

# Type SPV <sup>\*\*\*</sup> Obsolete

## SMT - Solid Polymer Cathode - Aluminum Electrolytic Capacitors

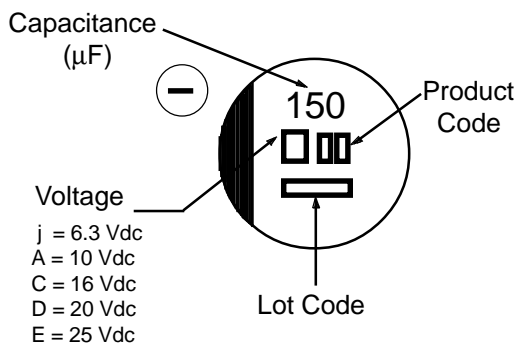


- **Ultra-Low ESR** - 10 to 20 mΩ typical at 100 kHz
- **High Ripple Current** - up to 5.1 Amps at 105°C
- **Long Life** - No dry out failure related mechanism
- **Stable Capacitance and ESR** vs temperature
- **Great for DC/DC Power Converters**

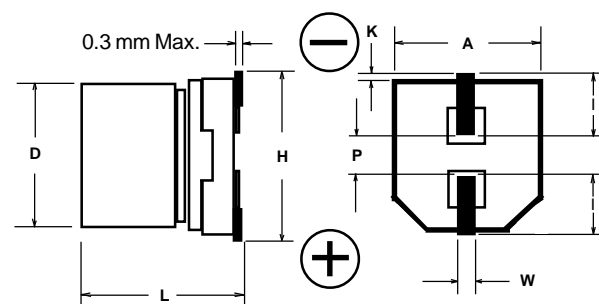
### Specifications

**Operating Temperature:** -55°C to +105°C  
**Rated Voltage:** 6.3 Vdc to 25 Vdc  
**Capacitance Range:** 22 μF to 680 μF @ 120 Hz, +20°C  
**Capacitance Tolerance:** ±20% @ 120 Hz, +20°C  
**DC Leakage Current:**  $I \leq 0.2 CV$  @ +20°C (μA/2 minutes)  
**Solder Heat Resistance:** 260°C peak, 200°C for 70 seconds  
**Load Life:** 2000 h @ +105°C  
     Δ Capacitance ±20%  
     DF: ≤ 150% of limit  
     DCL: ≤ 100% of limit

### SPV Series Marking



### Outline Drawing



### Case Dimensions

Case Code	D ± 0.5	L	A ± 0.2	H (max)	I (Ref.)	W	P (Ref.)	K ± 0.2
M	8	6.9 +0.1 -0.2	8.3	10	3.4	0.90±0.2	3.1	0.5
N	10	7.9 +0.1 -0.2	10.3	12	3.5	0.90±0.2	4.6	0.5
G	10	10.2 ±0.3	10.3	12	3.5	0.90±0.2	4.6	0.5

(mm)

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### Ratings Table

Cap ( $\mu$ F)	Catalog Number	Max. DCL ( $\mu$ A/2 min)	Max. Dissipation Factor @ 120 Hz 20 °C	Max. ESR @ 100 kHz 20 °C ( $\Omega$ )	Max. Ripple Current @ 105°C 100 kHz (Amps)	Case Code	Size D x L (mm)	Quantity per Reel
<b>6.3 Vdc (7.2 Vdc Surge)</b>								
150	SPV157M06M24T	189	0.15	0.035	3.05	M	8x6.9	1000
220	SPV227M06M24T	277	0.15	0.032	3.05	M	8x6.9	1000
330	SPV337M06N24T	416	0.12	0.022	4.13	N	10x7.9	500
390	SPV397M06N24T	491	0.12	0.022	4.13	N	10x7.9	500
470	SPV477M06G24T	592	0.12	0.020	5.10	G	10x10.2	500
560	SPV567M06G24T	705	0.12	0.020	5.10	G	10x10.2	500
680	SPV687M06G24T	857	0.12	0.015	5.10	G	10x10.2	500
<b>10 Vdc (11.5 Vdc Surge)</b>								
120	SPV127M10M24T	240	0.15	0.035	2.80	M	8x6.9	1000
150	SPV157M10M24T	300	0.15	0.035	2.80	M	8x6.9	1000
270	SPV277M10N24T	540	0.12	0.024	3.77	N	10x7.9	500
330	SPV337M10G24T	660	0.12	0.022	4.50	G	10x10.2	500
470	SPV477M10G24T	940	0.12	0.017	4.50	G	10x10.2	500
<b>16 Vdc (18.4 Vdc Surge)</b>								
82	SPV826M16M24T	263	0.12	0.039	2.50	M	8x6.9	1000
100	SPV107M16M24T	320	0.12	0.039	2.50	M	8x6.9	1000
150	SPV157M16N24T	480	0.12	0.029	3.43	N	10x7.9	500
180	SPV187M16N24T	576	0.12	0.029	3.43	N	10x7.9	500
220	SPV227M16G24T	704	0.12	0.027	4.10	G	10x10.2	500
270	SPV277M16G24T	864	0.12	0.027	4.10	G	10x10.2	500
330	SPV337M16G24T	1056	0.12	0.022	4.10	G	10x10.2	500
<b>20 Vdc (23.0 Vdc Surge)</b>								
47	SPV476M20M24T	188	0.10	0.050	2.00	M	8x6.9	1000
82	SPV826M20N24T	328	0.10	0.039	2.50	N	10x7.9	500
150	SPV157M20G24T	600	0.10	0.026	3.70	G	10x10.2	500
<b>25 Vdc (28.8 Vdc Surge)</b>								
22	SPV226M25M24T	110	0.10	0.050	1.60	M	8x6.9	1000
33	SPV336M25N24T	165	0.10	0.039	2.20	N	10x7.9	500
82	SPV826M25G24T	410	0.10	0.030	3.30	G	10x10.2	500

### Part Numbering System

**SPV**  
|  
Type

**157**  
|  
Capacitance  
226 = 22  $\mu$ F  
107 = 100  $\mu$ F  
157 = 150  $\mu$ F

**M**  
|  
Capacitance  
Tolerance  
M =  $\pm$ 20%

**20**  
|  
Voltage  
06 = 6.3 Vdc  
10 = 10 Vdc  
16 = 16 Vdc  
20 = 20 Vdc  
25 = 25 Vdc

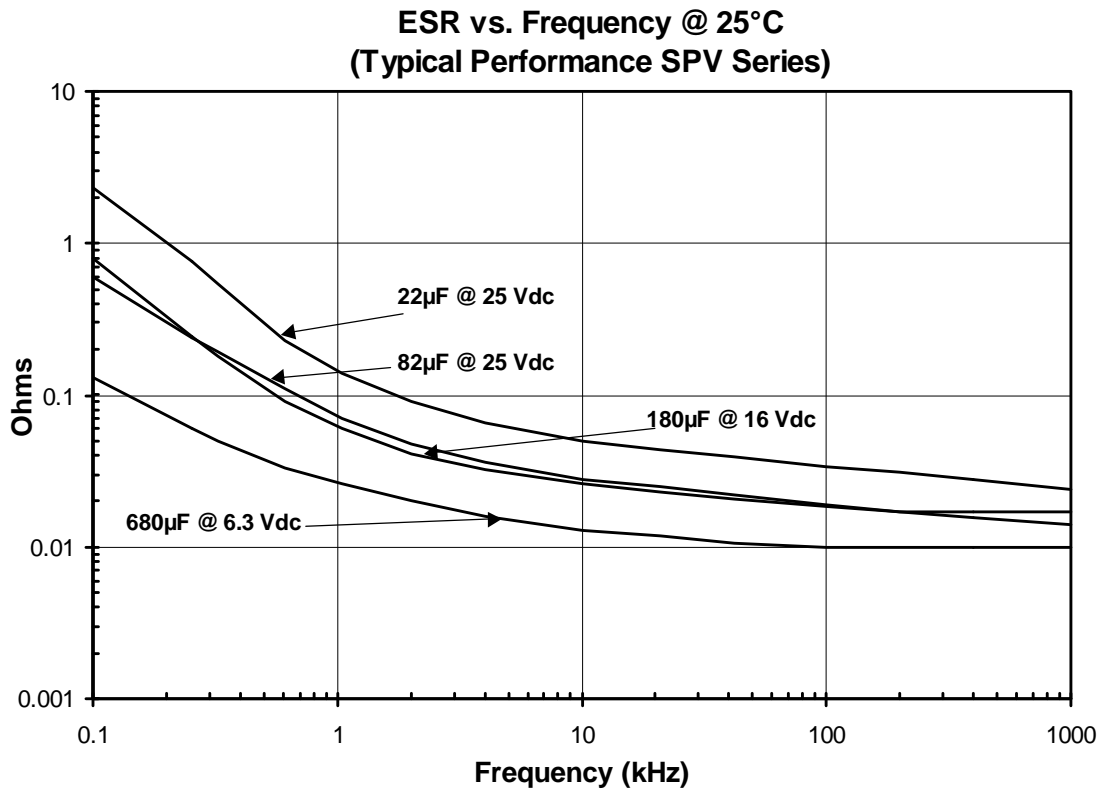
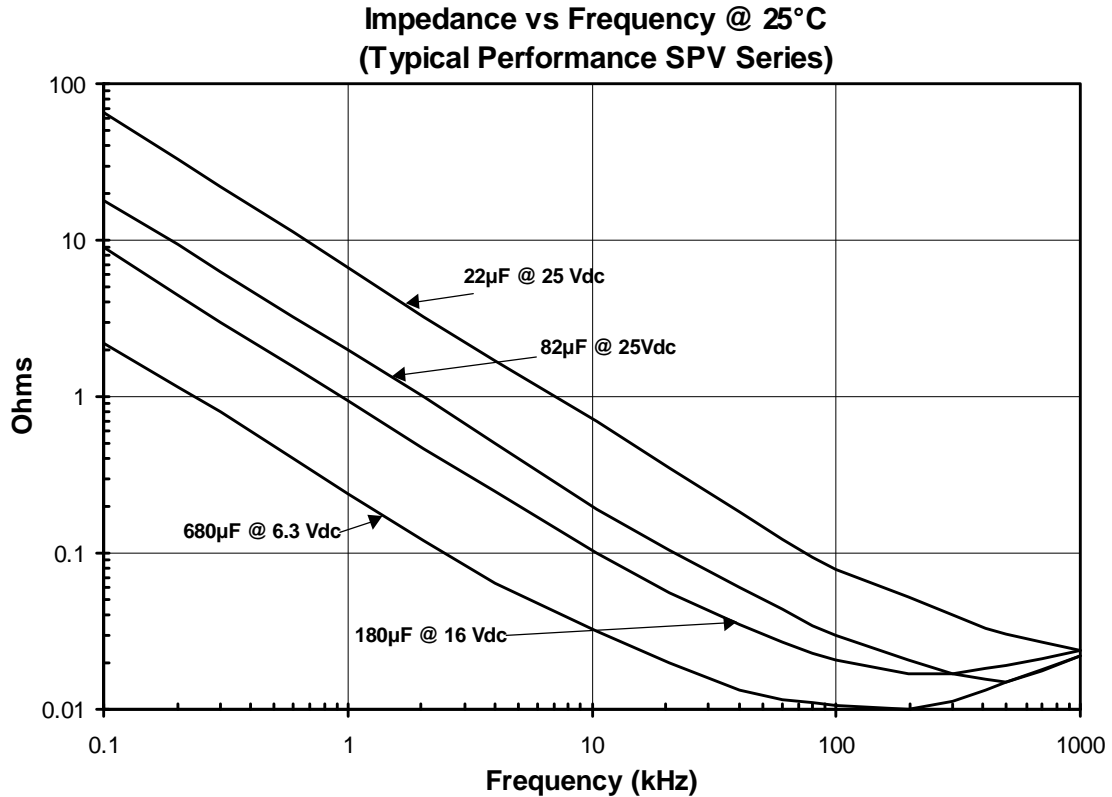
**G**  
|  
Case  
Code

**24T**  
|  
Packaging  
Information  
24 = Carrier Tape  
Width (mm)  
T = Tape & Reel  
B = Bulk

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## SMT - Solid Polymer Cathode - Aluminum Electrolytic Capacitors

### Typical Performance Curves

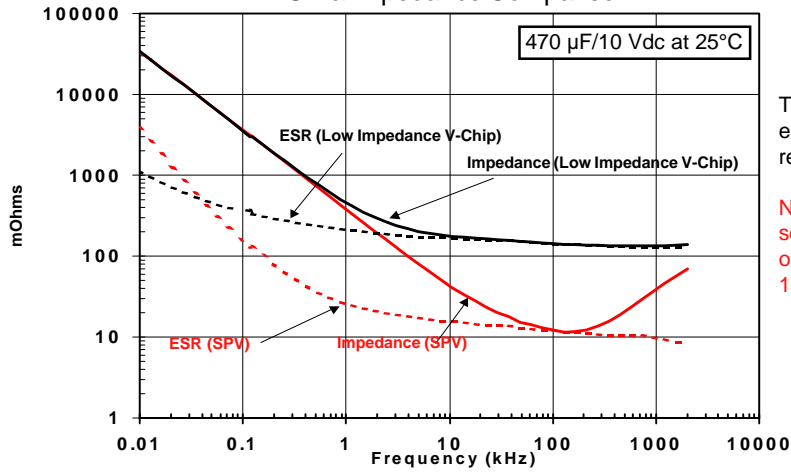


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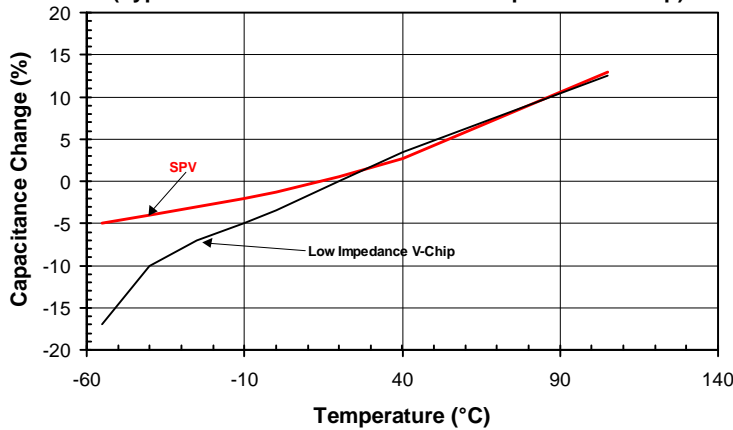
**SPV vs Low Impedance V-Chip**  
ESR & Impedance Comparison



The Low Impedance V-chip employs a liquid electrolyte and represents the best of this type.

Note: Type SPV employing a solid polymer electrolyte is an order of magnitude better at 100 kHz.

**Capacitance Change vs. Temperature**  
(Typical Performance SPV and Low Impedance V-Chip)



**ESR Change vs. Temperature**  
(Typical Performance SPV and Low Impedance V-Chip)

