NPCAP™-PMF New! Series

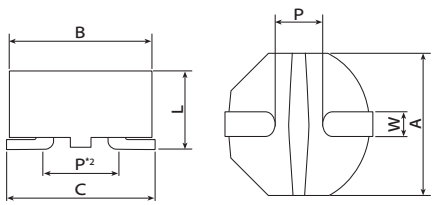
- The new construction provides a low profile and high CV.
- Super low ESR, impedance, and high heat resistance characteristics have been secured by using highly conductive polymer electrolytic materials.
- Compatible with digitalization and high frequencies of electrical equipment with superior noise absorption.
- Excellent ESR characteristics, high ripple current, 5,000 hours at 105°C.
- Low-profile product lineup
- Outer coating: Flame-retardant epoxy resin UL94 V-0 or equivalent
- Higher reflow heat resistance
- Non-solvent resistant type
- RoHS2 Compliant
- Halogen free products
- This product can't be used for applications related to human life (such as in-vehicle equipment).

◆SPECIFICATIONS

Items	Characteristics
Category Temperature Range	-55 to +105℃
Rated Voltage Range	16 to 25Vdc
Capacitance Tolerance	±20% (M) (at 20℃, 120Hz)
Leakage Current *Note	Shall not exceed values shown in STANDARD RATINGS. (at 20℃ after 2 minutes)
Dissipation Factor (tan δ)	0.12 max. (at 20℃, 120Hz)
Low Temperature Characteristics (Max. Impedance Ratio)	Z(-25℃)/Z(+20℃)≦1.15 Z(-55℃)/Z(+20℃)≦1.25 (at 100kHz)
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 5,000 hours at 105℃. Appearance: No significant damage Capacitance change: ≦±20% of the initial value D.F. (tan δ): ≦200% of the initial specified value ESR: ≦200% of the initial specified value Leakage current: ≦The initial specified value
Damp Heat (Steady State)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 500 hours at 60℃, 90 to 95% RH without voltage applied. Appearance: No significant damage Capacitance change: ≦-20 to +40% of the initial value D.F. (tan δ): ≦200% of the initial specified value ESR: ≦200% of the initial specified value Leakage current: ≦The initial specified value
Surge Voltage	The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltage specified at 105℃ for 30 seconds through a protective resistor(R=1kΩ) and discharge for 5 minutes 30 seconds. Rated voltage (Vdc): 16 / 20 / 25 Surge voltage (Vdc): 18 / 23 / 29 Appearance: No significant damage Capacitance change: ≦±20% of the initial value D.F. (tan δ): ≦200% of the initial specified value ESR: ≦200% of the initial specified value Leakage current: ≦The initial specified value
Soldering Heat	The following specifications shall be satisfied when the solder temperature is reduced back to 20°C to measure dip resistance after soldering has been performed under the recommended soldering conditions. Appearance: No significant damage Capacitance change: ≦±20% of the initial value D.F. (tan δ): ≦150% of the initial specified value ESR: ≦150% of the initial specified value Leakage current: ≦The initial specified value (Voltage treatment)
Failure Rate	0.5% per 1,000 hours maximum (Confidence level 60% at 105℃)

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

◆DIMENSIONS [mm]

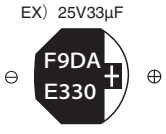


*2 : The dimension P (the distance between terminals) shall be the shortest distance between the land and grounding surface.

Size code	A	B	C	L	W	P
F30	7.0±0.1	7.0±0.1	7.2±0.2	3.0 max.	1.2±0.2	3.50±0.2

◆MARKING

EX) 25V33μF



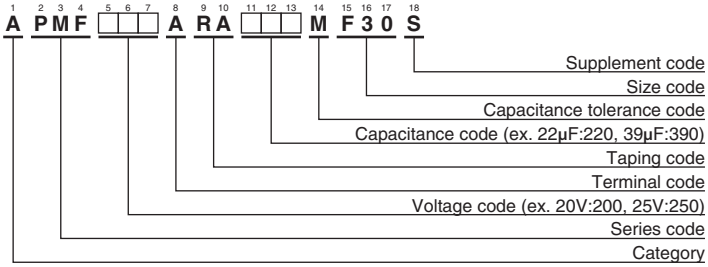
- Rated voltage symbol

Rated voltage (Vdc)	16	20	25
Symbol	C	D	E

- Capacitance symbol
  Capacitance code (ex. 33μF : 330)

NPCAP™-PMF New! Series

◆PART NUMBERING SYSTEM



Please refer to "Product code guide (conductive polymer type)"

◆STANDARD RATINGS

WV (V_{dc})	Cap (μF)	Size code	Leakage current (μA max./after 2min.)	ESR (mΩ max./20℃, 100k to 300kHz)	Rated ripple current (mArms/105℃, 100kHz)	Part No.
16	56	F30	448	40	2,200	APMF160ARA560MF30S
	68	F30	544	50	2,000	APMF160ARA680MF30S
20	39	F30	390	45	2,100	APMF200ARA390MF30S
	47	F30	470	50	2,000	APMF200ARA470MF30S
25	22	F30	275	50	2,000	APMF250ARA220MF30S
	33	F30	412	50	2,000	APMF250ARA330MF30S

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Frequency(Hz)	120	1k	10k	50k	100k to 500k
SMD type	0.05	0.30	0.55	0.70	1.00