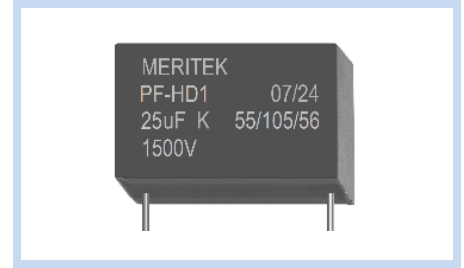


**FEATURE**

- Self-Healing Property
- High Ripple and Peak (dv/dt) Current Capability
- Low ESL, High Frequency Performance
- High Temperature Capabilities, Up to 125°C
- Applications: Renewable Energies Inverters, UPS, Battery Charger, Motor Drive, High Frequency Applications
- THB-2000H, 85°C 85%RH, VR, 2000h
- AEC-Q200 Compliant



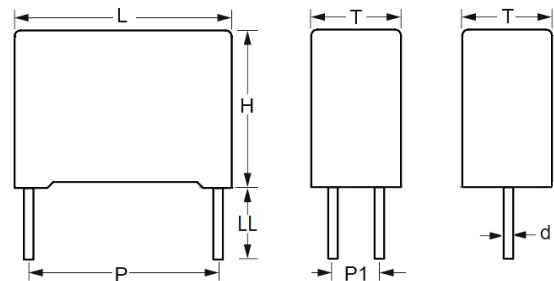
**ELECTRICAL CHARACTERISTICS**

Item	Characteristic										
Operating Temperature	-55~+105°C										
Capacitance Range	1.0μF ~ 220μF, ±5%(J), ±10%(K) at 25°C										
Climatic Category	55/105/56 IEC60068-1										
Operating DC Voltage, V <sub>NDC</sub>	500	550	700	800	900	1000	1100	1200	1300	1400	1500
Operating DC Voltage, V <sub>OP105</sub>	365	402	511	584	657	730	803	876	949	1022	1095
Max RMS Current, 75°C 10KHz	4.7~45	4.7~44.5	4.1~39.4	4.4~38.7	3.3~36.1	3.5~33.7	3.7~32.1	4.5~30.3	5.0~27.8	4.8~28.1	5.1~26.3
Dissipation Factor	C ≤20μF		C >20μF		C >80μF		--		at 1KHz; at 25°C		
	≤0.002 (0.2%)		≤0.003 (0.3%)		≤0.004 (0.4%)		--				
Overvoltage	110% of Vr		115% of Vr		120% of Vr		130% of Vr		Max duration within one day		
	30% On-Load		30mins		5mins		1min				
Insulation Resistance	IR* C ≥ 30,000sec				Between leads, at 100 Vdc, 60 sec, at +25°C ±5°C°						
Withstanding Voltage	1.5* V <sub>R</sub> VDC for 10sec				Between Terminals, at +25°C±5°C						
	3000V <sub>AC</sub> , 50/60Hz 60sec				Between Terminals and Enclosure, at +25 ±5°C						
Self-inductance	<1nH				per mm of lead spacing						
Life Expectancy	100,000 hours		40,000 hours		500 hours		200 hours		at hot spot temperature T <sub>HS</sub>		
	V <sub>NDC</sub> at 85°C		V <sub>OP105</sub> at 105°C		0.6*V <sub>NDC</sub> at 115°C		0.5*V <sub>NDC</sub> at 125°C				

**DIMENSIONS**

No of Pin	P ±0.5mm	P1 ±0.5mm	d ±0.05mm	L±1.0mm
2-pin	27.5	NA	0.8	32
2-pin	37.5	NA	1.0	42
4-pin	27.5	10.2	0.8	32
4-pin	37.5	10.2, 20.3	1.0	42
4-pin	52.5	20.3	1.2	57.5

Note:  
 1. L±1.0mm, H±1mm, T±1mm, See the table below for dimension  
 2. LL Options: 3mm, 4mm, 5mm, 7mm, 15mm Min



**PART NUMBERING SYSTEM**

**PF**   **256K**   **15**   **540**   **HD1**   **5**  
 (1)   (2)   (3)   (4)   (5)   (6)

No	Item	Code	Description
(1)	Product Code	PF	Power Film Capacitor, Metallized PP Film
(2)	Nominal Capacitance	256K	25 μF ±10%(K)      First two digits: Significant, Third: Multiplier
(3)	Rated DC Voltage Code	15	15: 1500VDC      First two digits of Operating DC Voltage, V <sub>NDC</sub>
(4)	Internal Code	540	5: 52.5mm pitch, 4: 4 Pins, 0: Case Code      See the electrical specification table below
(5)	Series Code	HD1	DC Link Capacitor Series, Box Type, 125°C Max Temp, THB-2000H, 85°C, 85%RH, VR, 2000h, AECQ
(6)	Option Code	5	5: LL 5mm Bulk package      4: LL 4mm, Blank: LL: 15mm min, Bulk package

**ELECTRICAL SPECIFICATION – 500VDC (50)**

CAP ( $\mu$ F)	Dimensions (mm)						dv/dt (V/us)	Peak Current (A)	Surge Current (A)	ESR 10KHz (m $\Omega$ )	ESL (nH)	Thermal Res (°C/W)	Irms 10KHz 75°C (A)	No of Pin	Part Number
	L	H	T	P	P1	d									
3.3	32.0	18.0	9.0	27.5	-	0.8	65	215	644	22.1	12	41.7	4.7	2	PF335%50220HD1x
4	32.0	18.0	9.0	27.5	-	0.8	65	260	780	18.2	12	41.7	5.1	2	PF405%50220HD1x
5	32.0	20.0	11.0	27.5	-	0.8	65	325	975	14.6	14	35.7	6.2	2	PF505%50220HD1x
6	32.0	20.0	11.0	27.5	-	0.8	65	390	1170	12.1	14	35.7	6.8	2	PF605%50220HD1x
7	32.0	22.0	13.0	27.5	-	0.8	65	455	1365	10.4	15	33.3	7.6	2	PF705%50220HD1x
8	32.0	22.0	13.0	27.5	-	0.8	65	520	1560	9.1	15	33.3	8.1	2	PF805%50220HD1x
10	32.0	24.5	13.0	27.5	-	0.8	65	650	1950	7.3	16	31.3	9.4	2	PF106%50220HD1x
12	32.0	28.0	14.0	27.5	-	0.8	65	780	2340	6.1	18	27.8	10.9	2	PF126%50220HD1x
13	32.0	28.0	14.0	27.5	-	0.8	65	845	2535	5.6	18	27.8	11.3	2	PF136%50220HD1x
14	32.0	30.0	16.0	27.5	-	0.8	65	910	2730	5.2	18	26.3	12.1	2	PF146%50220HD1x
15	32.0	30.0	16.0	27.5	-	0.8	65	975	2925	4.9	18	26.3	12.5	2	PF156%50221HD1x
15	32.0	28.0	18.0	27.5	-	0.8	65	975	2925	5.2	19	23.8	12.7	2	PF156%50222HD1x
16	32.0	28.0	18.0	27.5	-	0.8	65	1040	3120	4.6	19	23.8	13.6	2	PF166%50220HD1x
18	32.0	33.0	18.0	27.5	-	0.8	65	1170	3510	4.3	21	21.7	14.6	2	PF186%50220HD1x
20	32.0	33.0	18.0	27.5	-	0.8	65	1300	3900	3.9	21	21.7	15.4	2	PF206%50220HD1x
22	32.0	37.0	22.0	27.5	-	0.8	65	1430	4290	4.3	23	17.2	16.5	2	PF226%50220HD1x
25	32.0	37.0	22.0	27.5	-	0.8	65	1625	4875	3.7	23	17.2	17.6	2	PF256%50220HD1x
28	32.0	37.0	22.0	27.5	-	0.8	65	1820	5460	3.3	23	17.2	18.6	2	PF286%50220HD1x
30	42.0	37.0	22.0	37.5	10.2	1.2	35	1050	3150	5.6	14	14.3	15.8	4	PF306%50340HD1x
35	42.0	37.0	22.0	37.5	10.2	1.2	35	1225	3675	4.8	14	14.3	17.0	4	PF356%50340HD1x
40	42.0	40.0	20.0	37.5	10.2	1.2	35	1400	4200	4.2	14	13.9	18.5	4	PF406%50341HD1x
40	42.0	37.0	22.0	37.5	10.2	1.2	35	1400	4200	4.2	14	14.3	18.2	4	PF406%50342HD1x
50	42.0	37.0	28.0	37.5	10.2	1.2	35	1750	5250	3.4	15	12.2	22.0	4	PF506%50340HD1x
55	42.0	44.0	24.0	37.5	10.2	1.2	35	1925	5775	3.1	15	12.2	23.1	4	PF556%50340HD1x
60	42.0	43.0	28.0	37.5	10.2	1.2	35	2100	6300	2.8	16	11.8	24.6	4	PF606%50340HD1x
65	42.0	45.0	30.0	37.5	20.3	1.2	35	2275	6825	2.6	16	10.0	27.7	4	PF656%50340HD1x
70	42.0	45.0	30.0	37.5	20.3	1.2	35	2450	7350	2.4	16	10.0	28.8	4	PF706%50340HD1x
80	42.0	45.0	35.0	37.5	20.3	1.2	35	2800	8400	2.1	17	9.1	32.3	4	PF806%50340HD1x
90	42.0	50.0	35.0	37.5	20.3	1.2	35	3150	9450	2.1	17	8.3	33.5	4	PF906%50340HD1x
110	42.0	55.0	40.0	37.5	20.3	1.2	35	3850	11550	2.1	18	7.7	35.2	4	PF117%50341HD1x
110	42.0	57.0	38.0	37.5	20.3	1.2	35	3850	11550	2.1	18	7.7	35.2	4	PF117%50342HD1x
120	42.0	55.0	40.0	37.5	20.3	1.2	35	4200	12600	1.9	18	7.7	36.8	4	PF127%50340HD1x
140	42.0	60.0	45.0	37.5	20.3	1.2	35	4900	14700	1.6	20	7.1	41.2	4	PF147%50340HD1x
80	57.5	45.0	25.0	52.5	10.2	1.2	20	1600	4800	4.9	14	9.1	21.2	4	PF806%50540HD1x
100	57.5	45.0	30.0	52.5	20.3	1.2	20	2000	6000	3.9	15	8.0	25.3	4	PF107%50540HD1x
130	57.5	50.0	35.0	52.5	20.3	1.2	20	2600	7800	3.0	17	6.9	31.1	4	PF137%50540HD1x
160	57.5	60.0	35.0	52.5	20.3	1.2	20	3200	9600	2.4	18	6.1	36.8	4	PF167%50540HD1x
170	57.5	55.0	45.0	52.5	20.3	1.2	20	3400	10200	2.5	18	6.1	36.5	4	PF177%50540HD1x
180	57.5	65.0	35.0	52.5	20.3	1.2	20	3600	10800	2.4	18	5.7	38.6	4	PF187%50541HD1x
180	57.5	55.0	45.0	52.5	20.3	1.2	20	3600	10800	2.4	19	5.4	39.6	4	PF187%50542HD1x
210	57.5	65.0	45.0	52.5	20.3	1.2	20	4200	12600	2.0	20	5.1	44.0	4	PF217%50540HD1x
220	57.5	65.0	45.0	52.5	20.3	1.2	20	4400	13200	1.9	20	5.1	45.0	4	PF227%50540HD1x

Note: % denoted to tolerance:  $\pm 5\%$ (J),  $\pm 10\%$ (K) at 25°C, x denoted to option code, see the parts number system

**ELECTRICAL SPECIFICATION – 550VDC (55)**

CAP	Dimensions (mm)						dv/dt (V/us)	Peak Current (A)	Surge Current (A)	ESR 10KHz (mΩ)	ESL (nH)	Thermal Res (°C/W)	Irms 10KHz 75°C (A)	No of Pin	Part Number
	(uF)	L	H	T	P	P1									
3	32.0	18.0	9.0	27.5	-	0.8	65	195	585	21.9	12	41.7	4.7	2	PF305%55220HD1x
3.3	32.0	20.0	11.0	27.5	-	0.8	65	215	644	19.9	14	35.7	4.9	2	PF335%55220HD1x
4	32.0	20.0	11.0	27.5	-	0.8	65	260	780	16.4	14	35.7	5.8	2	PF405%55220HD1x
4.5	32.0	22.0	13.0	27.5	-	0.8	65	293	878	14.6	15	33.3	6.4	2	PF455%55220HD1x
5	32.0	22.0	13.0	27.5	-	0.8	65	325	975	13.1	15	33.3	6.8	2	PF505%55220HD1x
6	32.0	22.0	13.0	27.5	-	0.8	65	390	1170	10.9	15	33.3	7.4	2	PF605%55220HD1x
7	32.0	24.0	14.0	27.5	-	0.8	65	455	1365	9.4	17	29.4	8.5	2	PF705%55220HD1x
8	32.0	24.0	14.0	27.5	-	0.8	65	520	1560	8.2	17	29.4	9.1	2	PF805%55220HD1x
9	32.0	28.0	14.0	27.5	-	0.8	65	585	1755	7.3	18	27.8	9.9	2	PF905%55220HD1x
10	32.0	28.0	14.0	27.5	-	0.8	65	650	1950	6.6	18	27.8	10.5	2	PF106%55220HD1x
11	32.0	28.0	18.0	27.5	-	0.8	65	715	2145	6.0	18	23.8	11.9	2	PF116%55220HD1x
12	32.0	30.0	16.0	27.5	-	0.8	65	780	2340	5.5	18	26.3	11.8	2	PF126%55221HD1x
12	32.0	28.0	18.0	27.5	-	0.8	65	780	2340	5.5	18	23.8	12.4	2	PF126%55222HD1x
15	32.0	33.0	18.0	27.5	-	0.8	65	975	2925	4.4	19	21.7	14.5	2	PF156%55220HD1x
18	32.0	37.0	22.0	27.5	-	0.8	65	1170	3510	4.3	19	17.2	15.7	2	PF186%55220HD1x
20	32.0	37.0	22.0	27.5	-	0.8	65	1300	3900	4.2	19	17.2	16.6	2	PF206%55220HD1x
22	32.0	37.0	22.0	27.5	-	0.8	65	1430	4290	3.8	23	17.2	17.4	2	PF226%55220HD1x
28	42.0	40.0	20.0	37.5	10.2	1.2	35	980	2940	5.4	23	13.9	16.3	4	PF286%55340HD1x
30	42.0	37.0	22.0	37.5	10.2	1.2	35	1050	3150	5.1	23	14.3	16.6	4	PF306%55340HD1x
35	42.0	37.0	28.0	37.5	10.2	1.2	35	1225	3675	4.3	14	12.2	19.4	4	PF356%55340HD1x
40	42.0	44.0	24.0	37.5	10.2	1.2	35	1400	4200	3.8	14	12.2	20.8	4	PF406%55340HD1x
50	42.0	43.0	28.0	37.5	10.2	1.2	35	1750	5250	3.0	15	11.8	23.6	4	PF506%55340HD1x
60	42.0	45.0	30.0	37.5	20.3	1.2	35	2100	6300	2.5	16	10.0	28.1	4	PF606%55340HD1x
70	42.0	48.0	33.0	37.5	20.3	1.2	35	2450	7350	2.5	17	9.1	31.2	4	PF706%55341HD1x
70	42.0	50.0	35.0	37.5	20.3	1.2	35	2450	7350	2.5	17	8.3	31.2	4	PF706%55342HD1x
80	42.0	55.0	40.0	37.5	20.3	1.2	35	2800	8400	2.6	18	7.7	31.7	4	PF806%55340HD1x
90	42.0	55.0	40.0	37.5	20.3	1.2	35	3150	9450	2.3	18	7.7	33.6	4	PF906%55340HD1x
100	42.0	55.0	40.0	37.5	20.3	1.2	35	3500	10500	2.1	18	7.7	35.4	4	PF107%55340HD1x
110	42.0	60.0	45.0	37.5	20.3	1.2	35	3850	11550	1.9	20	7.1	38.5	4	PF117%55340HD1x
120	42.0	60.0	45.0	37.5	20.3	1.2	35	4200	12600	1.7	20	7.1	40.3	4	PF127%55340HD1x
70	57.5	45.0	25.0	52.5	10.2	1.2	20	1400	4200	5.0	14	9.1	20.9	4	PF706%55540HD1x
80	57.5	45.0	30.0	52.5	20.3	1.2	20	1600	4800	4.4	15	8.0	23.9	4	PF806%55540HD1x
90	57.5	45.0	30.0	52.5	20.3	1.2	20	1800	5400	4.2	15	8.0	25.0	4	PF906%55541HD1x
90	57.5	50.0	35.0	52.5	20.3	1.2	20	1800	5400	3.9	17	6.9	27.3	4	PF906%55542HD1x
110	57.5	50.0	35.0	52.5	20.3	1.2	20	2200	6600	3.2	17	6.9	30.1	4	PF117%55540HD1x
120	57.5	50.0	35.0	52.5	20.3	1.2	20	2400	7200	3.0	17	6.9	31.1	4	PF127%55540HD1x
130	57.5	60.0	35.0	52.5	20.3	1.2	20	2600	7800	2.7	18	6.1	34.9	4	PF137%55540HD1x
140	57.5	60.0	35.0	52.5	20.3	1.2	20	2800	8400	2.5	18	6.1	36.3	4	PF147%55541HD1x
140	57.5	65.0	35.0	52.5	20.3	1.2	20	2800	8400	2.7	18	5.7	35.8	4	PF147%55542HD1x
140	57.5	55.0	45.0	52.5	20.3	1.2	20	2800	8400	2.7	19	5.4	36.9	4	PF147%55543HD1x
150	57.5	55.0	45.0	52.5	20.3	1.2	20	3000	9000	2.5	19	5.4	38.1	4	PF157%55540HD1x
170	57.5	55.0	45.0	52.5	20.3	1.2	20	3400	10200	2.3	19	5.4	39.7	4	PF177%55541HD1x
170	57.5	65.0	45.0	52.5	20.3	1.2	20	3400	10200	2.2	20	5.1	41.7	4	PF177%55542HD1x
190	57.5	65.0	45.0	52.5	20.3	1.2	20	3800	11400	2.0	20	5.1	44.1	4	PF197%55540HD1x
210	57.5	65.0	45.0	52.5	20.3	1.2	20	4200	12600	2.0	20	5.1	44.5	4	PF217%55540HD1x

Note: % denoted to tolerance: ±5%(J), ±10%(K) at 25°C, x denoted to option code, see the parts number system

**ELECTRICAL SPECIFICATION – 700VDC (70)**

CAP ( $\mu$ F)	Dimensions (mm)						dv/dt (V/us)	Peak Current (A)	Surge Current (A)	ESR 10KHz (m $\Omega$ )	ESL (nH)	Thermal Res (°C/W)	Irms 10KHz 75°C (A)	No of Pin	Part Number
	L	H	T	P	P1	d									
2	32.0	18.0	9.0	27.5	-	0.8	65	130	390	28.1	12	41.7	4.1	2	PF205%70220HD1x
3	32.0	20.0	11.0	27.5	-	0.8	65	195	585	18.7	14	35.7	5.5	2	PF305%70220HD1x
3.3	32.0	20.0	11.0	27.5	-	0.8	65	195	585	17.0	14	35.7	5.7	2	PF335%70220HD1x
4	32.0	20.0	11.0	27.5	-	0.8	65	260	780	14.0	14	35.7	6.3	2	PF405%70220HD1x
5	32.0	22.0	13.0	27.5	-	0.8	65	325	975	11.2	15	33.3	7.3	2	PF505%70220HD1x
6	32.0	24.5	13.0	27.5	-	0.8	65	390	1170	9.4	16	31.3	8.3	2	PF605%70220HD1x
7	32.0	24.5	15.0	27.5	-	0.8	65	455	1365	8.0	17	28.6	9.3	2	PF705%70221HD1x
7	32.0	28.0	14.0	27.5	-	0.8	65	520	1560	8.0	17	27.8	9.5	2	PF705%70222HD1x
8	32.0	28.0	14.0	27.5	-	0.8	65	520	1560	7.0	17	27.8	10.1	2	PF805%70220HD1x
9	32.0	30.0	16.0	27.5	-	0.8	65	585	1755	6.2	18	26.3	11.0	2	PF905%70220HD1x
10	32.0	28.0	18.0	27.5	-	0.8	65	650	1950	5.6	19	23.8	12.2	2	PF106%70220HD1x
11	32.0	33.0	18.0	27.5	-	0.8	65	715	2145	5.1	21	21.7	13.4	2	PF116%70220HD1x
12	32.0	33.0	18.0	27.5	-	0.8	65	780	2340	4.7	21	21.7	14.0	2	PF126%70220HD1x
15	32.0	37.0	22.0	27.5	-	0.8	65	975	2925	4.8	23	17.2	15.5	2	PF156%70220HD1x
18	32.0	37.0	22.0	27.5	-	0.8	65	1170	3510	4.0	23	17.2	17.0	2	PF186%70220HD1x
20	42.0	40.0	20.0	37.5	10.2	1.2	35	700	2100	6.5	14	13.9	14.9	4	PF206%70340HD1x
22	42.0	40.0	20.0	37.5	10.2	1.2	35	770	2310	5.9	14	13.9	15.6	4	PF226%70340HD1x
25	42.0	40.0	20.0	37.5	10.2	1.2	35	875	2625	5.2	14	13.9	16.6	4	PF256%70341HD1x
25	42.0	37.0	28.0	37.5	10.2	1.2	35	875	2625	5.2	15	12.2	17.7	4	PF256%70342HD1x
27	42.0	44.0	24.0	37.5	10.2	1.2	35	945	2835	4.8	15	12.2	18.4	4	PF276%70340HD1x
30	42.0	37.0	28.0	37.5	10.2	1.2	35	1050	3150	4.3	15	12.2	19.4	4	PF306%70340HD1x
33	42.0	44.0	24.0	37.5	10.2	1.2	35	1155	3465	4.0	15	12.2	20.4	4	PF336%70340HD1x
40	42.0	45.0	30.0	37.5	20.3	1.2	35	1400	4200	3.3	16	10.0	24.8	4	PF406%70340HD1x
45	42.0	48.0	33.0	37.5	20.3	1.2	35	1575	4725	2.9	17	9.1	27.6	4	PF456%70341HD1x
45	42.0	45.0	35.0	37.5	20.3	1.2	35	1575	4725	2.9	17	9.1	27.6	4	PF456%70342HD1x
50	42.0	50.0	35.0	37.5	20.3	1.2	35	1750	5250	3.0	17	8.3	28.5	4	PF506%70340HD1x
60	42.0	55.0	40.0	37.5	20.3	1.2	35	2100	6300	3.0	18	7.7	29.6	4	PF606%70341HD1x
60	42.0	57.0	38.0	37.5	20.3	1.2	35	2100	6300	2.7	18	7.7	31.1	4	PF606%70342HD1x
66	42.0	57.0	38.0	37.5	20.3	1.2	35	2310	6930	2.7	18	7.7	31.1	4	PF666%70340HD1x
70	42.0	55.0	40.0	37.5	20.3	1.2	35	2450	7350	2.5	18	7.7	32.0	4	PF706%70340HD1x
75	42.0	60.0	45.0	37.5	20.3	1.2	35	2625	7875	2.4	20	7.1	34.4	4	PF756%70340HD1x
80	42.0	60.0	45.0	37.5	20.3	1.2	35	2800	8400	2.2	20	7.1	35.5	4	PF806%70340HD1x
85	42.0	60.0	45.0	37.5	20.3	1.2	35	2975	8925	2.1	20	7.1	36.6	4	PF856%70340HD1x
45	57.5	45.0	25.0	52.5	10.2	1.2	20	900	2700	6.7	14	9.1	18.1	4	PF456%70540HD1x
50	57.5	45.0	25.0	52.5	10.2	1.2	20	1000	3000	6.0	14	9.1	19.1	4	PF506%70540HD1x
55	57.5	45.0	30.0	52.5	20.3	1.2	20	1100	3300	5.5	15	8.0	21.4	4	PF556%70540HD1x
60	57.5	45.0	30.0	52.5	20.3	1.2	20	1200	3600	5.0	15	8.0	22.3	4	PF606%70540HD1x
65	57.5	50.0	35.0	52.5	20.3	1.2	20	1300	3900	4.6	17	6.9	25.0	4	PF656%70540HD1x
70	57.5	50.0	35.0	52.5	20.3	1.2	20	1400	4200	4.3	17	6.9	26.0	4	PF706%70540HD1x
75	57.5	50.0	35.0	52.5	20.3	1.2	20	1500	4500	4.0	17	6.9	26.9	4	PF756%70540HD1x
80	57.5	50.0	35.0	52.5	20.3	1.2	20	1600	4800	3.8	17	6.9	27.8	4	PF806%70540HD1x
90	57.5	60.0	35.0	52.5	20.3	1.2	20	1800	5400	3.3	18	6.1	31.4	4	PF906%70540HD1x
100	57.5	60.0	35.0	52.5	20.3	1.2	20	2000	6000	3.0	18	6.1	33.1	4	PF107%70541HD1x
100	57.5	55.0	45.0	52.5	20.3	1.2	20	2000	6000	3.2	19	5.4	34.1	4	PF107%70542HD1x
110	57.5	65.0	35.0	52.5	20.3	1.2	20	2200	6600	3.0	18	5.7	34.3	4	PF117%70541HD1x
110	57.5	55.0	45.0	52.5	20.3	1.2	20	2200	6600	3.0	19	5.4	35.3	4	PF117%70542HD1x
130	57.5	65.0	45.0	52.5	20.3	1.2	20	2600	7800	2.5	20	5.1	39.4	4	PF137%70540HD1x

Note: % denoted to tolerance:  $\pm 5\%$ (J),  $\pm 10\%$ (K) at 25°C, x denoted to option code, see the parts number system

**ELECTRICAL SPECIFICATION – 800VDC (80)**

CAP ( $\mu$ F)	Dimensions (mm)						dv/dt (V/us)	Peak Current (A)	Surge Current (A)	ESR 10KHz (m $\Omega$ )	ESL (nH)	Thermal Res (°C/W)	Irms 10KHz 75°C (A)	No of Pin	Part Number
	L	H	T	P	P1	d									
2	32.0	18.0	9.0	27.5	-	0.8	65	130	390	24.6	12	41.7	4.4	2	PF205%80220HD1x
2.7	32.0	20.0	11.0	27.5	-	0.8	65	195	585	18.2	14	35.7	5.5	2	PF275%80220HD1x
3	32.0	20.0	11.0	27.5	-	0.8	65	195	585	16.4	14	35.7	5.8	2	PF305%80220HD1x
4	32.0	24.5	13.0	27.5	-	0.8	65	260	780	12.3	16	31.3	7.2	2	PF405%80220HD1x
5	32.0	24.0	14.0	27.5	-	0.8	65	325	975	9.8	17	29.4	8.3	2	PF505%80221HD1x
5	32.0	28.0	14.0	27.5	-	0.8	65	325	975	9.8	17	27.8	8.6	2	PF505%80222HD1x
5	32.0	24.5	15.0	27.5	-	0.8	65	325	975	9.8	17	28.6	8.4	2	PF505%80223HD1x
6	32.0	30.0	16.0	27.5	-	0.8	65	390	1170	8.2	18	26.3	9.6	2	PF605%80220HD1x
6.5	32.0	30.0	16.0	27.5	-	0.8	65	390	1170	7.6	18	26.3	10.0	2	PF655%80220HD1x
7	32.0	30.0	16.0	27.5	-	0.8	65	455	1365	7.0	18	26.3	10.4	2	PF705%80220HD1x
8	32.0	28.0	18.0	27.5	-	0.8	65	520	1560	6.1	19	23.8	11.7	2	PF805%80220HD1x
8.5	32.0	33.0	18.0	27.5	-	0.8	65	585	1755	5.8	21	21.7	12.6	2	PF855%80220HD1x
9	32.0	33.0	18.0	27.5	-	0.8	65	585	1755	5.5	21	21.7	13.0	2	PF905%80220HD1x
10	32.0	33.0	18.0	27.5	-	0.8	65	650	1950	4.9	21	21.7	13.7	2	PF106%80220HD1x
12	32.0	37.0	22.0	27.5	-	0.8	65	780	2340	5.3	23	17.2	14.8	2	PF126%80220HD1x
13	32.0	37.0	22.0	27.5	-	0.8	65	845	2535	4.9	23	17.2	15.4	2	PF136%80220HD1x
14	32.0	37.0	22.0	27.5	-	0.8	65	910	2730	4.5	23	17.2	16.0	2	PF146%80220HD1x
15	42.0	40.0	20.0	37.5	10.2	1.2	35	525	1575	7.6	14	13.9	13.8	4	PF156%80340HD1x
16	42.0	40.0	20.0	37.5	10.2	1.2	35	560	1680	7.1	14	13.9	14.2	4	PF166%80340HD1x
20	42.0	37.0	28.0	37.5	10.2	1.2	35	700	2100	5.7	15	12.2	17.0	4	PF206%80340HD1x
22	42.0	37.0	28.0	37.5	10.2	1.2	35	770	2310	5.2	15	12.2	17.8	4	PF226%80340HD1x
24	42.0	44.0	24.0	37.5	10.2	1.2	35	875	2625	4.8	15	12.2	18.6	4	PF246%80340HD1x
25	42.0	44.0	24.0	37.5	10.2	1.2	35	875	2625	4.6	15	12.2	19.0	4	PF256%80341HD1x
25	42.0	43.0	28.0	37.5	10.2	1.2	35	875	2625	4.6	16	11.8	19.3	4	PF256%80342HD1x
30	42.0	45.0	30.0	37.5	20.3	1.2	35	1050	3150	3.8	16	10.0	22.9	4	PF306%80340HD1x
35	42.0	48.0	33.0	37.5	20.3	1.2	35	1225	3675	3.3	17	8.3	26.0	4	PF356%80341HD1x
35	42.0	45.0	35.0	37.5	20.3	1.2	35	1225	3675	3.3	17	9.1	26.0	4	PF356%80342HD1x
40	42.0	50.0	35.0	37.5	20.3	1.2	35	1400	4200	3.2	17	8.3	27.2	4	PF406%80340HD1x
45	42.0	55.0	40.0	37.5	20.3	1.2	35	1575	4725	3.5	18	7.7	27.4	4	PF456%80340HD1x
50	42.0	55.0	40.0	37.5	20.3	1.2	35	1750	5250	3.1	18	7.7	28.9	4	PF506%80340HD1x
52	42.0	57.0	38.0	37.5	20.3	1.2	35	1925	5775	3.0	18	7.7	29.5	4	PF526%80340HD1x
55	42.0	55.0	40.0	37.5	20.3	1.2	35	1925	5775	2.8	18	7.7	30.3	4	PF556%80340HD1x
60	42.0	60.0	45.0	37.5	20.3	1.2	35	2100	6300	2.6	20	7.1	32.9	4	PF606%80340HD1x
65	42.0	60.0	45.0	37.5	20.3	1.2	35	2275	6825	2.4	20	7.1	34.2	4	PF656%80340HD1x
30	57.5	45.0	25.0	52.5	10.2	1.2	20	600	1800	8.8	14	9.1	15.8	4	PF306%80540HD1x
35	57.5	45.0	25.0	52.5	10.2	1.2	20	700	2100	7.5	14	9.1	17.1	4	PF356%80540HD1x
40	57.5	45.0	30.0	52.5	20.3	1.2	20	800	2400	6.6	15	8.0	19.5	4	PF406%80540HD1x
45	57.5	45.0	30.0	52.5	20.3	1.2	20	900	2700	5.9	15	8.0	20.7	4	PF456%80540HD1x
50	57.5	50.0	35.0	52.5	20.3	1.2	20	1000	3000	5.3	17	6.9	23.5	4	PF506%80540HD1x
55	57.5	50.0	35.0	52.5	20.3	1.2	20	1100	3300	4.8	17	6.9	24.6	4	PF556%80540HD1x
60	57.5	50.0	35.0	52.5	20.3	1.2	20	1200	3600	4.4	17	6.9	25.7	4	PF606%80540HD1x
70	57.5	60.0	35.0	52.5	20.3	1.2	20	1400	4200	4.1	18	6.1	28.4	4	PF706%80540HD1x
75	57.5	60.0	35.0	52.5	20.3	1.2	20	1500	4500	3.8	18	6.1	29.4	4	PF756%80540HD1x
80	57.5	55.0	45.0	52.5	20.3	1.2	20	1600	4800	3.7	19	5.4	30.2	4	PF806%80540HD1x
85	57.5	65.0	35.0	52.5	20.3	1.2	20	1700	5100	3.4	18	5.7	32.3	4	PF856%80541HD1x
85	57.5	55.0	45.0	52.5	20.3	1.2	20	1760	5280	3.4	19	5.4	33.2	4	PF856%80542HD1x
100	57.5	65.0	45.0	52.5	20.3	1.2	20	2000	6000	2.9	20	5.1	36.9	4	PF107%80540HD1x
110	57.5	65.0	45.0	52.5	20.3	1.2	20	2200	6600	2.6	20	5.1	38.7	4	PF117%80540HD1x

Note: % denoted to tolerance:  $\pm 5\%$ (J),  $\pm 10\%$ (K) at 25°C, x denoted to option code, see the parts number system

**ELECTRICAL SPECIFICATION – 900VDC (90)**

CAP ( $\mu$ F)	Dimensions (mm)						dv/dt (V/us)	Peak Current (A)	Surge Current (A)	ESR 10KHz (m $\Omega$ )	ESL (nH)	Thermal Res (°C/W)	I <sub>rms</sub> 10KHz 75°C (A)	No of Pin	Part Number
	L	H	T	P	P1	d									
1	32.0	18.0	9.0	27.5	-	0.8	65	65	195	43.7	12	41.7	3.3	2	PF105%90220HD1x
2	32.0	20.0	11.0	27.5	-	0.8	65	130	390	21.9	14	35.7	5.1	2	PF205%90220HD1x
2.5	32.0	22.0	13.0	27.5	-	0.8	65	163	488	17.5	15	33.3	5.9	2	PF255%90220HD1x
3	32.0	22.0	13.0	27.5	-	0.8	65	195	585	14.6	15	33.3	6.4	2	PF305%90220HD1x
3.5	32.0	24.5	13.0	27.5	-	0.8	65	228	683	12.5	16	31.3	7.2	2	PF355%90220HD1x
4	32.0	24.5	15.0	27.5	-	0.8	65	260	780	10.9	17	28.6	8.0	2	PF405%90220HD1x
4.5	32.0	28.0	14.0	27.5	-	0.8	65	293	878	9.7	17	27.8	8.6	2	PF455%90220HD1x
5.5	32.0	30.0	16.0	27.5	-	0.8	65	358	1073	7.9	18	26.3	9.8	2	PF555%90220HD1x
6	32.0	28.0	18.0	27.5	-	0.8	65	390	1170	7.3	19	23.8	10.7	2	PF605%90220HD1x
6.3	32.0	28.0	18.0	27.5	-	0.8	65	390	1170	6.9	19	23.8	11.0	2	PF635%90220HD1x
7	32.0	33.0	18.0	27.5	-	0.8	65	455	1365	6.2	21	21.7	12.1	2	PF705%90220HD1x
9	32.0	37.0	22.0	27.5	-	0.8	65	585	1755	6.2	23	17.2	13.6	2	PF905%90220HD1x
10	32.0	37.0	22.0	27.5	-	0.8	65	650	1950	5.6	23	17.2	14.4	2	PF106%90220HD1x
14	42.0	40.0	20.0	37.5	10.2	1.2	35	490	1470	7.2	14	13.9	14.1	4	PF146%90340HD1x
15	42.0	40.0	20.0	37.5	10.2	1.2	35	525	1575	6.8	14	13.9	14.6	4	PF156%90340HD1x
18	42.0	37.0	28.0	37.5	10.2	1.2	35	630	1890	5.6	15	12.2	17.1	4	PF186%90340HD1x
20	42.0	37.0	28.0	37.5	10.2	1.2	35	700	2100	5.1	15	12.2	18.0	4	PF206%90341HD1x
20	42.0	44.0	24.0	37.5	10.2	1.2	35	700	2100	5.1	15	12.2	18.0	4	PF206%90342HD1x
25	42.0	45.0	30.0	37.5	20.3	1.2	35	875	2625	4.1	16	10.0	22.2	4	PF256%90340HD1x
28	42.0	48.0	33.0	37.5	20.3	1.2	35	1050	3150	3.6	17	9.1	24.6	4	PF276%90341HD1x
28	42.0	45.0	35.0	37.5	20.3	1.2	35	1050	3150	3.6	17	9.1	24.6	4	PF286%90342HD1x
30	42.0	45.0	35.0	37.5	20.3	1.2	35	1050	3150	3.4	17	9.1	25.5	4	PF306%90340HD1x
33	42.0	50.0	35.0	37.5	20.3	1.2	35	1225	3675	3.4	17	8.3	26.2	4	PF336%90340HD1x
35	42.0	50.0	35.0	37.5	20.3	1.2	35	1225	3675	3.3	17	8.3	27.0	4	PF356%90340HD1x
40	42.0	55.0	40.0	37.5	20.3	1.2	35	1400	4200	3.5	18	7.7	27.4	4	PF406%90341HD1x
40	42.0	57.0	38.0	37.5	20.3	1.2	35	1400	4200	3.5	18	7.7	27.4	4	PF406%90342HD1x
50	42.0	60.0	45.0	37.5	20.3	1.2	35	1750	5250	2.8	20	7.1	31.8	4	PF506%90340HD1x
25	57.5	45.0	25.0	52.5	10.2	1.2	20	500	1500	9.4	14	9.1	15.3	4	PF256%90540HD1x
35	57.5	45.0	30.0	52.5	20.3	1.2	20	700	2100	6.7	15	8.0	19.3	4	PF356%90540HD1x
36	57.5	45.0	30.0	52.5	20.3	1.2	20	700	2100	6.5	15	8.0	19.6	4	PF366%90540HD1x
45	57.5	50.0	35.0	52.5	20.3	1.2	20	900	2700	5.2	17	6.9	23.6	4	PF456%90540HD1x
50	57.5	50.0	35.0	52.5	20.3	1.2	20	1000	3000	4.7	17	6.9	24.9	4	PF506%90540HD1x
60	57.5	60.0	35.0	52.5	20.3	1.2	20	1200	3600	3.9	18	6.1	29.1	4	PF606%90540HD1x
65	57.5	65.0	35.0	52.5	20.3	1.2	20	1300	3900	3.9	18	5.7	29.9	4	PF656%90540HD1x
70	57.5	55.0	45.0	52.5	20.3	1.2	20	1400	4200	3.6	19	5.4	31.9	4	PF706%90540HD1x
80	57.5	65.0	45.0	52.5	20.3	1.2	20	1600	4800	3.2	20	5.1	35.0	4	PF806%90540HD1x
85	57.5	65.0	45.0	52.5	20.3	1.2	20	1700	5100	3.0	20	5.1	36.1	4	PF856%90540HD1x

Note: % denoted to tolerance:  $\pm 5\%$ (J),  $\pm 10\%$ (K) at 25°C, x denoted to option code, see the parts number system

**ELECTRICAL SPECIFICATION – 1000VDC (10)**

CAP ( $\mu$ F)	Dimensions (mm)						dv/dt (V/us)	Peak Current (A)	Surge Current (A)	ESR 10KHz (m $\Omega$ )	ESL (nH)	Thermal Res (°C/W)	I <sub>rms</sub> 10KHz 75°C (A)	No of Pin	Part Number
	L	H	T	P	P1	d									
1	32.0	18.0	9.0	27.5	-	0.8	65	65	195	39.3	12	41.7	3.5	2	PF105%10220HD1x
1.8	32.0	20.0	11.0	27.5	-	0.8	65	117	351	21.9	14	35.7	5.1	2	PF185%10220HD1x
2	32.0	22.0	13.0	27.5	-	0.8	65	130	390	19.7	15	33.3	5.5	2	PF205%10220HD1x
2.2	32.0	22.0	13.0	27.5	-	0.8	65	143	429	17.9	15	33.3	5.8	2	PF225%10220HD1x
2.7	32.0	24.5	13.0	27.5	-	0.8	65	143	429	14.6	17	29.4	6.6	2	PF275%10220HD1x
3	32.0	24.0	14.0	27.5	-	0.8	65	195	585	13.1	17	29.4	7.2	2	PF305%10220HD1x
3.3	32.0	28.0	14.0	27.5	-	0.8	65	215	644	11.9	17	27.8	7.8	2	PF335%10220HD1x
4	32.0	30.0	16.0	27.5	-	0.8	65	260	780	9.8	18	26.3	8.8	2	PF405%10220HD1x
5	32.0	28.0	18.0	27.5	-	0.8	65	325	975	7.9	19	23.8	10.3	2	PF505%10220HD1x
5.5	32.0	33.0	18.0	27.5	-	0.8	65	390	1170	7.2	21	21.7	11.3	2	PF555%10220HD1x
6	32.0	33.0	18.0	27.5	-	0.8	65	390	1170	6.6	21	21.7	11.8	2	PF605%10220HD1x
7	32.0	37.0	22.0	27.5	-	0.8	65	455	1365	7.2	23	17.2	12.7	2	PF705%10220HD1x
8	32.0	37.0	22.0	27.5	-	0.8	65	520	1560	6.3	23	17.2	13.5	2	PF805%10220HD1x
10	42.0	40.0	20.0	37.5	10.2	1.2	35	350	1050	9.1	14	13.9	12.6	4	PF106%10340HD1x
12	42.0	40.0	20.0	37.5	10.2	1.2	35	420	1260	7.6	14	13.9	13.8	4	PF126%10341HD1x
12	42.0	37.0	22.0	37.5	10.2	1.2	35	420	1260	7.6	14	14.3	13.6	4	PF126%10342HD1x
14	42.0	37.0	22.0	37.5	10.2	1.2	35	490	1470	6.5	14	14.3	14.7	4	PF146%10340HD1x
15	42.0	44.0	24.0	37.5	10.2	1.2	35	525	1575	6.1	15	12.2	16.4	4	PF156%10341HD1x
15	42.0	37.0	28.0	37.5	10.2	1.2	35	525	1575	6.1	15	12.2	16.4	4	PF156%10342HD1x
16	42.0	44.0	24.0	37.5	10.2	1.2	35	560	1680	5.7	15	12.2	17.0	4	PF166%10341HD1x
16	42.0	43.0	28.0	37.5	10.2	1.2	35	560	1680	5.7	16	11.8	17.3	4	PF166%10342HD1x
18	42.0	45.0	30.0	37.5	20.3	1.2	35	630	1890	5.1	16	10.0	19.9	4	PF186%10340HD1x
20	42.0	45.0	30.0	37.5	20.3	1.2	35	700	2100	4.6	16	10.0	20.9	4	PF206%10340HD1x
22	42.0	48.0	33.0	37.5	20.3	1.2	35	770	2310	4.1	17	9.1	23.0	4	PF226%10341HD1x
22	42.0	45.0	35.0	37.5	20.3	1.2	35	770	2310	4.1	17	9.1	23.0	4	PF226%10342HD1x
25	42.0	50.0	35.0	37.5	20.3	1.2	35	875	2625	4.1	17	8.3	24.1	4	PF256%10340HD1x
30	42.0	55.0	40.0	37.5	20.3	1.2	35	1050	3150	4.1	18	7.7	25.0	4	PF306%10340HD1x
33	42.0	57.0	38.0	37.5	20.3	1.2	35	1225	3675	3.8	18	7.7	26.3	4	PF336%10340HD1x
35	42.0	55.0	40.0	37.5	20.3	1.2	35	1225	3675	3.6	18	7.7	27.0	4	PF356%10340HD1x
40	42.0	60.0	45.0	37.5	20.3	1.2	35	1400	4200	3.1	20	7.1	30.0	4	PF406%10340HD1x
25	57.5	45.0	25.0	52.5	10.2	1.2	20	500	1500	8.4	14	9.1	16.2	4	PF256%10540HD1x
27	57.5	45.0	30.0	52.5	20.3	1.2	20	540	1620	7.8	15	8.0	17.9	4	PF276%10540HD1x
30	57.5	45.0	30.0	52.5	20.3	1.2	20	600	1800	7.0	15	8.0	18.9	4	PF306%10540HD1x
35	57.5	45.0	30.0	52.5	20.3	1.2	20	700	2100	6.0	15	8.0	20.4	4	PF356%10540HD1x
36	57.5	50.0	35.0	52.5	20.3	1.2	20	720	2160	5.9	17	6.9	22.3	4	PF366%10540HD1x
40	57.5	50.0	35.0	52.5	20.3	1.2	20	800	2400	5.3	17	6.9	23.5	4	PF406%10540HD1x
45	57.5	60.0	35.0	52.5	20.3	1.2	20	900	2700	4.7	18	6.1	26.5	4	PF456%10540HD1x
50	57.5	60.0	35.0	52.5	20.3	1.2	20	1000	3000	4.2	18	6.1	28.0	4	PF506%10541HD1x
50	57.5	55.0	45.0	52.5	20.3	1.2	20	1000	3000	4.2	19	5.4	28.0	4	PF506%10542HD1x
55	57.5	65.0	35.0	52.5	20.3	1.2	20	1100	3300	4.2	18	5.7	29.0	4	PF556%10541HD1x
55	57.5	55.0	45.0	52.5	20.3	1.2	20	1140	3420	4.2	19	5.4	29.0	4	PF556%10542HD1x
57	57.5	55.0	45.0	52.5	20.3	1.2	20	1140	3420	4.0	19	5.4	30.4	4	PF576%10540HD1x
65	57.5	65.0	45.0	52.5	20.3	1.2	20	1300	3900	3.5	20	5.1	33.3	4	PF656%10540HD1x
70	57.5	65.0	45.0	52.5	20.3	1.2	20	1400	4200	3.4	20	5.1	33.7	4	PF706%10540HD1x

Note: % denoted to tolerance:  $\pm 5\%$ (J),  $\pm 10\%$ (K) at 25°C, x denoted to option code, see the parts number system



**ELECTRICAL SPECIFICATION – 1100VDC (11)**

CAP ( $\mu$ F)	Dimensions (mm)						dv/dt (V/us)	Peak Current (A)	Surge Current (A)	ESR 10KHz (m $\Omega$ )	ESL (nH)	Thermal Res (°C/W)	I <sub>rms</sub> 10KHz 75°C (A)	No of Pin	Part Number
	L	H	T	P	P1	d									
1	32.0	18.0	9.0	27.5	-	0.8	65	65	195	35.8	12	41.7	3.7	2	PF105%11220HD1x
1.5	32.0	20.0	11.0	27.5	-	0.8	65	98	293	23.8	14	35.7	4.8	2	PF155%11220HD1x
2	32.0	22.0	13.0	27.5	-	0.8	65	130	390	17.9	15	33.3	5.8	2	PF205%11220HD1x
2.2	32.0	24.5	13.0	27.5	-	0.8	65	143	429	16.3	16	31.3	6.3	2	PF225%11220HD1x
2.7	32.0	30.0	16.0	27.5	-	0.8	65	215	644	13.2	17	27.8	7.4	2	PF275%11220HD1x
3	32.0	28.0	14.0	27.5	-	0.8	65	195	585	11.9	17	27.8	7.8	2	PF305%11220HD1x
3.3	32.0	30.0	16.0	27.5	-	0.8	65	215	644	10.8	18	26.3	8.4	2	PF335%11220HD1x
4	32.0	28.0	18.0	27.5	-	0.8	65	260	780	8.9	19	23.8	9.7	2	PF405%11220HD1x
4.5	32.0	33.0	18.0	27.5	-	0.8	65	293	878	7.9	21	21.7	10.8	2	PF455%11220HD1x
5	32.0	33.0	18.0	27.5	-	0.8	65	325	975	7.2	21	21.7	11.3	2	PF505%11220HD1x
6	32.0	37.0	22.0	27.5	-	0.8	65	390	1170	7.7	23	17.2	12.3	2	PF605%11220HD1x
7	32.0	37.0	22.0	27.5	-	0.8	65	455	1365	6.6	23	17.2	13.3	2	PF705%11220HD1x
8	42.0	40.0	20.0	37.5	10.2	1.2	35	280	840	10.4	14	13.9	11.8	4	PF805%11340HD1x
9	42.0	40.0	20.0	37.5	10.2	1.2	35	315	945	9.2	14	13.9	12.5	4	PF905%11340HD1x
10	42.0	37.0	22.0	37.5	10.2	1.2	35	350	1050	8.3	14	14.3	13.0	4	PF106%11341HD1x
10	42.0	37.0	28.0	37.5	10.2	1.2	35	350	1050	8.3	15	12.2	14.1	4	PF106%11342HD1x
12	42.0	37.0	28.0	37.5	10.2	1.2	35	420	1260	6.9	15	12.2	15.4	4	PF126%11341HD1x
12	42.0	44.0	24.0	37.5	10.2	1.2	35	420	1260	6.9	15	12.2	15.4	4	PF126%11342HD1x
13	42.0	44.0	24.0	37.5	10.2	1.2	35	455	1365	6.4	15	12.2	16.0	4	PF136%11340HD1x
15	42.0	43.0	28.0	37.5	10.2	1.2	35	525	1575	5.5	16	11.8	17.5	4	PF156%11340HD1x
16	42.0	45.0	30.0	37.5	20.3	1.2	35	560	1680	5.2	16	10.0	19.6	4	PF166%11340HD1x
18	42.0	45.0	35.0	37.5	20.3	1.2	35	630	1890	4.6	17	9.1	21.8	4	PF186%11340HD1x
20	42.0	50.0	35.0	37.5	20.3	1.2	35	700	2100	4.7	17	8.3	22.6	4	PF206%11340HD1x
27	42.0	55.0	40.0	37.5	20.3	1.2	35	945	2835	4.2	18	7.7	24.9	4	PF276%11341HD1x
27	42.0	57.0	38.0	37.5	20.3	1.2	35	945	2835	4.2	18	7.7	24.9	4	PF276%11342HD1x
35	42.0	60.0	45.0	37.5	20.3	1.2	35	1225	3675	3.2	20	7.1	29.4	4	PF356%11340HD1x
23	57.5	45.0	30.0	52.5	20.3	1.2	20	460	1380	8.3	15	8.0	17.3	4	PF236%11540HD1x
25	57.5	45.0	30.0	52.5	20.3	1.2	20	500	1500	7.7	15	8.0	18.1	4	PF256%11540HD1x
30	57.5	50.0	35.0	52.5	20.3	1.2	20	600	1800	6.4	17	6.9	21.3	4	PF306%11540HD1x
40	57.5	60.0	35.0	52.5	20.3	1.2	20	800	2400	4.8	18	6.1	26.2	4	PF406%11540HD1x
45	57.5	65.0	35.0	52.5	20.3	1.2	20	900	2700	4.6	18	5.7	27.5	4	PF456%11541HD1x
45	57.5	55.0	45.0	52.5	20.3	1.2	20	940	2820	4.6	19	5.4	28.0	4	PF456%11542HD1x
47	57.5	55.0	45.0	52.5	20.3	1.2	20	940	2820	4.4	19	5.4	28.9	4	PF476%11540HD1x
50	57.5	65.0	45.0	52.5	20.3	1.2	20	1000	3000	4.2	20	5.1	30.6	4	PF506%11540HD1x
55	57.5	65.0	45.0	52.5	20.3	1.2	20	1100	3300	3.8	20	5.1	32.1	4	PF556%11540HD1x

Note: % denoted to tolerance:  $\pm 5\%$ (J),  $\pm 10\%$ (K) at 25°C, x denoted to option code, see the parts number system



**ELECTRICAL SPECIFICATION – 1200VDC (12)**

CAP	Dimensions (mm)						dv/dt (V/us)	Peak Current (A)	Surge Current (A)	ESR 10KHz (mΩ)	ESL (nH)	Thermal Res (°C/W)	Irms 10KHz 75°C (A)	No of Pin	Part Number
	(uF)	L	H	T	P	P1									
1	32.0	20.0	11.0	27.5	-	0.8	65	65	195	27.3	14	35.7	4.5	2	PF105%12220HD1x
1.2	32.0	20.0	11.0	27.5	-	0.8	65	78	234	27.3	14	35.7	4.5	2	PF125%12220HD1x
1.5	32.0	22.0	13.0	27.5	-	0.8	65	98	293	21.9	15	33.3	5.2	2	PF155%12220HD1x
2	32.0	24.5	13.0	27.5	-	0.8	65	130	390	16.4	16	31.3	6.2	2	PF205%12220HD1x
2.2	32.0	28.0	14.0	27.5	-	0.8	65	143	429	14.9	17	27.8	7.0	2	PF225%12220HD1x
2.4	32.0	28.0	14.0	27.5	-	0.8	65	156	468	13.7	17	27.8	7.3	2	PF245%12220HD1x
2.7	32.0	30.0	16.0	27.5	-	0.8	65	195	585	12.1	18	26.3	7.9	2	PF275%12220HD1x
3	32.0	30.0	16.0	27.5	-	0.8	65	195	585	10.9	18	26.3	8.3	2	PF305%12220HD1x
3.3	32.0	28.0	18.0	27.5	-	0.8	65	215	644	9.9	19	23.8	9.2	2	PF335%12220HD1x
3.7	32.0	33.0	18.0	27.5	-	0.8	65	260	780	8.9	21	21.7	10.2	2	PF375%12220HD1x
4	32.0	33.0	18.0	27.5	-	0.8	65	260	780	8.2	21	21.7	10.6	2	PF405%12220HD1x
5	32.0	37.0	22.0	27.5	-	0.8	65	325	975	6.6	23	17.2	13.3	2	PF505%12220HD1x
7	42.0	37.0	22.0	37.5	10.2	1.2	35	245	735	9.7	14	14.3	12.1	4	PF705%12340HD1x
8	42.0	40.0	20.0	37.5	10.2	1.2	35	280	840	9.5	14	13.9	12.3	4	PF805%12340HD1x
10	42.0	37.0	28.0	37.5	10.2	1.2	35	350	1050	7.6	15	12.2	14.7	4	PF106%12341HD1x
10	42.0	44.0	24.0	37.5	10.2	1.2	35	350	1050	7.6	15	12.2	14.7	4	PF106%12342HD1x
11	42.0	44.0	24.0	37.5	10.2	1.2	35	385	1155	6.9	15	12.2	15.4	4	PF116%12340HD1x
12	42.0	43.0	28.0	37.5	10.2	1.2	35	420	1260	6.3	16	11.8	16.4	4	PF126%12340HD1x
13	42.0	43.0	28.0	37.5	10.2	1.2	35	455	1365	5.8	16	11.8	17.0	4	PF136%12340HD1x
14	42.0	45.0	30.0	37.5	20.3	1.2	35	490	1470	5.4	16	10.0	19.2	4	PF146%12340HD1x
15	42.0	45.0	30.0	37.5	20.3	1.2	35	525	1575	5.2	16	10.0	19.5	4	PF156%12341HD1x
15	42.0	45.0	35.0	37.5	20.3	1.2	35	525	1575	5.1	17	9.1	20.8	4	PF156%12342HD1x
16	42.0	45.0	35.0	37.5	20.3	1.2	35	560	1680	4.8	17	9.1	21.5	4	PF166%12340HD1x
17	42.0	50.0	35.0	37.5	20.3	1.2	35	595	1785	5.1	17	8.3	21.7	4	PF176%12340HD1x
18	42.0	48.0	33.0	37.5	20.3	1.2	35	630	1890	4.8	17	9.1	22.4	4	PF186%12341HD1x
18	42.0	50.0	35.0	37.5	20.3	1.2	35	630	1890	4.8	17	8.3	22.4	4	PF186%12342HD1x
22	42.0	55.0	40.0	37.5	20.3	1.2	35	770	2310	3.9	18	7.7	25.7	4	PF226%12341HD1x
22	42.0	57.0	38.0	37.5	20.3	1.2	35	770	2310	3.9	18	7.7	25.7	4	PF226%12342HD1x
23	42.0	55.0	40.0	37.5	20.3	1.2	35	805	2415	3.8	18	7.7	26.3	4	PF236%12340HD1x
30	42.0	60.0	45.0	37.5	20.3	1.2	35	1050	3150	2.9	20	7.1	31.2	4	PF306%12340HD1x
15	57.5	45.0	25.0	52.5	10.2	1.2	20	300	900	11.7	14	9.1	13.7	4	PF156%12540HD1x
20	57.5	45.0	30.0	52.5	20.3	1.2	20	400	1200	8.8	15	8.0	16.9	4	PF206%12540HD1x
25	57.5	50.0	35.0	52.5	20.3	1.2	20	500	1500	7.0	17	6.9	20.3	4	PF256%12540HD1x
27	57.5	50.0	35.0	52.5	20.3	1.2	20	540	1620	6.5	17	6.9	21.1	4	PF276%12540HD1x
33	57.5	60.0	35.0	52.5	20.3	1.2	20	660	1980	5.3	18	6.1	24.9	4	PF336%12540HD1x
36	57.5	55.0	45.0	52.5	20.3	1.2	20	720	2160	5.2	18	5.4	25.7	4	PF366%12540HD1x
38	57.5	55.0	45.0	52.5	20.3	1.2	20	760	2280	5.0	19	5.4	26.4	4	PF386%12541HD1x
38	57.5	65.0	35.0	52.5	20.3	1.2	20	760	2280	5.0	18	5.7	26.4	4	PF386%12542HD1x
40	57.5	55.0	45.0	52.5	20.3	1.2	20	800	2400	4.8	19	5.4	27.9	4	PF406%12540HD1x
45	57.5	65.0	45.0	52.5	20.3	1.2	20	900	2700	4.2	20	5.1	30.3	4	PF456%12540HD1x

Note: % denoted to tolerance: ±5%(J), ±10%(K) at 25°C, x denoted to option code, see the parts number system

**ELECTRICAL SPECIFICATION – 1300VDC (13)**

CAP	Dimensions (mm)						dv/dt (V/us)	Peak Current (A)	Surge Current (A)	ESR 10KHz (mΩ)	ESL (nH)	Thermal Res (°C/W)	Irms 10KHz 75°C (A)	No of Pin	Part Number
	(uF)	L	H	T	P	P1									
1.2	32.0	24.5	13.0	27.5	-	0.8	65	78	234	25.2	16	31.3	5.0	2	PF125%13220HD1x
1.6	32.0	28.0	14.0	27.5	-	0.8	65	104	312	18.9	17	27.8	6.2	2	PF165%13220HD1x
2	32.0	30.0	16.0	27.5	-	0.8	65	130	390	15.1	18	26.3	7.1	2	PF205%13220HD1x
3	32.0	33.0	18.0	27.5	-	0.8	65	195	585	10.1	21	21.7	9.6	2	PF305%13220HD1x
3.3	32.0	37.0	22.0	27.5	-	0.8	65	215	644	9.2	23	17.2	11.2	2	PF335%13220HD1x
4	32.0	37.0	22.0	27.5	-	0.8	65	260	780	7.6	23	17.2	12.4	2	PF405%13220HD1x
6	42.0	40.0	20.0	37.5	10.2	1.2	35	210	630	11.7	14	13.9	11.1	4	PF605%13340HD1x
7	42.0	37.0	28.0	37.5	10.2	1.2	35	245	735	10	15	12.2	12.8	4	PF705%13340HD1x
8	42.0	44.0	24.0	37.5	10.2	1.2	35	280	840	8.8	15	12.2	13.7	4	PF805%13340HD1x
11	42.0	45.0	30.0	37.5	20.3	1.2	35	385	1155	6.4	16	10.0	17.7	4	PF116%13340HD1x
12	42.0	48.0	33.0	37.5	20.3	1.2	35	420	1260	5.8	17	9.1	19.4	4	PF126%13340HD1x
14	42.0	50.0	35.0	37.5	20.3	1.2	35	490	1470	5.7	17	8.3	20.5	4	PF146%13340HD1x
16	42.0	55.0	40.0	37.5	20.3	1.2	35	560	1680	5.0	18	7.7	22.8	4	PF166%13340HD1x
20	42.0	60.0	45.0	37.5	20.3	1.2	35	700	2100	4.0	20	7.1	26.5	4	PF206%13340HD1x
16	57.5	45.0	30.0	52.5	20.3	1.2	20	320	960	10.1	15	8.0	15.7	4	PF166%13540HD1x
18	57.5	50.0	35.0	52.5	20.3	1.2	20	360	1080	9.0	17	6.9	17.9	4	PF186%13540HD1x
28	57.5	55.0	45.0	52.5	20.3	1.2	20	560	1680	6.3	18	5.4	24.3	4	PF286%13540HD1x
35	57.5	65.0	45.0	52.5	20.3	1.2	20	700	2100	5.0	18	5.1	27.8	4	PF356%13540HD1x

Note: % denoted to tolerance: ±5%(J), ±10%(K) at 25°C, x denoted to option code, see the parts number system

**ELECTRICAL SPECIFICATION – 1400VDC (14)**

CAP	Dimensions (mm)						dv/dt (V/us)	Peak Current (A)	Surge Current (A)	ESR 10KHz (mΩ)	ESL (nH)	Thermal Res (°C/W)	Irms 10KHz 75°C (A)	No of Pin	Part Number
	(uF)	L	H	T	P	P1									
1	32.0	24.5	13.0	27.5	-	0.8	65	65	195	28.1	16	31.3	4.8	2	PF105%14220HD1x
1.3	32.0	28.0	14.0	27.5	-	0.8	65	85	254	21.6	17	27.8	5.8	2	PF135%14220HD1x
1.6	32.0	28.0	18.0	27.5	-	0.8	65	104	312	17.6	19	23.8	6.9	2	PF165%14220HD1x
2.2	32.0	33.0	18.0	27.5	-	0.8	65	143	429	12.8	21	21.7	8.5	2	PF225%14220HD1x
2.7	32.0	37.0	22.0	27.5	-	0.8	65	176	527	10.4	23	17.2	10.6	2	PF275%14220HD1x
3	32.0	37.0	22.0	27.5	-	0.8	65	195	585	9.4	23	17.2	11.1	2	PF305%14220HD1x
5	42.0	40.0	20.0	37.5	10.2	1.2	35	175	525	13.0	14	13.9	10.5	4	PF505%14340HD1x
5.2	42.0	37.0	28.0	37.5	10.2	1.2	35	182	546	12.5	15	12.2	11.4	4	PF525%14340HD1x
5.7	42.0	44.0	24.0	37.5	10.2	1.2	35	200	599	11.4	15	12.2	12.0	4	PF575%14340HD1x
10	42.0	45.0	30.0	37.5	20.3	1.2	35	350	1050	6.5	16	10.0	17.5	4	PF106%14340HD1x
11	42.0	48.0	33.0	37.5	20.3	1.2	35	385	1155	5.9	17	9.1	19.3	4	PF116%14340HD1x
13	42.0	50.0	35.0	37.5	20.3	1.2	35	455	1365	5.7	17	8.3	20.5	4	PF136%14340HD1x
16	42.0	55.0	40.0	37.5	20.3	1.2	35	560	1680	4.6	18	7.7	23.7	4	PF166%14340HD1x
20	42.0	60.0	45.0	37.5	20.3	1.2	35	700	2100	3.7	20	7.1	27.5	4	PF206%14340HD1x
14	57.5	45.0	30.0	52.5	20.3	1.2	20	280	840	10.8	15	8.0	15.2	4	PF146%14540HD1x
16	57.5	50.0	35.0	52.5	20.3	1.2	20	320	960	9.4	17	6.9	17.6	4	PF166%14540HD1x
24	57.5	55.0	45.0	52.5	20.3	1.2	20	480	1440	6.8	18	5.4	23.3	4	PF246%14540HD1x
30	57.5	65.0	45.0	52.5	20.3	1.2	20	600	1800	5.4	18	5.1	26.8	4	PF306%14540HD1x
33	57.5	65.0	45.0	52.5	20.3	1.2	20	660	1980	5.0	18	5.1	28.1	4	PF336%14540HD1x

Note: % denoted to tolerance: ±5%(J), ±10%(K) at 25°C, x denoted to option code, see the parts number system

**ELECTRICAL SPECIFICATION – 1500VDC (15)**

CAP	Dimensions (mm)						dv/dt (V/us)	Peak Current (A)	Surge Current (A)	ESR 10KHz (mΩ)	ESL (nH)	Thermal Res (°C/W)	I <sub>rms</sub> 10KHz 75°C (A)	No of Pin	Part Number
	(uF)	L	H	T	P	P1									
1	32.0	24.5	13.0	27.5	-	0.8	65	65	195	24.6	16	31.3	5.1	2	PF105%15220HD1x
1.1	32.0	28.0	14.0	27.5	-	0.8	65	72	215	22.4	17	27.8	5.7	2	PF115%15220HD1x
1.4	32.0	28.0	18.0	27.5	-	0.8	65	91	273	17.6	19	23.8	6.9	2	PF145%15220HD1x
1.8	32.0	28.0	18.0	27.5	-	0.8	65	117	351	13.7	19	23.8	7.8	2	PF185%15220HD1x
2.2	32.0	33.0	18.0	27.5	-	0.8	65	143	429	11.2	21	21.7	9.1	2	PF225%15220HD1x
2.4	32.0	37.0	22.0	27.5	-	0.8	65	156	468	10.2	23	17.2	10.6	2	PF145%15220HD1x
3	32.0	37.0	22.0	27.5	-	0.8	65	195	585	8.2	23	17.2	11.9	2	PF305%15220HD1x
4.5	42.0	40.0	20.0	37.5	10.2	1.2	35	158	473	12.7	14	13.9	10.7	4	PF455%15340HD1x
5	42.0	37.0	28.0	37.5	10.2	1.2	35	175	525	11.4	15	12.2	12.0	4	PF505%15340HD1x
6	42.0	44.0	24.0	37.5	10.2	1.2	35	210	630	9.5	15	12.2	13.1	4	PF605%15340HD1x
6.5	42.0	43.0	28.0	37.5	10.2	1.2	35	228	683	8.8	16	10.0	15.1	4	PF655%15340HD1x
8	42.0	45.0	30.0	37.5	20.3	1.2	35	280	840	7.1	16	10.0	16.7	4	PF805%15340HD1x
9	42.0	48.0	33.0	37.5	20.3	1.2	35	315	945	6.3	17	9.1	18.6	4	PF905%15340HD1x
10	42.0	50.0	35.0	37.5	20.3	1.2	35	350	1050	6.5	17	8.3	19.2	4	PF106%15340HD1x
11	42.0	50.0	35.0	37.5	20.3	1.2	35	385	1155	5.9	17	8.3	20.2	4	PF116%15340HD1x
13	42.0	55.0	40.0	37.5	20.3	1.2	35	455	1365	5.0	18	7.7	22.8	4	PF136%15340HD1x
14	42.0	55.0	40.0	37.5	20.3	1.2	35	490	1470	4.6	18	7.7	23.7	4	PF146%15341HD1x
14	42.0	57.0	38.0	37.5	20.3	1.2	35	490	1470	4.6	20	7.1	24.6	4	PF146%15342HD1x
16	42.0	60.0	45.0	37.5	20.3	1.2	35	560	1680	4.1	20	7.1	26.3	4	PF166%15340HD1x
12	57.5	45.0	30.0	52.5	20.3	1.2	20	240	720	11.0	15	8.0	15.1	4	PF126%15540HD1x
13	57.5	50.0	35.0	52.5	20.3	1.2	20	260	780	10.1	17	6.9	16.9	4	PF136%15540HD1x
15	57.5	50.0	35.0	52.5	20.3	1.2	20	300	900	8.8	17	6.9	18.2	4	PF156%15540HD1x
20	57.5	55.0	45.0	52.5	20.3	1.2	20	400	1200	7.2	18	5.4	22.7	4	PF206%15540HD1x
25	57.5	65.0	45.0	52.5	20.3	1.2	20	500	1500	5.7	18	5.1	26.1	4	PF256%15540HD1x

Note: % denoted to tolerance: ±5%(J), ±10%(K) at 25°C, x denoted to option code, see the parts number system

**ENVIRONMENTAL TEST**

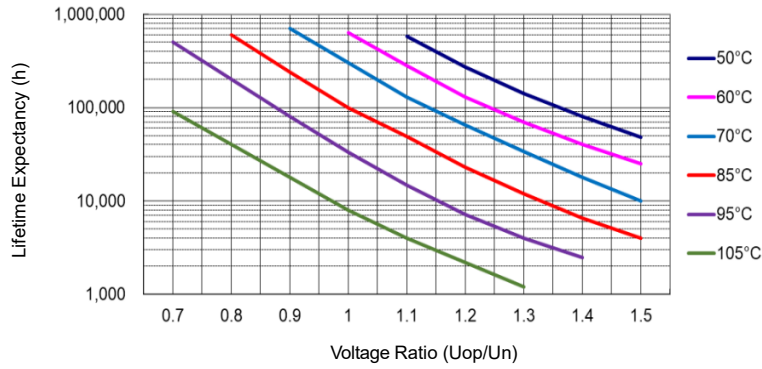
Item	Test Condition	Performance																					
<b>Temperature Humidity Bias (THB) Test</b>	Temperature: +85 ±2°C, Humidity: 85% RH, Duration: 2000 +24/0 hours Loading Voltage: rated voltage Stabilized for 4 hours at standard temperature and humidity before measurements.	ΔC/C: ≤ ± 10% DF: ≤ 150*10 <sup>-4</sup> at 1 KHz IR: ≥ 50% of initial limit																					
<b>Operational Life</b>	Temperature: +85 ±2°C, Apply 130% of rated voltage for 1,000 +24/0 hours. Duration: 500 hours, 1000 charges and discharges at 1.4 x I peak (Maximum respective peak current in continuous operation) measurement at 24 ±4 hours after test	ΔC/C: ≤ ± 5% DF: ≤ 50*10 <sup>-4</sup> at 1 KHz IR: ≥ 50% of initial limit																					
<b>Temperature Cycle</b>	High Temperature: +105 ±5°C, Low Temperature: -40 ±5°C. Cycle: Total 1000 cycles 30min ± 10% for each temperature 1 min maximum transition time. Measurement at 24 ±4 hours after test conclusion	ΔC/C: ≤ ± 5% DF: ≤ 50*10 <sup>-4</sup> at 1 KHz IR: ≥ 50% of initial limit																					
<b>High Temperature Exposure (storage)</b>	Temperature: +105 ±2°C, Duration: 1000 +24/0 hours Measurement at 24 ±4 hours after test conclusion	ΔC/C: ≤ ± 3% DF: ≤ 50*10 <sup>-4</sup> at 1 KHz IR: ≥ 50% of initial limit																					
<b>Moisture Resistance</b>	Temperature: +40 ±2°C, Humidity: 90% to 95% RH, Duration: 1344 +24/0 hours Unpowered measurement at 24 ±4hours after test conclusion	ΔC/C: ≤ ± 5% DF: ≤ 50*10 <sup>-4</sup> at 1 KHz IR: ≥ 50% of initial limit																					
<b>Solderability</b>	Soldering temperature: +245 ±5°C, Immersion duration: 2 ±0.5 seconds	More than 95% of Coverage																					
<b>Soldering Heat Resistance</b>	Preheat temperature 100°C~120°C, Preheat Duration: 100 sec max, Soldering Temperature: +260 ±5°C, Immersion Duration: ≤10 seconds, Depth: 1.5 ±0.5 mm Soldering Temperature: +400°C, Immersion Duration: ≤3 seconds Stabilized for 1.5 ±0.5hr at ordinary condition before measurements	ΔC/C: ≤ ± 0.5% DF: ≤ 50*10 <sup>-4</sup> at 1 KHz IR: ≥ 50% of initial limit																					
<b>Temperature Humidity Cycle</b>	Test Humidity: 90% to 95% R.H, Test Temperature Cycle: Total 10 cycles, each cycle includes <table border="1"> <thead> <tr> <th>Cycle</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> </tr> </thead> <tbody> <tr> <td>Temp (°C)</td> <td>+25±2 ~ +65±3</td> <td>+65±3</td> <td>+65±3~ +25±2</td> <td>+25±3~ +65±2</td> <td>+65±3</td> <td>+65±3~ +25±2</td> </tr> <tr> <td>Time (hours)</td> <td>2.5</td> <td>3</td> <td>2.5</td> <td>2.5</td> <td>3</td> <td>2.5</td> </tr> </tbody> </table> Stabilized for 8hr at ordinary condition before measurements	Cycle	1	2	3	4	5	6	Temp (°C)	+25±2 ~ +65±3	+65±3	+65±3~ +25±2	+25±3~ +65±2	+65±3	+65±3~ +25±2	Time (hours)	2.5	3	2.5	2.5	3	2.5	ΔC/C: ≤ ± 5% DF: ≤ 50*10 <sup>-4</sup> at 1 KHz IR: ≥ 50% of initial limit
Cycle	1	2	3	4	5	6																	
Temp (°C)	+25±2 ~ +65±3	+65±3	+65±3~ +25±2	+25±3~ +65±2	+65±3	+65±3~ +25±2																	
Time (hours)	2.5	3	2.5	2.5	3	2.5																	
<b>Resistance to solvent</b>	Solvent: propanol (isopropyl alcohol) Temperature: 23 ±5°C, Immersion time: 5 ±0.5min, Drying time: 5 mins Mechanical treatment: 10 rubbing (with cotton-wool)	ΔC/C: ≤ ± 1% DF: ≤ 50*10 <sup>-4</sup> at 1 KHz IR: ≥ 50% of initial limit																					
<b>Terminal Strength</b>	<table border="1"> <thead> <tr> <th>Item</th> <th>D ≤0.80mm</th> <th>0.80 &lt; D ≤1.2mm</th> <th>Condition</th> </tr> </thead> <tbody> <tr> <td>Tension</td> <td>10N</td> <td>20N</td> <td rowspan="2">Make two successive bends in each direction</td> </tr> <tr> <td>Bending</td> <td>5N</td> <td>10N</td> </tr> </tbody> </table>	Item	D ≤0.80mm	0.80 < D ≤1.2mm	Condition	Tension	10N	20N	Make two successive bends in each direction	Bending	5N	10N	No visible damage										
Item	D ≤0.80mm	0.80 < D ≤1.2mm	Condition																				
Tension	10N	20N	Make two successive bends in each direction																				
Bending	5N	10N																					
<b>Vibration Resistance</b>	5g force 20 minutes, three directions, 12 cycles in each direction. Test Frequency 10~2000 Hz	ΔC/C: ≤ ± 1% DF: ≤ 50*10 <sup>-4</sup> at 1 KHz IR: ≥ 50% of initial limit																					
<b>Mechanical Shock</b>	Pulse-shape: half-sine wave, Acceleration: 500 m/s <sup>2</sup> , Duration of pulse: 11 ms																						
<b>Bump</b>	Total number of bumps: 1000 times or 4000 times, Acceleration: 400 m/s <sup>2</sup> , Pulse duration: 6 ms																						

Notes:

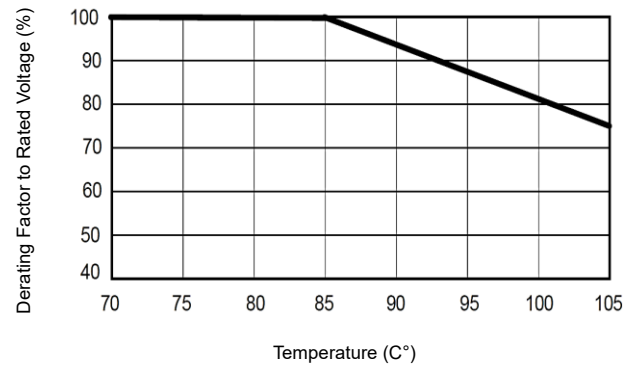
1. Ambient Temp: 15°C to 35°C, Relative Humidity (R.H.): 45% to 75%, Air Pressure: 86kpa to 106kpa
2. Storage needs to be kept indoors at -10~+40°C and relative humidity of under 75% without any sudden temperature changes, direct sunlight and corrosive gas around
3. Do not apply and exceeding vibration, shock (dropping) and pressure
4. Reference Standards: IEC 61071, JESD22 Method JA-104, MIL-STD-202, J-STD-002

## CHARACTERISTIC CURVE

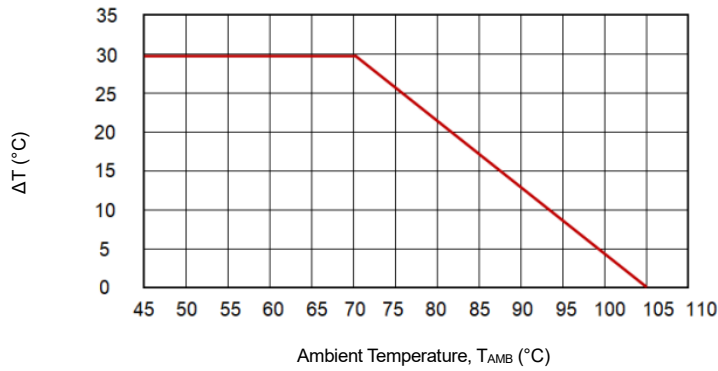
Lifetime Expectancy



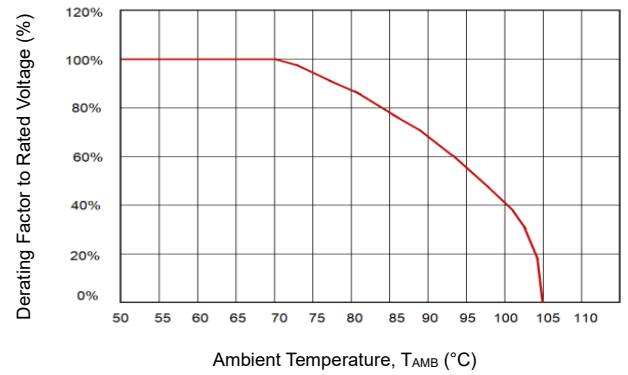
Rated Voltage vs Temperature



Maximum Over-Temperature ( $\Delta T$ ) Vs Ambient Temperature ( $T_{AMB}$ )



Maximum  $I_{RMS}$  Vs Ambient Temperature ( $T_{AMB}$ )



\*Specifications subject to change without notice.