22W821MTC
	1 000	0.15	12.06	6.03	74	46x70	PS22W102MSH
		0.15	12.54	6.27	74	51x61	PS22W102MTC
	1 100	0.15	13.16	6.58	68	51x61	PS22W112MTCL61
		0.15	17.05	8.52	68	46x70	PS22W112MSHL70
	1 200	0.15	13.68	6.84	62	51x70	PS22W122MTC
	1 500	0.15	15.29	7.65	50	51x70	PS22W152MTCL70
2 000	0.15	15.69	7.84	55	46x100	PS22W202MSHL100	

Rated Voltage Code (Surge Voltage) V_r [V DC]	Capacitance C_r [μ F]	Dissipation factor $\tan \delta$	Ripple Current at 40°C/120Hz [A RMS]	Ripple Current at 85°C/120Hz I_r [A RMS]	ESR (typ) at 20°C/100Hz [m Ω]	DxL [mm]	Product Code
500 2H (550)	330	0.20	6.51	3.26	290	41x45	PS22H331MSBL45
	470	0.20	7.72	3.86	210	41x55	PS22H471MSBL55
		0.20	7.79	3.89	210	46x51	PS22H471MSHL51
	560	0.20	8.51	4.26	180	41x64	PS22H561MSBL64
	680	0.20	9.48	4.74	150	46x61	PS22H681MSHL61
		0.20	9.75	4.87	150	51x51	PS22H681MTCL51
	820	0.20	10.38	5.19	120	46x70	PS22H821MSHL70
0.20		10.80	5.40	120	51x61	PS22H821MTCL61	
1 000	0.20	11.88	5.94	100	51x70	PS22H102MTCL70	
550 2L (600)	220	0.20	4.35	2.56	510	41x45	PS22L221MSBL45
	270	0.20	4.81	2.83	420	41x55	PS22L271MSBL55
	330	0.20	5.37	3.16	340	46x51	PS22L331MSHL51
	390	0.20	5.83	3.43	290	41x64	PS22L391MSBL64
		0.20	5.88	3.46	290	46x61	PS22L391MSHL61
		0.20	6.05	3.56	290	51x51	PS22L391MTCL51
	560	0.20	7.06	4.15	200	46x70	PS22L561MSHL70
		0.20	7.33	4.31	200	51x61	PS22L561MTCL61
680	0.20	8.06	4.74	170	51x70	PS22L681MTCL70	
600 600V (650)	180	0.20	3.94	2.32	620	41x45	PS2600V181MSBL45
	220	0.20	4.34	2.55	510	41x55	PS2600V221MSBL55
	270	0.20	4.85	2.85	420	46x51	PS2600V271MSHL51
	330	0.20	5.37	3.16	340	41x64	PS2600V331MSBL64
	390	0.20	5.88	3.46	290	46x61	PS2600V391MSHL61
		0.20	6.05	3.56	290	51x51	PS2600V391MTCL51
	470	0.20	6.46	3.80	240	46x70	PS2600V471MSHL70
		0.20	6.72	3.95	240	51x61	PS2600V471MTCL61
560	0.20	7.31	4.30	200	51x70	PS2600V561MTCL70	

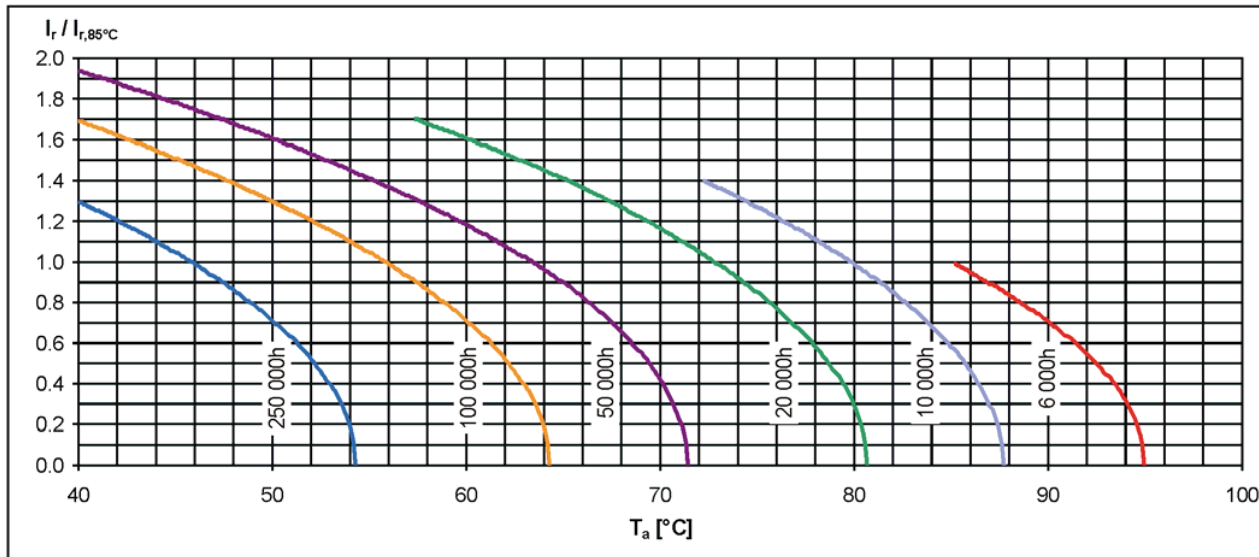
► **Life Time Table /**

PS2	Useful life as function of ambient temperature and ripple current										
	x 1.0	x 1.1	x 1.2	x 1.3	x 1.4	x 1.5	x 1.6	x 1.7	x 1.8	x 1.9	x 2.0
$T_a = 40^{\circ}\text{C}$	250	250	250	250	202	162	127	98	75	56	42
$T_a = 45^{\circ}\text{C}$	250	229	192	158	128	102	80	62	47	36	
$T_a = 50^{\circ}\text{C}$	171	145	121	100	81	65	51	39	30		
$T_a = 55^{\circ}\text{C}$	108	92	77	63	51	41	32	25			
$T_a = 60^{\circ}\text{C}$	68	58	48	40	32	26	20				
$T_a = 65^{\circ}\text{C}$	43	37	31	25	20	16					
$T_a = 70^{\circ}\text{C}$	26	23	19	16	13						
$T_a = 75^{\circ}\text{C}$	16	15	12	10							
$T_a = 80^{\circ}\text{C}$	10	9	8								
$T_a = 85^{\circ}\text{C}$	6										

khrs Max. value limited to 250 000 hours.

► **Life Time Graph /**

Useful life depending on ambient temperature T_a and ripple current operating conditions I_r versus rated ripple current at the upper category temperature $I_{r,85^{\circ}\text{C},120\text{Hz}}$



► **Life Time Tests and Requirements /**

Life time test	Reference	Test procedure	Life time criteria
Endurance test	JIS-C-5101-4 JIS-C-5102 IEC 60384-4	$T_a = 85^{\circ}\text{C}$; V_r, I_r applied 4000 hours	$\Delta C/C < 15\%$ $\text{Tan}\delta < 175\%$ (of initial value) $I_L = \text{spec. value}$
Useful life	JIS-C-5104-4 IEC 60384-4	$T_a = 85^{\circ}\text{C}$; V_r, I_r applied 6000 hours	$\Delta C/C < 20\%$ $\text{Tan}\delta < 200\%$ (of initial value) $I_L = \text{spec. value}$