

Chip Type

GREEN
CAP

SMD

Low
ESR

105°C
2000hours

Anti-
cleaning
solvent

- Super low E.S.R. and high ripple current are realized.
- Guaranteed 105°C, 2000 hours.

PVH



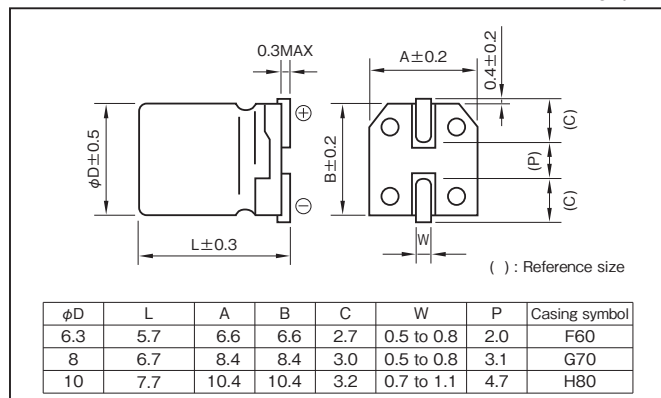
Specifications

Item	Performance		
Category temperature range (°C)	-55 to +105		
Tolerance at rated capacitance (%)	±20 (20°C,120Hz)		
Leakage current (μA) *Note	Rated voltage (V)	2.5 to 20	25,35
	Leakage current (μA)	Less than 0.2 CV	Less than 0.5 CV
	C : Rated capacitance (μF) ; V : Rated voltage (V) (20°C)		
Tangent of loss angle (tanδ)	Less than 0.12 (20°C,120Hz)		
Characteristics at high and low temperature	Impedance ratio (max.) Z-55°C/Z+20°C : 1.50 (100kHz)		
Endurance (105°C) (Applied ripple current)	Test time	2000 hours	
	Leakage current	The initial specified value or less	
	Percentage of capacitance change	Within ±20% of initial value	
	Tangent of the loss angle	150% or less of the initial specified value	
	E.S.R. change	200% or less of the initial specified value	
Damp heat, steady state (humidity) 60°C, 90 to 95%RH	Test time	500 hours	
	Leakage current	The initial specified value or less	
	Percentage of capacitance change	Within ±20% of initial value	
	Tangent of the loss angle	150% or less of the initial specified value	
	E.S.R. change	200% or less of the initial specified value	
Characteristics of applied surge voltage	The capacitors shall be subject to 1000 cycles each consisting of charge with the surge voltage specified at 15 to 35°C for 30 seconds through a protective resistor (Rc=1kΩ) in 6 minutes per cycle. Surge voltage : 1.15 times of rated voltage		
	Leakage current	The initial specified value or less	
	Percentage of capacitance change	Within ±20% of initial value	
	Tangent of the loss angle	150% or less of the initial specified value	
	E.S.R. change	200% or less of the initial specified value	
Failure rate	0.5% per 1000 hours maximum (Confidence level 60% at 105°C)		

*Note : If any doubt arises, measure the leakage current after following voltage application treatment.
Voltage application treatment : DC rated voltage are applied to the capacitors for 120 minutes at 105°C.

Outline Drawing

Unit : mm



- Soldering conditions are described on page 13.
- Land pattern size are described on page 11.
- The taping specifications are described on page 14.

Part numbering system (example : 4V150μF)

PVH	—	4	V	151	M	F60	E	—	
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol			Taping symbol

NOTE

Design, Specifications are subject to change without notice.
Ask factory for technical specifications before purchase and/or use.

Standard Ratings

Rated voltage (V)	Item	2.5			4			6.3			10			16		
		Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current
		φD×L (mm)	(mΩ max.)	(mA rms)	φD×L (mm)	(mΩ max.)	(mA rms)	φD×L (mm)	(mΩ max.)	(mA rms)	φD×L (mm)	(mΩ max.)	(mA rms)	φD×L (mm)	(mΩ max.)	(mA rms)
33		—	—	—	—	—	—	—	—	—	—	—	—	6.3×5.7	37	2050
39		—	—	—	—	—	—	—	—	—	—	—	—	6.3×5.7	37	2050
47		—	—	—	—	—	—	—	—	—	6.3×5.7	31	2250	6.3×5.7	37	2050
56		—	—	—	—	—	—	—	—	—	6.3×5.7	31	2250	—	—	—
68		—	—	—	—	—	—	6.3×5.7	27	2400	—	—	—	—	—	—
82		—	—	—	—	—	—	6.3×5.7	27	2400	—	—	—	8×6.7	30	2700
100		—	—	—	6.3×5.7	26	2450	6.3×5.7	27	2400	8×6.7	27	2800	8×6.7	30	2700
120		—	—	—	—	—	—	6.3×5.7	27	2400	8×6.7	27	2800	—	—	—
150		—	—	—	6.3×5.7	26	2450	8×6.7	25	3020	8×6.7	27	2800	10×7.7	26	3430
180		—	—	—	—	—	—	—	—	—	—	—	—	10×7.7	26	3430
220		6.3×5.7	25	2500	8×6.7	25	3020	8×6.7	25	3020	10×7.7	24	3770	—	—	—
270		—	—	—	—	—	—	—	—	—	10×7.7	24	3770	—	—	—
330		8×6.7	23	3100	8×6.7	25	3020	10×7.7	20	4130	10×7.7	24	3770	—	—	—
470		8×6.7	23	3100	10×7.7	20	4130	10×7.7	20	4130	—	—	—	—	—	—
560		8×6.7	23	3100	—	—	—	—	—	—	—	—	—	—	—	—
680		—	—	—	10×7.7	20	4130	—	—	—	—	—	—	—	—	—
1000		10×7.7	19	4240	—	—	—	—	—	—	—	—	—	—	—	—

Rated voltage (V)	Item	20			25			35		
		Case	ESR	Rated ripple current	Case	ESR	Rated ripple current	Case	ESR	Rated ripple current
		φD×L (mm)	(mΩ max.)	(mA rms)	φD×L (mm)	(mΩ max.)	(mA rms)	φD×L (mm)	(mΩ max.)	(mA rms)
10		—	—	—	6.3×5.7	65	1500	8×6.7	200	750
22		6.3×5.7	50	1650	8×6.7	50	1800	10×7.7	150	1000
33		8×6.7	45	2000	10×7.7	45	2100	—	—	—
39		8×6.7	45	2000	10×7.7	45	2100	—	—	—
47		8×6.7	45	2000	—	—	—	—	—	—
82		10×7.7	40	2500	—	—	—	—	—	—

(Note) Rated ripple current : 105°C, 100kHz ; E.S.R. : 20°C, 100kHz

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