

TH Series High Temperature



Features

- ◆ The series has guaranteed operating life of 1000~3000 hours at 125°C widest operating temperature range, -40 to +125°C
- ◆ Applications : High reliability equipment, filtering circuit of switching power supply,
- ◆ RoHS Compliant

Specifications

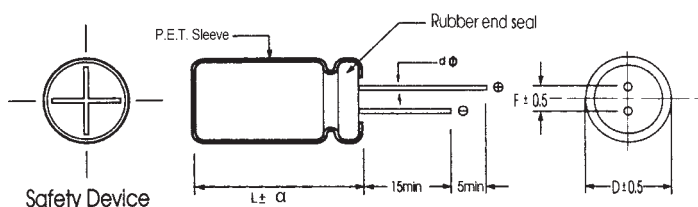
Item	Performance Characteristics										
Operating Temperature Range	-40 to +125°C	-25 to +125°C									
Rated Voltage Range	10 to 400 VDC	450 VDC									
Capacitance Range	0.47 to 8200 µF	1 to 47 µF									
Capacitance Tolerance	±20%(120Hz,+20°C)										
Leakage Current (+20°C,max.)	10~100V	160~450V									
	I ≤ 0.01CV or 3uA	CV ≤ 1000 I ≤ 0.1CV+40(uA)									
	After 2 minute whichever is greater measured with rated working voltage applied	CV > 1000 I ≤ 0.04CV+100(uA)									
Dissipation Factor (tan δ , at 20°C , 120Hz)	After 1 minute with rated working voltage applied.										
	Working Voltage(VDC)	10 16 25 35 50 63 80 100 160 200 250 350 400 450									
	D. F.(%) max.	18 15 13 12 10 8 8 7 12 12 12 15 15 20									
Low Temperature Characteristics (at 120Hz)	For capacitance > 1000 uF, add 2% per another 1000uF.										
	Impedance ratio max										
	Working Voltage(VDC)	10	16	25	35	50	63	100	160~250	350~400	450
	Z-25°C/Z+20°C	3	2	2	2	2	2	2	3	6	6
Z-40°C/Z+20°C	4	4	4	4	4	4	4	6	12		
Endurance	Test conditions										
	Duration time	: 1000~3000Hrs									
Ambient temperature	: +125°C										
Applied voltage	: Rated DC working voltage										
After test requirement at +20°C											
Capacitance change	: ≤ ±20% of the initial measured value										
Dissipation factor	: ≤ 300% of the initial specified value										
Leakage current	: ≤ The initial specified value										
	D φ	Life hours									
	< 8 φ	1000									
	8 φ 10 φ	2000									
	≥ 13 φ	3000									
Shelf Life	Test conditions										
	Duration time	: 1000Hrs									
Ambient temperature	: +125°C										
Applied voltage	: None										
After test requirement at +20°C:	Same limits as Endurance.										
Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.											

Radial

Multiplier for Ripple Current vs. Frequency

CAP(µF)\Frequency(Hz)	50(60)	120	400	1K	10K	50K~100K
CAP ≤ 10	0.8	1	1.30	1.45	1.65	1.70
10 < CAP ≤ 100	0.8	1	1.23	1.36	1.48	1.53
100 < CAP ≤ 1000	0.8	1	1.16	1.25	1.35	1.38
1000 < CAP	0.8	1	1.11	1.17	1.25	1.28

Diagram of Dimensions:(unit:mm)



φ D	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φ d	0.5			0.6		0.8	
α	D < 16	D = 16		D = 18		D > 18	
		L: 25~35.5	L < 25 and L ≥ 40	L: 25~31.5	L < 25 and L ≥ 35.5		
	1.5	1.5	2.0	1.5	2.0	2.0	2.0

Case Size

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mArms/125°C /120Hz)
10	47	5x11	92
10	56	5x11	100
10	100	5x11	130
10	100	6.3x11	145
10	120	6.3x11	160
10	330	8x11.5	350
10	330	10x12.5	410
10	470	8x11.5	430
10	470	8x16	500
10	470	10x12.5	505
10	470	10x16	525
10	560	10x12.5	530
10	680	8x20	640
10	680	10x16	660
10	1000	10x16	870
10	1000	10x20	960
10	1200	10x20	1000
10	1500	10x20	1120
16	22	5x11	66
16	33	6.3x11	91
16	47	5x11	97
16	47	6.3x11	110
16	100	6.3x11	175
16	100	8x11.5	206
16	220	8x11.5	340
16	220	10x12.5	400
16	330	8x11.5	400
16	330	8x16	460
16	330	10x12.5	470
16	330	10x16	525
16	470	8x11.5	500
16	470	8x20	640
16	470	10x12.5	590
16	470	10x16	650
16	470	10x20	720
16	680	10x20	760
16	820	10x16	740
16	820	10x25	900
16	1000	10x20	860
16	1000	10x25	950
16	1000	13x20	1000
25	22	6.3x11	70
25	33	5x11	88
25	33	6.3x11	100
25	47	5x11	97
25	47	6.3x11	110
25	47	8x11.5	130
25	56	6.3x11	120
25	100	8x11.5	210
25	100	10x12.5	250
25	120	8x11.5	220
25	150	8x11.5	260
25	180	8x11.5	290
25	220	8x11.5	360
25	220	8x16	415
25	220	10x12.5	420
25	220	10x16	470
25	270	8x20	470
25	270	10x12.5	435
25	330	8x16	510

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mArms/125°C /120Hz)
25	330	10x12.5	520
25	330	10x16	570
25	330	10x20	631
25	390	10x16	650
25	470	8x20	620
25	470	10x16	640
25	470	10x20	700
25	470	10x25	770
25	470	13x20	810
25	560	10x20	680
25	560	10x25	750
25	680	10x20	740
25	1000	13x20	880
25	1000	13x25	970
25	1000	16x25	1100
25	1200	10x20	1010
25	1500	10x25	1220
25	1800	13x20	1350
25	2700	13x25	1710
25	3300	13x30	2070
25	5600	18x25	2730
25	6800	16x35.5	3300
25	8200	16x40	3750
35	22	5x11	72
35	22	6.3x11	82
35	33	8x11.5	108
35	47	6.3x11	110
35	47	8x11.5	130
35	47	10x12.5	158
35	56	6.3x11	130
35	100	8x11.5	200
35	100	10x12.5	230
35	100	10x16	262
35	120	8x11.5	300
35	120	8x16	350
35	150	10x12.5	360
35	180	8x20	410
35	180	10x12.5	380
35	220	10x12.5	440
35	220	10x16	490
35	220	10x20	540
35	270	10x16	500
35	270	10x20	550
35	330	10x16	560
35	330	10x25	680
35	330	13x20	718
35	390	10x20	590
35	470	10x20	700
35	470	13x20	810
35	470	13x25	900
35	560	10x20	580
35	560	13x16	610
35	680	10x20	800
35	820	10x25	980
35	1000	13x25	1140
35	1000	16x25	1280
35	1200	10x30	1290
35	1500	13x25	1368
35	2200	13x30	1660
35	2700	13x40	2350

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA _{RMS} /125°C /120Hz)
35	3300	16x31.5	2480
35	3300	18x25	2400
35	4700	16x40	3000
50	2.2	8x11.5	25
50	3.3	8x11.5	30
50	4.7	5x11	32
50	4.7	8x11.5	43
50	10	5x11	42
50	10	6.3x11	48
50	10	8x11.5	56
50	22	5x11	66
50	22	6.3x11	75
50	22	8x11.5	86
50	33	8x11.5	118
50	47	6.3x11	120
50	47	8x11.5	140
50	47	10x12.5	164
50	56	8x11.5	150
50	68	8x11.5	160
50	82	8x11.5	170
50	100	10x12.5	230
50	100	10x16	250
50	100	10x20	277
50	120	10x16	290
50	180	10x20	400
50	220	10x20	510
50	220	10x25	560
50	220	13x20	587
50	270	10x20	610
50	330	10x20	700
50	330	13x20	810
50	330	13x25	900
50	470	13x25	900
50	470	16x25	1000
50	560	10x30	950
50	680	13x25	1050
50	1000	13x30	1390
50	1200	13x35	1510
50	1200	18x20	1450
50	1500	13x40	1960
50	1800	18x25	1960
50	2200	18x31.5	2500
50	2700	18x35.5	2750
50	3300	18x40	2950
63	4.7	6.3x11	38
63	10	8x11.5	58
63	22	8x11.5	93
63	33	8x11.5	115
63	33	10x12.5	132
63	47	10x12.5	155
63	47	10x16	172
63	100	10x16	260
63	180	10x20	400
63	220	10x25	520
63	220	13x25	595
63	330	13x25	880
63	330	16x25	1000
63	390	13x20	800
63	680	13x30	1290
63	820	13x35	1420
63	820	18x21	1360
63	1200	18x25	1620

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA _{RMS} /125°C /120Hz)
63	1500	18x31.5	1980
63	1800	16x40	2260
63	2200	18x40	2680
80	22	8x11.5	120
80	33	10x12.5	170
80	47	10x12.5	200
80	100	10x20	370
80	330	13x25	870
80	390	16x20	900
80	560	13x35	1100
80	560	16x25	1060
80	560	18x21	1050
80	680	16x31.5	1300
100	0.47	6.3x11	14
100	1	6.3x11	24
100	2.2	6.3x11	31
100	3.3	6.3x11	36
100	4.7	6.3x11	38
100	4.7	8x11.5	48
100	10	8x11.5	60
100	10	10x12.5	70
100	22	8x11.5	76
100	22	10x12.5	90
100	22	10x16	100
100	33	10x12.5	130
100	33	10x16	140
100	33	10x20	158
100	47	10x16	150
100	47	10x25	175
100	47	13x20	185
100	100	13x25	320
100	100	16x25	350
100	330	13x35	890
100	330	16x25	860
100	330	18x21	850
100	390	13x40	1050
100	390	16x31.5	1050
100	560	18x31.5	1290
100	680	18x35.5	1480
100	820	18x40	1850
160	1	6.3x11	23
160	2.2	6.3x11	35
160	3.3	6.3x11	37
160	3.3	8x11.5	41
160	4.7	8x11.5	52
160	6.8	10x12.5	70
160	10	8x11.5	70
160	10	10x12.5	82
160	22	10x16	115
160	22	10x20	128
160	33	13x20	200
160	47	13x20	240
160	47	13x25	260
160	82	10x30	340
160	100	10x35	380
160	100	13x25	390
160	100	16x25	430
160	120	10x40	450
160	150	13x30	500
160	180	13x35	600
160	180	18x20	550
160	220	16x31.5	690

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA _{rms} /125°C /120Hz)
160	330	18x35.5	900
200	1	6.3x11	23
200	2.2	6.3x11	35
200	3.3	8x11.5	48
200	4.7	8x11.5	50
200	4.7	10x12.5	60
200	6.8	10x12.5	70
200	10	10x12.5	80
200	22	10x20	140
200	22	10x25	150
200	22	13x20	160
200	33	13x20	200
200	33	13x25	220
200	47	13x20	245
200	47	13x25	270
200	47	16x25	300
200	56	13x20	260
200	82	13x25	360
200	100	13x30	430
200	100	16x20	400
200	100	16x25	440
200	100	16x31.5	490
200	150	13x40	600
200	150	16x25	530
200	180	18x25	650
200	220	18x31.5	850
200	330	18x35.5	1100
250	1	6.3x11	23
250	2.2	6.3x11	35
250	2.2	8x11.5	40
250	3.3	8x11.5	50
250	3.3	10x12.5	53
250	4.7	10x12.5	60
250	4.7	10x16	68
250	6.8	10x16	75
250	10	10x16	83
250	22	13x20	160
250	22	13x25	170
250	33	13x25	220
250	33	16x25	240
250	39	10x30	230
250	47	10x35	280
250	47	16x25	300
250	47	16x31.5	330
250	56	10x40	300
250	68	13x30	330
250	82	13x35	380
250	82	18x20	350
250	100	13x40	490
250	120	18x25	460

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA _{rms} /125°C /120Hz)
250	220	18x35.5	850
350	1	8x11.5	26
350	2.2	8x11.5	40
350	2.2	10x12.5	47
350	3.3	10x12.5	55
350	3.3	10x16	60
350	4.7	10x16	68
350	4.7	10x20	75
350	5.6	10x20	78
350	6.8	13x20	85
350	10	10x25	105
350	10	13x20	110
350	22	13x25	180
350	22	16x25	200
350	27	10x30	180
350	33	10x35	220
350	33	16x25	230
350	33	16x31.5	260
350	47	13x30	280
350	47	16x31.5	320
350	47	16x35.5	340
350	56	13x35	330
350	56	16x25	320
350	56	18x20	310
350	68	13x40	390
400	1	10x12.5	30
400	2.2	10x16	50
400	3.3	10x16	60
400	4.7	10x16	70
400	4.7	10x20	80
400	5.6	10x20	85
400	6.8	13x20	90
400	10	13x20	110
400	22	13x25	180
400	27	13x25	190
400	33	16x20	220
400	33	16x25	240
400	47	16x25	290
400	47	16x31.5	320
450	1	10x12.5	30
450	2.2	10x16	50
450	3.3	10x16	60
450	4.7	10x20	75
450	5.6	13x20	85
450	6.8	13x20	94
450	10	13x25	130
450	22	16x25	210
450	33	16x31.5	290
450	47	18x31.5	370