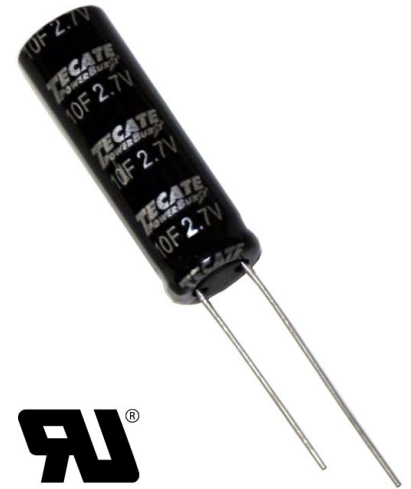


FEATURES

- Small size and low resistance
- Quick charge and discharge
- RoHS compliant
- UL recognized

APPLICATIONS

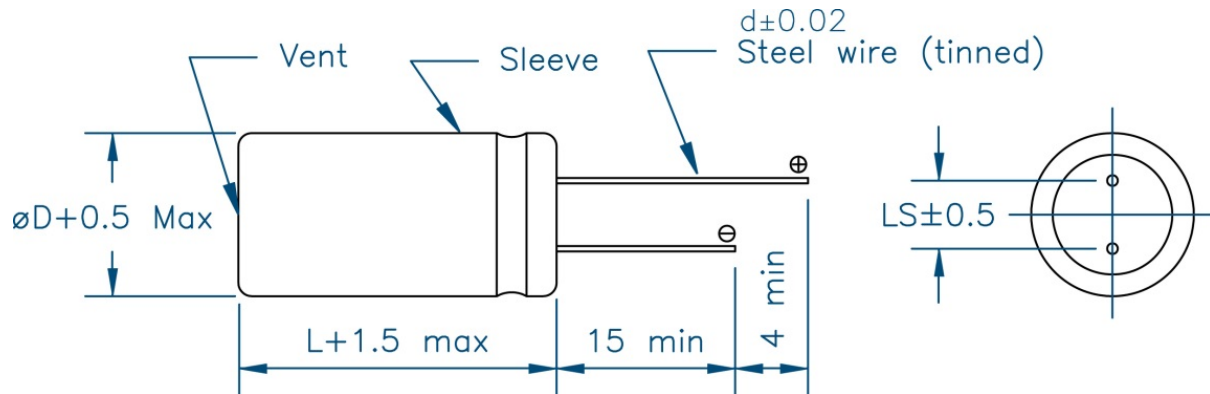
- Pulse power demand
- Hybrid battery packs
- Portable electronic devices



GENERAL SPECIFICATIONS

Item	Performance
Operating temperature	-40°C to +65°C @ 2.7V -40°C to +85°C @ 2.3V
Storage temperature	-40°C to +70°C
Capacitance range	0.33F to 100F
Capacitance tolerance	-10/+20%
Rated voltage	2.7V/2.3V
Surge voltage	2.85V
Temperature characteristics	Capacitance change: Within ±5% of initial measured value at +25°C (-40°C to +65°C) Internal resistance: Within ±50% of initial measured value at +25°C (at -40°C)
Endurance (At rated voltage & max. operating temp)	After 1000 hours: Capacitance change: ±30% of initial rated value Internal resistance: Within 2 times of initial specified value
Load life (At rated voltage & 25°C)	After 10 years: Capacitance change: Within ±30 % of initial rated value Internal resistance: Within 2 times of initial specified value
Cycle life (From rated voltage to 1/2 rated voltage at 25°C)	After 500,000 cycles: Capacitance change: Within ±30 % of initial rated value Internal resistance: Within 2 times of initial specified value
Shelf life	After 1000 hours storage, at 70°C without load, the capacitor shall meet the specified endurance limits.

DIMMENSIONS (mm)



STANDARD PRODUCTS

Part Number	Cap. (F)	ESR DC (mΩ)	ESR AC (mΩ) (1 KHz)	Leakage Current (mA) (72 hrs @ 25C)	Dimensions (mm)				Max Peak Current (A)	Weight/Unit (grams)
					D	L	d	LS		
TPL-0.33/5X11F	0.33	3,700	1,700	0.002	5.0	11.0	0.45	1.8	0.20	0.5
TPL-0.5/6X9F	0.50	1,550	600	0.002	6.3	9.0	0.50	2.5	0.38	0.7
TPL-0.5/8X12F	0.50	1,800	700	0.002	8.0	12.0	0.60	3.5	0.36	1.0
TPL-1.0/8X12F	1.00	700	315	0.006	8.0	12.0	0.60	3.5	0.79	1.1
TPL-1.2/6X15F	1.20	650	330	0.006	6.3	15.0	0.50	2.5	0.91	1.0
TPL-1.5/8X14F	1.50	410	190	0.008	8.0	14.0	0.60	3.5	1.25	1.2
TPL-2.0/8X16F	2.00	350	180	0.010	8.0	16.0	0.60	3.5	1.59	1.3
TPL-3.3/10X20F	3.30	290	150	0.012	10.0	20.0	0.60	5.0	2.28	2.0
TPL-3.3/8X20F	3.30	300	120	0.012	8.0	20.0	0.60	3.5	2.24	1.5
TPL-4.0/10X20F	4.00	250	150	0.014	10.0	20.0	0.60	5.0	2.70	2.2
TPL-5.0/10X20F	5.00	160	90	0.015	10.0	20.0	0.60	5.0	3.75	2.3
TPL-6.0/10X20F	6.00	130	70	0.015	10.0	20.0	0.60	5.0	4.55	2.5
TPL-6.0/8X28F	6.00	140	80	0.015	8.0	28.0	0.60	3.5	4.40	2.3
TPL-8.0/10X25F	8.00	100	60	0.020	10.0	25.0	0.60	5.0	6.00	3.0
TPL-10/10X30F	10.00	85	60	0.030	10.0	30.0	0.60	5.0	7.30	3.5
TPL-15/12X31F	15.00	60	35	0.035	12.5	31.5	0.80	5.3	10.66	5.3
TPL-22/12X35F	22.00	45	30	0.055	12.5	35.5	0.80	5.3	14.92	6.5
TPL-25/16X26F	25.00	42	28	0.060	16.0	26.0	0.80	7.5	16.46	7.5
TPL-28/12X40F	28.00	38	25	0.060	12.5	40.0	0.80	5.3	18.31	7.3
TPL-30/16X31F	30.00	35	25	0.080	16.0	31.5	0.80	7.5	19.76	8.8
TPL-38/12X46F	38.00	29	19	0.070	12.5	46.0	0.80	5.3	24.41	9.5
TPL-50/18X40F	50.00	20	15	0.130	18.0	40.0	0.80	7.5	33.75	13.0
TPL-60/18X40F	60.00	20	14	0.130	18.0	40.0	0.80	7.5	36.82	15.0
TPL-60/18X45F	60.00	20	14	0.130	18.0	45.0	0.80	7.5	36.82	16.0
TPL-70/18X45F	70.00	20	13	0.150	18.0	45.0	0.80	7.5	39.38	16.5
TPL-100/18X60F	100.00	16	10	0.260	18.0	60.0	1.00	7.5	51.92	22.0
TPL-100/22X45F	100.00	15	10	0.260	22.0	45.0	1.00	9.5	54.00	23.0

PART NUMBER EXAMPLE

TPL	-	0.33	/	5X11	F
Type		Capacitance Code (F)		Size (DxL)	RoHS Compliant