



# New High Speed Decoupling Device Proadlizer<sup>®</sup> PF/A Series

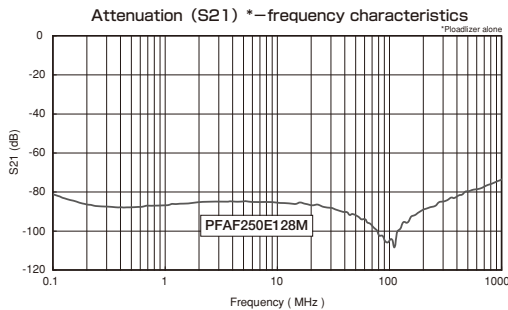
## APPLICATION

- High speed and high power CPU and Gbps backplane decoupling
- EMI solution for 10 MHz range or above
- High switching frequency DC/DC converter output capacitor

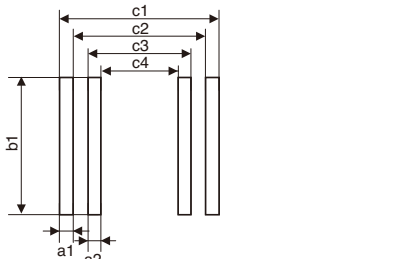
## FEATURES

- Excellent noise absorption performance at GHz frequency
- Extreme low ESL and high current capability
- High Capacitance and very low ESR based on our Conductive Polymer technology
- Distributed capacitance architecture and transmission-line structure

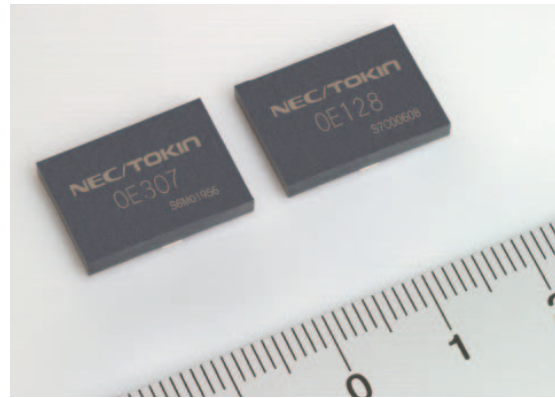
## PERFORMANCE (reference)



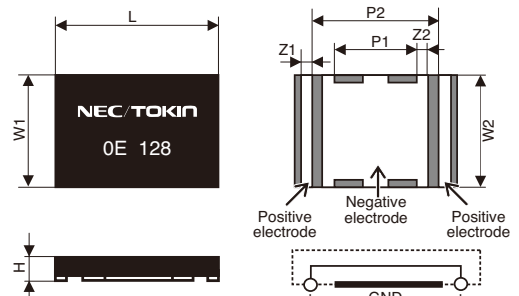
## LAYOUT LAND PATTERN (Tentative)



Case Code	a1	a2	b1	c1	c2	c3	c4
F25, F20	1.6	1.8	14.2	16.4	13.2	10.2	6.6
1212	1.6	1.8	14.2	11.9	8.7	6.7	3.1



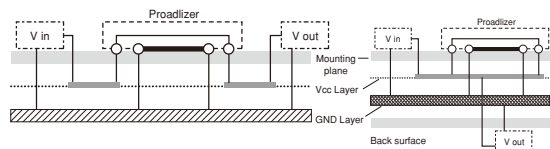
## DIMENSIONS [mm]



Case Code	L	W1	W2	H	P1	P2	Z1	Z2
F25	16.7±0.2	12.1±0.2	11.9±0.2	2.5Max	8.0±0.2	13.0±0.2	1.0±0.2	1.2±0.2
F20	16.7±0.2	12.1±0.2	11.9±0.2	2.0Max	8.0±0.2	13.0±0.2	1.0±0.2	1.2±0.2
121220	12.0±0.2	12.0±0.2	11.9±0.2	2.0Max	5.1±0.2	8.7±0.2	0.9±0.2	0.8±0.2

## NOTE (reference)

ex.1 Filter circuit design      ex.2 Decoupling circuit design

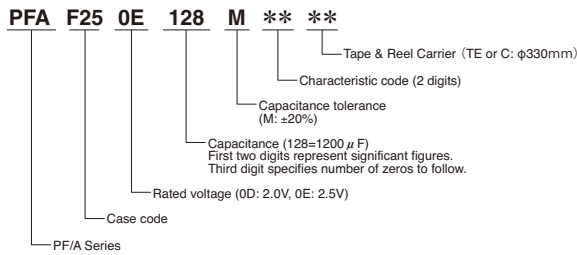


- ex.1 An effective filtering performance can be achieved by separating input and output in the VCC layer.
- ex.2 An effective decoupling performance can be achieved by not separating Vcc layer. This method also makes surface mounting of loads(CPU etc.) efficient.

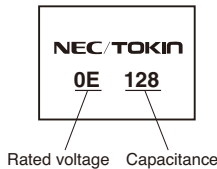


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 ● Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.

## PART NUMBER SYSTEM



## MARKING



## RATINGS (Initial specification)

Rated voltage (V)	Capacitance (μF)	Dispation Factor (%)	DC Leakage Current (μA)	ESR (mΩ) at 100kHz	Case code	Part Number
2.0	1000	10	300	1.0	121220	PFA1212200D108MCCD
2.5	900	10	250	1.5	F25	PF250E907MCBTE
2.5	1200	10	300	2.0	F25	PF250E128MTE
2.5	1200	10	300	1.5	F25	PF250E128MNSTE
2.5	1500	10	375	2.0	F25	PF250E158MTE
2.0	1000	10	200	1.0	F20	PF200D108MCDTE
2.0	1800	10	360	1.0	F20	PF200D188MNRTE
2.0	2400	10	480	1.0	F25	PF250D248MNRTE

★ : Under development

## PERFORMANCE

NO	Test Item	Performance	Test Condition	
1	Operating Temperature	-55°C to +105°C		
2	Rated Voltage	2.0V, 2.5V		
3	Capacitance	900μF~2400μF		
4	Capacitance Tolerance	M: ±20%	at 120Hz	
5	DC Leakage Current	Refer Rating table	Applied Rating Voltage, 5min	
6	Dissipation Factor (DF)	Refer Rating table	at 120Hz	
7	ESR*	Refer Rating table	at 100kHz	
8	Surge Voltage	Capacitance Change: Within ±20% of initial specification. LC: Lower than initial specification. DF: Lower than 2 times initial specification. ESR: Lower than 2 times initial specification.	Applied 115% of Rating Voltage at 105°C 1000cycles	
9	Temperature Stability		Capacitance: same as No.3 LC: same as No.5 DF: same as No.6 ESR: same as No.7	
		at -55°C		at +105°C
	Capacitance Change	Within 0% to -20%		Within +50% to 0%
	LC	Lower than initial specification.		Lower than 10 times initial specification.
	tan δ	Lower than initial specification.	Lower than 1.5 times initial specification.	
	ESR	Lower than initial specification.	Lower than 1.5 times initial specification.	
10	Temperature Cycling	Capacitance Change: Within ±20% of initial specification. LC: Lower than initial specification. DF: Lower than 2 times initial specification. ESR: Lower than 2 times initial specification.	-55°C to 105°C Scycles	
11	Resistance to Soldering Heat	Capacitance Change: Within ±20% of initial specification. LC: Lower than initial specification. DF: Lower than 2 times initial specification. ESR: Lower than 2 times initial specification.	Reflow soldering 240°C, 10sec. Peak	
12	Damp Heat	Capacitance: Within +30% to -20% of initial specification. LC: Lower than initial specification. DF: Lower than 2 times initial specification. ESR: Lower than 2 times initial specification.	40°C, 90 to 95%RH Duration is 500hr	
13	Endurance	Capacitance Change: Within ±20% of initial specification. LC: Lower than initial specification. DF: Lower than 2 times initial specification. ESR: Lower than 2 times initial specification.	105°C, Applied Rating Voltage Duration is 1000hr	

\*ESR: Preliminary specification

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