



### FEATURES

High Voltage – Very Fast Charge/Discharge – High Power Density –  
RoHS Compliant

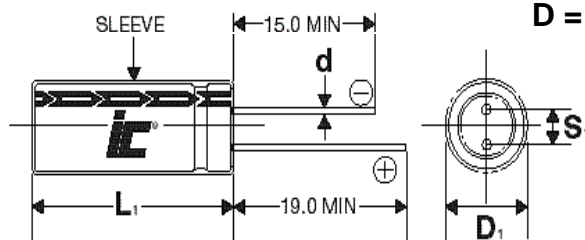
### APPLICATIONS

Solar/Wind Energy Storage – Pulse Power – Energy Harvesting –  
UPS Systems – Smart Electric Meters

<b>Operating Temperature Range</b>		<b>-25°C to +70°C</b>	
<b>Storage Temperature</b>		<b>-30°C to +70°C</b>	
<b>Capacitance Tolerance @ 25°C</b>		<b>±20%</b>	
<b>Voltage (Vdc)</b>	<b>WVDC</b>	<b>3.8</b>	<b>3.8V</b>
	<b>SVDC</b>	<b>4.2</b>	
	<b>Minimum</b>	<b>2.5</b>	
<b>Life Time</b>	<b>1000 hours with rated voltage applied at 70°C</b>		
	<b>Capacitance change</b>	±30% of initially measured values	
	<b>ESR</b>	<200% of initially specified values	
	<b>Leakage current</b>	≤100% specified maximum value	
<b>Shelf Life</b>	<b>1000 hours with no voltage applied at 60°C</b>		
	<b>Capacitance change</b>	±30% of initially measured values	
	<b>ESR</b>	<200% of initially specified values	
<b>Life Cycles</b> (25°C) 1 cycle = Charge / Discharge from 3.8~2.5VDC	<b>250,000 cycles</b>		
	<b>Capacitance change</b>	±30% of initially measured values	
	<b>ESR change</b>	<200% of initially specified values	

[RoHS Compliant](#)

810a Recognized



Lead spacing VS. Case diameter			
D	10	12.5	16
S	5.0	5.0	7.5
d	0.6	0.6	0.8
α	2.0	2.0	2.0

$$L_1 = L + \alpha \text{ mm}$$

$$D_1 = D + 0.5 \text{ mm}$$

$$S_1 = S \pm 0.5 \text{ mm}$$

Notes:

- Maintain balanced voltages when used in multiple series or parallel connections. (Consult CDE engineering for guidance)
- When using metal tooling, trim and bend leads separately. Parts store a charge. Avoid shorting leads. (Consult CDE engineering for guidance)
- Manual soldering temperature should not exceed 350°C and soldering time should not exceed 4 seconds. (Wave and reflow soldering not recommended)

[Full Material Handling Guidelines](#)

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# VPF

High pulse power, extends battery life

WVDC	Capacitance (F)	IC PART NUMBER	Weight (grams)	Volume (mL)	Dims DxL LxHxT (mm)	Lead Spacing S (mm)	Lead Diameter d (mm)
3.8	40.0	VPF406M3R8	2.5	1.26	10x16	5	0.6
3.8	50.0	VPF506M3R8	2.1	1.57	10x20	5	0.6
3.8	70.0	VPF706M3R8	2.3	1.96	10x25	5	0.6
3.8	120.0	VPF127M3R8	3.91	3.07	12.5x25	5	0.6
3.8	220.0	VPF227M3R8	7	5.03	16x25	7.5	0.8

WVDC	Capacitance (F)	IC PART NUMBER	MAX Current (A) (1 Sec.)	Maximum Continuous Current (A) (ΔT=15°C)	Short Circuit Current (A)	ESR AC 1 kHz (mΩ)	DC ESR (mΩ) 20°C	Max stored energy (mWh)	LC (μA), (72 hrs)
3.8	40.0	VPF406M3R8	1	0.15	6.9	250	550	46	4
3.8	50.0	VPF506M3R8	2.8	0.5	8.4	200	450	57	6
3.8	70.0	VPF706M3R8	4.9	0.7	15.2	100	250	80	8
3.8	120.0	VPF127M3R8	6.2	1.2	19	80	200	137	12
3.8	220.0	VPF227M3R8	12.4	2.2	38	60	100	250	25