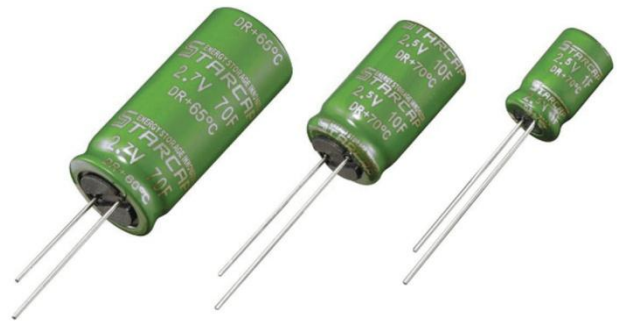


| Features |

- Small size but large capacity
- Low ESR
- Pb Free and RoHS Compliant

| Application |

- Solar voltaic applications (e.g. Traffic sign "LED type". Road guidance flasher)
- Motor drive through quick discharge (e.g. Toy car & plane)
- Emergency power supply for car DVR or black box

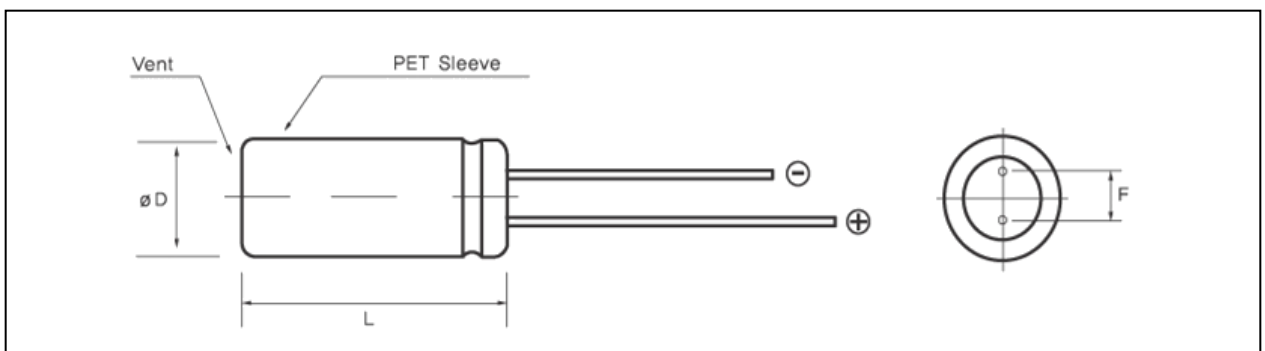


| Specifications |

Items	Characteristics		
	DRL	DR	
Rated working voltage	2.3 VDC	2.5 VDC	2.7 VDC
Operating temperature	-25 to +65°C	-25 to +70°C	-40 to +65°C
Nominal Cap. Range	10 to 120F	1 to 70F	
Capacitance tolerance	-20% to +40%(at 25°C)		
Endurance	After 1,000 hours Application of rated DC working voltage at +65/70°C, the capacitor shall meet the following limits. <ul style="list-style-type: none"> • Capacitance change : ≤30% of initial value • Internal resistance change : ≤100% of spec. value 		
Projected Cycle Life*	100,000 Cycles	500,000 Cycles	
	1 Cycle : Charge-Discharge between V_{rated} and $1/2V_{rated}$ <ul style="list-style-type: none"> • Capacitance change : ≤30% of initial value • Internal resistance change : ≤100% of spec. value 		
Shelf life	After 1,000hours storage at +65°C without load, the capacitor shall meet the specified limit for "Endurance"		

* Cycle life varies according to the condition of application i.e. charge-discharge condition including current, temperature, voltage range and etc.

| Shape of Standard Product |

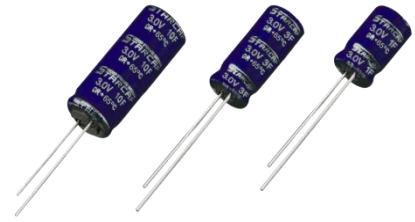


Features |

- Small size but large capacity
- High Working Voltage, Low ESR
- Pb Free and RoHS Compliant

Application |

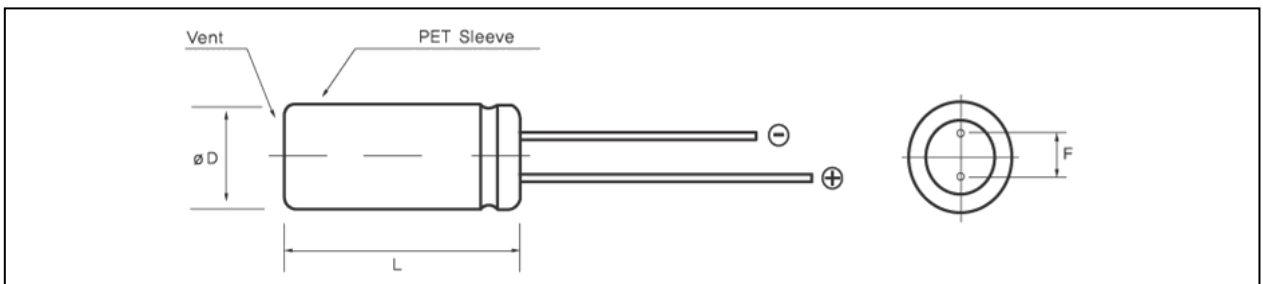
- Automotive (DVR, Black box, etc.)
- Motor drive through quick discharge (e.g. Toy car & plane)
- Smart Grid (Smart energy meters – electricity, water, gas)



Specifications |

Items	Characteristics
Rated voltage	3.0 VDC
Operating temperature	-40 to +65°C
Capacitance	1 to 15F
Capacitance tolerance	-20% to +40% (at 25°C)
Endurance	After 1,000 hours Application of rated DC working voltage at +65°C, the capacitor shall meet the following limits. <ul style="list-style-type: none"> • Capacitance change : ≤30% of initial value • Internal resistance change : ≤100% of spec. value
Shelf life	After 1,000 hours Application of rated DC working voltage at +65°C, the capacitor shall meet the following limits. <ul style="list-style-type: none"> • Capacitance change : ≤30% of initial value • Internal resistance change : ≤100% of spec. value

Shape of Standard Product |



Standard Products and Dimensions (not to scale) |

Part number	Operating voltage (V)	Capacitance (F)	ESR (Ω, @1kHz)	ØD X L(mm)	F (mm)
DR 3R0 105	3.0	1	≤ 0.200	Ø8 X 13	3.5
DR 3R0 305		3	≤ 0.075	Ø8 X 20	3.5
DR 3R0 505		5	≤ 0.060	Ø10 X 20	5.0
DR 3R0 705		7	≤ 0.050	Ø10 X 25	5.0
DR 3R0 106		10	≤ 0.035	Ø10 X 30	5.0
DR 3R0 156		15	≤ 0.030	Ø12.5 X 25	5.0

Note : It is not allowed to go through reflow (IR, Atmosphere heating methods etc.) process