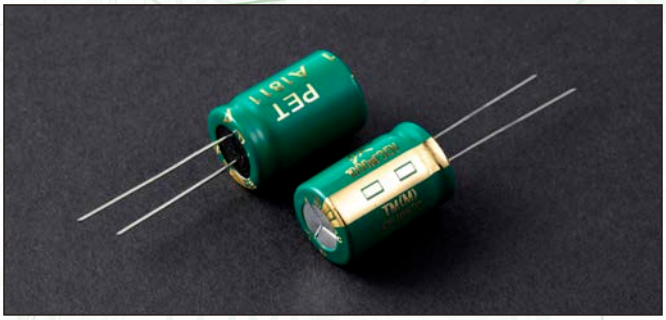
TM SERIES



- 105℃ High ripple current ,High Reliability.
- Super Small,Super Low ESR.
- Load Life of 3000~5000 Hours at105
- Rohs compliance.

■SPECIFICATIONS

Table-1

Items	Conditions	Characteristics		
Category temperature range	-	-55℃ to +105℃		
Tolerance on reted capacitance	120Hz	M:±20%		
Tangent of less angle	120Hz	Less than or equal to the value of Table-4		
Leakage Current	After 2 minites	Less than or equal to the value of Table-4		
ESR	-	Less than or equal to the value of Table-4		
Characteristics of impedance ratio at high temp. and low temp.	Based the value at 100KHz, +20℃	^-55℃	Z/Z20℃	2.0max
Endurance	105℃ Rated voltege applied D≤Φ8: 3000H, D ≥ Φ10: 5000H	ΔC/C	Within ±20%	
		Tan-δ	2times or less than an initial standerd	
		ESR	2times or less than an initial standerd	
		Leakage Current	Below an initial standerd (after voltage processing)	

■Dimensions

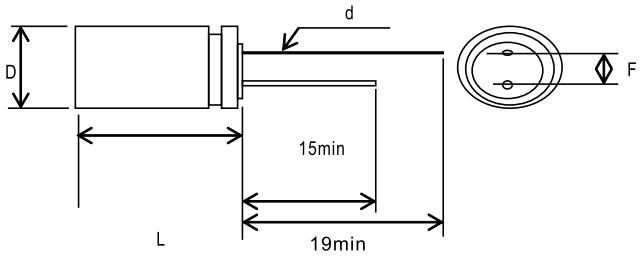


Table-2 Unit:(mm)

Size code	D±0.5	L±1.0	F±0.5	d±0.05
5L	5.0	11	2.0	0.5
6.3L	6.3	11	2.5	0.5
8L	8.0	8, 11.5, 15, 16,	3.5	0.5
10L	10.0	8, 12.5, 16, 20	5.0	0.60
13L	13.0	15	5.0	0.60
16L	16.0	15	7.5	0.80
18L	18.0	15	7.5	0.80

Φ5mm/6.3mm/8mm: d=0.50mm
Φ10mm/13mm: d=0.60mm
Φ16mm/18mm: d=0.80mm

■Frequency confficent for ripple current

Table-2

Frequency	120Hz≦ f < 1KHz	1KHz ≦ f < 10KHz	10KHz≦ f < 100KHz	100KHz≦ f < 200KHz
Confficient	0.65	0.90	0.95	1.00

■Table-3 SHWSerise Characteristics List

Size Code	Rated Voutage (V)	Rated Capacitance (μF)	ESR 100KHz to 300KHz/20℃ (mΩ max)	Rated ripple current 100KHz/105℃ (mA.rms)	Tangent of loss angle (max)	Leakage current (μA) (max)*1
5×11	6.3	330	155	450	0.35	21
5×11		390	137	520	0.32	25
5×11		470	137	520	0.30	30
6.3×11		680	100	650	0.30	43
6.3×11		820	100	720	0.30	52
6.3×11		1000	75	800	0.28	63
8×8		1000	40	1100	0.28	63
8×8		1200	40	1200	0.28	76
8×8		1500	35	1200	0.26	95
8×11.5		1500	35	1450	0.26	95
10×8		1500	30	1700	0.26	95
8×15		2200	25	1870	0.26	139
10×12.5		2200	25	2260	0.26	139
8×16		2700	25	2470	0.26	170
10×12.5		2700	25	2500	0.28	170
10×12.5		3300	25	2900	0.28	208
10×16		3900	20	3470	0.28	246
10×16		4700	20	3690	0.30	296

TM Series

■STANDARD RATINGS

Size Code	Rated Voutage (V)	Rated Capacitance (μF)	ESR 100KHz to 300KHz/20℃ (mΩ max)	Rated ripple current 100KHz/105℃ (mA.rms)	Tangent of loss angle (max)	Leakage current (μA) (max)*1
8×8	10	470	50	800	0.35	47
6.3×11		680	50	980	0.30	68
8×8		820	45	1150	0.28	82
8×8		1000	45	1200	0.28	100
8×11.5		1000	40	1350	0.26	100
8×11.5		1200	40	1550	0.24	120
8×16		1800	35	1980	0.22	180
10×8		1800	35	2270	0.22	180
10×12.5		2200	35	2450	0.22	220
10×16		2700	35	2690	0.22	270
10×16		3300	35	3550	0.20	330
5×11	16	220	130	520	0.22	35
6.3×11		330	120	550	0.22	53
6.3×11		470	100	960	0.20	75
8×8		470	45	1025	0.20	75
8×8		680	45	1126	0.20	109
8×11.5		1000	40	1660	0.20	160
10×8		1000	40	1700	0.20	160
8×16		1200	40	2180	0.20	192
10x12.5		1200	38	2210	0.20	192
10x12.5		1500	38	2240	0.20	240
10×16		1800	35	2670	0.20	288
10×16		2200	30	2200	0.20	352
10x20		3300	30	3390	0.20	528
13x15		3300	25	3470	0.20	528
16×15		4700	20	3820	0.20	752
6.3×11	25	220	137	520	0.20	55
6.3×11		330	100	600	0.20	83
8×8		390	65	900	0.18	98
8×8		470	40	1070	0.18	118
8×11.5		560	40	1350	0.18	140
8×16		820	35	1550	0.18	205
10×8		680	35	1720	0.18	170
10×12.5		680	35	1790	0.18	170
10×12.5		1000	30	2200	0.18	250
10×12.5		1200	30	2390	0.18	300
10×16		1500	25	3300	0.18	375
10×20		2200	25	3450	0.16	0
13×15		2200	25	3550	0.16	550
16×15		3300	25	3670	0.16	825
18×15		4700	20	3850	0.16	1175

TM Series

■STANDARD RATINGS

Size Code	Rated Voutage (V)	Rated Capacitance (μF)	ESR 100KHz to 300KHz/20℃ (mΩ max)	Rated ripple current 100KHz/105℃ (mA.rms)	Tangent of loss angle (max)	Leakage current (μA) (max)*1
6.3×11	35	180	100	524	0.18	63
8×8		330	75	962	0.18	116
8×11.5		390	60	1126	0.18	137
10×12.5		470	40	1660	0.18	165
10×12.5		560	35	1720	0.16	196
10×16		680	35	2050	0.16	238
10×16		820	35	2180	0.16	287
10×20		1000	35	2360	0.16	350
10×20		1200	30	2540	0.16	420
13×20		1500	30	3694	0.16	525
16×15		1500	25	3730	0.16	525
18×15		2200	25	3880	0.16	770
6.3×11	50	100	110	550	0.16	50
8×11.5		180	60	800	0.16	90
10×12.5		220	45	1000	0.16	110
10×12.5		330	40	1200	0.16	165
10×16		470	35	1350	0.14	235
13×15		470	30	1460	0.14	235
10×20		560	28	1660	0.14	280
13×15		560	26	1850	0.14	280
13×20		820	24	2050	0.14	410
16×15		820	24	2180	0.14	410
18×15		1000	22	2550	0.12	500