



HT series Hybrid(16V~63V)

- SMD Type, Conductive Polymer Hybrid Aluminum Electrolytic Capacitor
- Load life of 4000 hours at 125°C
- Compliant to the RoHS2.0 directive
- Suitable for Automotive Application.

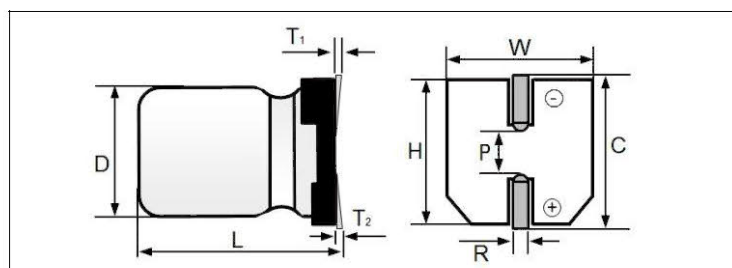
SMD 型混合铝电容器,最高工作温度 125°C,产品满足 RoHS2.0 指令,适用于汽车应用。



Specifications

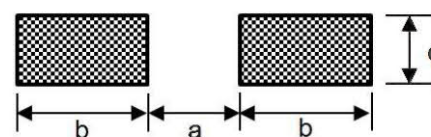
Items	Characteristics	
Operating Temp. Range	-55°C ~ +125°C	
Capacitance Range	6.8~1000μF	
Capacitance Tolerance	M : ±20%	
Rated Voltage Range	16V ~ 63V DC	
Dissipation Factor	Not to exceed the value specified	
Leakage Current	Not to exceed the value specified (after 2 minutes)	
ESR (100K~300KHz)	Not to exceed the value specified	
Endurance 125°C · 4000h · at rated voltage	Capacitance Change	Within ±20% of the value before test
	Dissipation Factor	Not to exceed 150% of the value specified
	ESR	Not to exceed 150% of the value specified
	Leakage current	Not to exceed the value specified
Moisture Resistance Stored at 85°C · RH85% · 1000h	Capacitance Change	Within ±20% of the value before test
	Dissipation Factor	Not to exceed 150% of the value specified
	ESR	Not to exceed 150% of the value specified
	Leakage Current	Not to exceed the value specified

Dimensions (Unit:mm)



ΦD+0.5max.	6.3			8		10	
L±0.3	5.8	9	10	9.2	12.2	10.5	12.7
W±0.2	6.6			8.3		10.3	
H±0.2	6.6			8.3		10.3	
C±0.2	7.2			9.0		11.0	
P±0.2	2.1			3.2		4.6	
R	0.5 ~ 0.8			0.8 ~ 1.1		0.8 ~ 1.1	
T1、T2	0.2Max			0.2Max		0.2Max	

Recommended land pattern



ΦD	6.3.	8	10
a	2.1	2.8	4.3
b	3.5	4.2	4.4
c	1.6	1.9	1.9

✧ Capacitance List

SIZE \ W.V (S.V)	16 (20)	25 (31)	35 (44)	50 (63)	63 (79)
6.3×5.8	100 ~ 150μF	47 ~ 68μF	33 ~ 47μF	10 ~ 15μF	6.8 ~ 10μF
6.3×9	180 ~ 270μF	82 ~ 120μF	56 ~ 82μF	22 ~ 27μF	12 ~ 18μF
6.3×10	220 ~ 330μF	100 ~ 150μF	68 ~ 100μF	27 ~ 33μF	15 ~ 22μF
8×9.2	220 ~ 470μF	120 ~ 220μF	82 ~ 120μF	27 ~ 47μF	18 ~ 27μF
8×12.2	330 ~ 680μF	150 ~ 270μF	100 ~ 180μF	39 ~ 68μF	27 ~ 39μF
10×10.5	330 ~ 680μF	180 ~ 330μF	120 ~ 220μF	47 ~ 82μF	27 ~ 47μF
10×12.7	560 ~ 1000μF	220 ~ 470μF	150 ~ 330μF	68 ~ 120μF	39 ~ 68μF

✧ Characteristics List

W.V. (V)	Capacitance (μF)	L.C. (μA, 2min)	tgδ (120Hz, 20℃)	ESR (mΩ, 100kHz)	Rated Ripple Current(mA, r.m.s)		Size ΦD×L(mm)	Part Number
					105℃ < T _x ≤ 125℃	T _x ≤ 105℃		
16	100	100	0.10	28	880	2200	6.3×5.8	PHT101M016E58TR□□□□
	220	176	0.10	18	1200	3000	6.3×9	PHT221M016E09TR□□□□
	330	264	0.10	18	1240	3100	6.3×10	PHT331M016E10TR□□□□
	470	300	0.10	15	1480	3700	8×9.2	PHT471M016F92TR□□□□
	680	300	0.10	15	1760	4400	8×12.2	PHT681M016F1CTR□□□□
	680	300	0.12	15	1800	4700	10×10.5	PHT681M016G1ETR□□□□
	1000	300	0.12	12	1920	5000	10×12.7	PHT102M016G1DTR□□□□
25	56	100	0.10	30	680	1700	6.3×5.8	PHT560M025E58TR□□□□
	100	125	0.10	22	1120	2800	6.3×9	PHT101M025E09TR□□□□
	120	150	0.10	22	1160	2900	6.3×10	PHT121M025E10TR□□□□
	220	275	0.10	18	1400	3500	8×9.2	PHT221M025F92TR□□□□
	270	300	0.10	18	1680	4200	8×12.2	PHT271M025F1CTR□□□□
	330	300	0.10	18	1800	4500	10×10.5	PHT331M025G1ETR□□□□
	470	300	0.10	15	1850	4800	10×12.7	PHT471M025G1DTR□□□□
35	47	100	0.10	40	670	1700	6.3×5.8	PHT470M035E58TR□□□□
	68	119	0.10	35	840	2100	6.3×9	PHT680M035E09TR□□□□
	100	175	0.10	35	880	2200	6.3×10	PHT101M035E10TR□□□□
	100	175	0.10	25	1080	2700	8×9.2	PHT101M035F92TR□□□□
	180	300	0.10	22	1160	2900	8×12.2	PHT181M035F1CTR□□□□
	220	300	0.10	25	1170	2900	10×10.5	PHT221M035G1ETR□□□□
	330	300	0.10	22	1190	3100	10×12.7	PHT331M035G1DTR□□□□
50	10	100	0.10	45	670	1700	6.3×5.8	PHT100M050E58TR□□□□
	22	100	0.10	35	800	2000	6.3×9	PHT220M050E09TR□□□□
	33	117.5	0.10	35	880	2200	6.3×10	PHT330M050E10TR□□□□
	47	170	0.10	25	1000	2500	8×9.2	PHT470M050F92TR□□□□
	56	250	0.10	22	1080	2700	8×12.2	PHT560M050F1CTR□□□□
	82	250	0.10	25	1090	2700	10×10.5	PHT820M050G1ETR□□□□
	100	300	0.10	22	1120	2900	10×12.7	PHT101M050G1DTR□□□□
63	10	100	0.10	45	670	1700	6.3×5.8	PHT100M063E58TR□□□□
	15	100	0.10	35	800	2000	6.3×9	PHT150M063E09TR□□□□
	22	100	0.10	35	880	2200	6.3×10	PHT220M063E10TR□□□□
	27	100	0.10	25	1000	2500	8×9.2	PHT270M063F92TR□□□□
	33	104	0.10	22	1080	2700	8×12.2	PHT330M063F1CTR□□□□
	47	148	0.10	25	1090	2700	10×10.5	PHT470M063G1ETR□□□□
	56	176	0.10	22	1120	2900	10×12.7	PHT560M063G1DTR□□□□

* For the last 4 digits of the part number, please refer to the part number system on page 125.

✧ Frequency Coefficient for Ripple Current

Frequency	120Hz≤freq.<1KHz	1KHz≤freq.<10KHz	10KHz≤freq.<100KHz	100KHz≤freq.<300KHz
Coefficient	0.05	0.3	0.7	1

