

# TS12-R1

## FEATURES

- Radial type, Snap-in type, Screw Type terminals
- High energy and high power
- Low ESR
- Pb-free and RoHS compliant



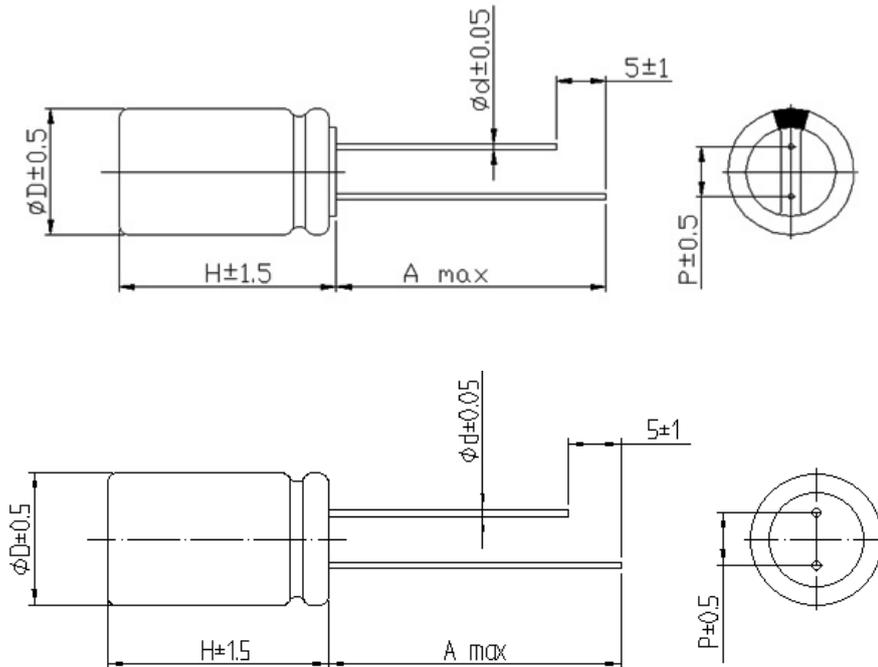
## APPLICATIONS

- RAM, Detonator, car recorder, smart meter, vacuum switch, digital camera, motor drive, clock circuit, UPS, toy, program-controlled switch, etc.

SPECIFICATIONS		
Series name	TS12-R1 Series High power type	
Type name	TS12-R1 2R7	TS12-R1 3R0
Rated voltage $V_R$	2.7V	3.0V
Surge voltage	2.85V	3.15V
Capacity range	0.1F~3000F	1F~500F
Operating temperature range	-40~ +70°C	-40~ +65°C
Product life	Normal temperature cycle life : 25°C, 1 million cycles between $V_R$ and $1/2V_R$ , Capacity attenuation $\leq 30\%$ , ESR change $\leq 4$ times.	
	High temperature endurance life : Maximum temperature retention $V_R$ , 1000 hours. Capacity attenuation $\leq 30\%$ , ESR change $\leq 4$ times.	

## DIMENSIONS (mm)

0.1-120F

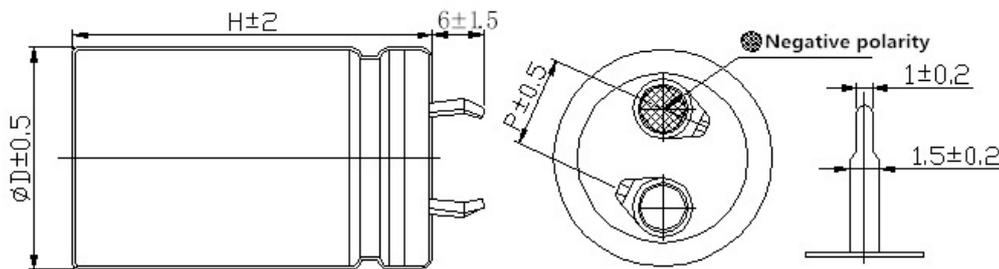


Note: Specification are subject to change without notice. For more detail and update, please visit our website.

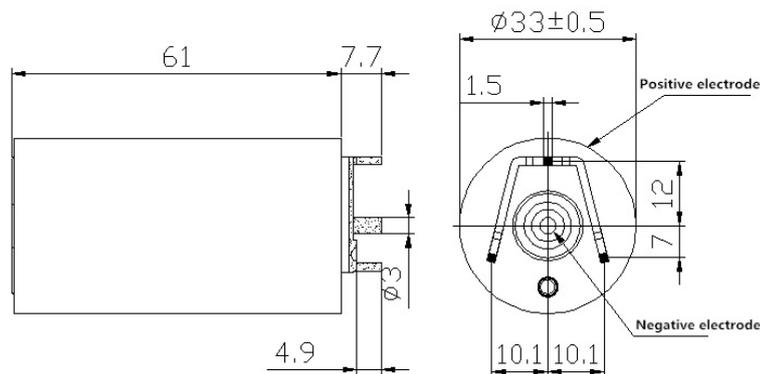
# TS12-R1

## DIMENSIONS (mm)

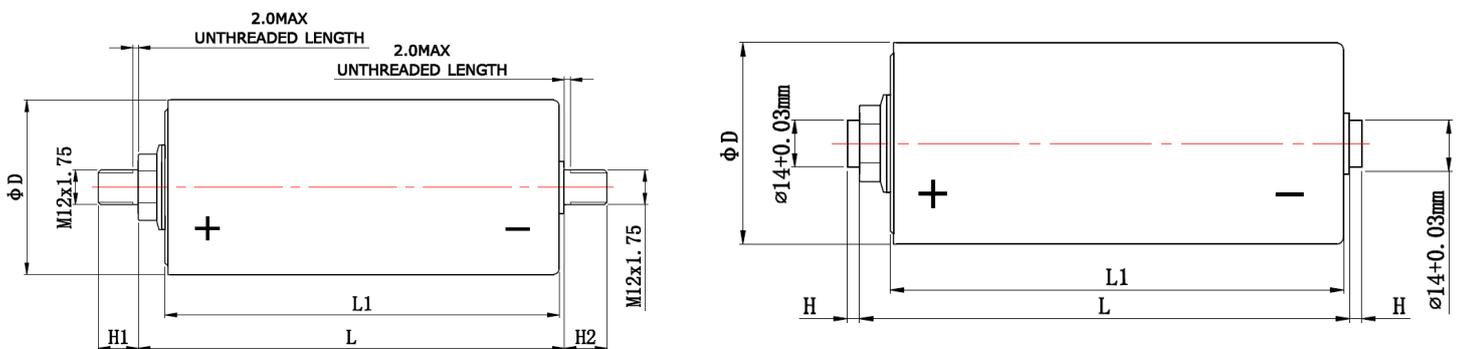
90-700F



350F



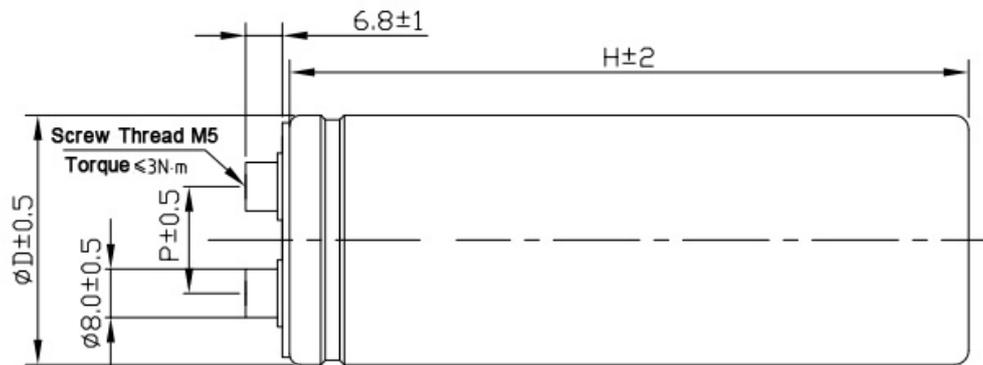
3000F



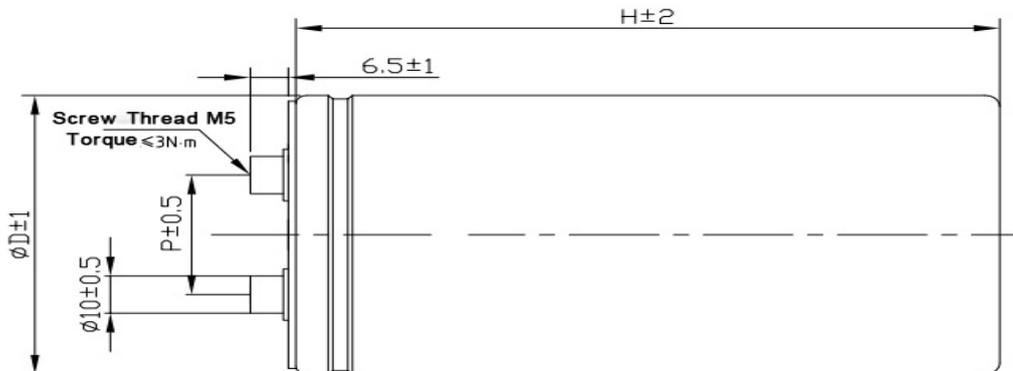
# TS12-R1

## DIMENSIONS (mm)

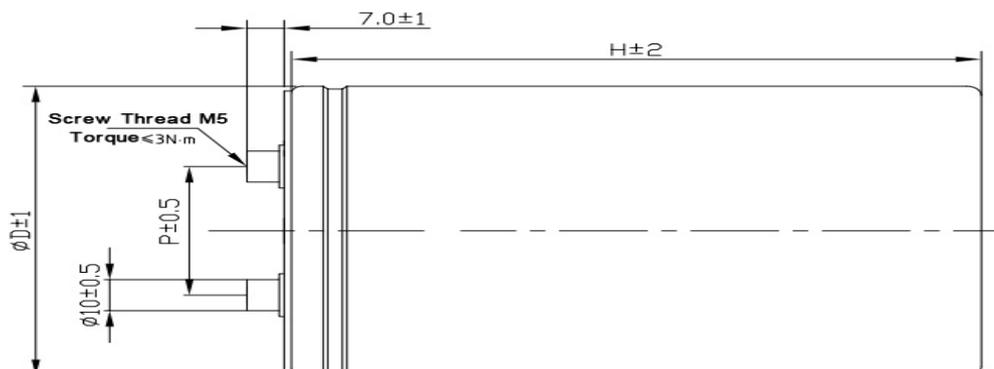
### 650F~800F bolt series product size specifications



### 1000F~2400F bolt series product size specifications



### 3000F bolt series product size specifications



# TS12-R1

## STANDARD RATINGS

Capacity (F)	ESR mΩ		Product size (mm)			Terminals
	DC	AC 1kHz	Diameter	Height	Pin distance	
Rated voltage: 2.7V						
0.1	675	450	5	12	2	Radial Type
0.15	600	400	5	12	2	Radial Type
0.22	750	500	5	12	2	Radial Type
0.25	750	500	5	12	2	Radial Type
0.25	750	500	6.3	12	2.5	Radial Type
0.35	600	400	5	12	2	Radial Type
0.5	700	350	6.3	10	2.5	Radial Type
0.5	750	500	5	12	2	Radial Type
0.5	750	500	6.3	12	2.5	Radial Type
0.7	600	300	6.3	10	2.5	Radial Type
0.7	600	300	8	12	3.5	Radial Type
0.7	600	400	8	13	3.5	Radial Type
1	300	150	6.3	12	2.5	Radial Type
1	300	150	6.3	10	2.5	Radial Type
1	300	150	8	12	3.5	Radial Type
1	300	200	8	19	3.5	Radial Type
1	450	300	6.3	12	2.5	Radial Type
1	450	300	8	13	3.5	Radial Type
1.5	300	150	6.3	12	2.5	Radial Type
2	200	100	6.3	22	2.5	Radial Type
2	200	100	8	12	3.5	Radial Type
2	200	100	8	15	3.5	Radial Type
2	200	100	8	19	3.5	Radial Type
2	210	140	8	13	3.5	Radial Type
2	210	140	8	19	3.5	Radial Type
2	210	140	10	20	5	Radial Type
3	130	65	8	16	3.5	Radial Type
3	130	65	8	19	3.5	Radial Type
3	150	100	8	19	3.5	Radial Type
3	180	120	8	16	3.5	Radial Type
3	200	100	6.3	22	2.5	Radial Type

# TS12-R1

## STANDARD RATINGS

Capacity (F)	ESR (mΩ)		Product size (mm)			Terminals
	DC	AC 1kHz	Diameter	Height	Pin distance	
Rated voltage: 2.7V						
3.3	120	80	10	20	5	Radial Type
3.3	130	65	8	19	3.5	Radial Type
3.3	150	100	10	16	5	Radial Type
3.3	160	80	6.3	22	2.5	Radial Type
3.3	180	120	8	19	3.5	Radial Type
4	120	80	10	20	5	Radial Type
4	200	100	8	20	3.5	Radial Type
4.7	90	45	8	24	3.5	Radial Type
4.7	105	70	12.5	21	5	Radial Type
4.7	120	80	10	20	5	Radial Type
5	90	45	8	24	3.5	Radial Type
5	90	45	10	20	5	Radial Type
5	105	70	12.5	21	5	Radial Type
6	90	45	8	24	3.5	Radial Type
6	90	45	10	20	5	Radial Type
6	105	70	12.5	21	5	Radial Type
7	70	35	10	25	5	Radial Type
7	105	70	10	25	5	Radial Type
8	70	35	10	20	5	Radial Type
8	75	50	12.5	21	5	Radial Type
8	100	50	12.5	21	5	Radial Type
10	64	32	10	25	5	Radial Type
10	64	32	12.5	21	5	Radial Type
10	64	32	12.5	25	5	Radial Type
10	75	50	10	30	5	Radial Type
10	75	50	12.5	26	5	Radial Type
10	90	60	12.5	21	5	Radial Type
12	64	32	12.5	21	5	Radial Type
12	64	32	12.5	26	5	Radial Type
12	75	50	12.5	26	5	Radial Type
15	45	30	16	26	7.5	Radial Type

# TS12-R1

## STANDARD RATINGS

Capacity (F)	ESR (mΩ)		Product size (mm)			Terminals
	DC	AC 1kHz	Diameter	Height	Pin distance	
Rated voltage: 2.7V						
15	60	30	12.5	25	5	Radial Type
16	60	30	12.5	25	5	Radial Type
18	60	30	12.5	26	5	Radial Type
20	37.5	25	16	26	7.5	Radial Type
20	50	25	12.5	25	5	Radial Type
20	50	25	12.5	30	5	Radial Type
22	37.5	25	16	26	7.5	Radial Type
22	50	25	12.5	30	5	Radial Type
25	37.5	25	16	26	7.5	Radial Type
25	50	25	12.5	30	5	Radial Type
30	37.5	25	16	34	7.5	Radial Type
30	44	22	12.5	30	5	Radial Type
40	30	20	18	41	8	Radial Type
50	30	20	18	41	8	Radial Type
50	40	20	18	41	8	Radial Type
60	16	14	22.4	45.5	10	Snap-in Type
60	22.5	15	18	41	8	Radial Type
60	40	20	18	41	8	Radial Type
70	22.5	15	18	52	8	Radial Type
100	14	12	22.4	45.5	10	Snap-in Type
100	30	20	18	45	8	Radial Type
120	14	12	22.4	45.5	10	Snap-in Type
150	14	12	25.2	52.5	10	Snap-in Type
200	11	10	35.6	61.5	10	Snap-in Type
220	11	10	30	50	10	Snap-in Type
300	9	8	35.6	61.5	10	Snap-in Type
360	9	8	35.6	61.5	10	Snap-in Type
400	9	8	35.6	61.5	10	Snap-in Type
470	8	6	35.6	61.5	10	Snap-in Type
3000	0.28	0.25	60	138.6	/	Screw Type

# TS12-R1

## STANDARD RATINGS

Capacity (F)	ESR (mΩ)		Product size (mm)			Terminals
	DC	AC 1kHz	Diameter	Height	Pin distance	
Rated voltage: 3.0V						
1	300	150	8	12	3.5	Radial Type
1	450	300	8	13	3.5	Radial Type
2	200	100	8	12	3.5	Radial Type
2	200	100	8	19	3.5	Radial Type
2	210	140	8	13	3.5	Radial Type
2	210	140	8	19	3.5	Radial Type
3	130	65	8	19	3.5	Radial Type
3	150	100	8	19	3.5	Radial Type
3.3	120	80	8	19	3.5	Radial Type
3.3	120	80	10	20	5	Radial Type
3.3	130	65	8	19	3.5	Radial Type
4.7	105	70	10	20	5	Radial Type
4.7	120	80	10	20	5	Radial Type
5	90	45	10	20	5	Radial Type
5	105	70	10	20	5	Radial Type
10	55	35	10	25	5	Radial Type
10	64	32	10	25	5	Radial Type
15	45	30	12.5	26	5	Radial Type
15	60	30	12.5	25	5	Radial Type
25	30	20	18	42	7.5	Radial Type
25	50	25	12.5	30	5	Radial Type
50	22.5	15	18	42	7.5	Radial Type
50	40	20	18	41	8	Radial Type
60	22.5	15	18	42	7.5	Radial Type
60	40	20	18	41	8	Radial Type
100	14	12	22.5	46	10	Snap-in Type
120	14	12	22.5	46	10	Snap-in Type
150	12	10	25.2	52.5	10	Snap-in Type
360	9	8	35.6	61.5	10	Snap-in Type
400	9	8	35.6	61.5	10	Snap-in Type
470	8	6	35.6	61.5	10	Snap-in Type