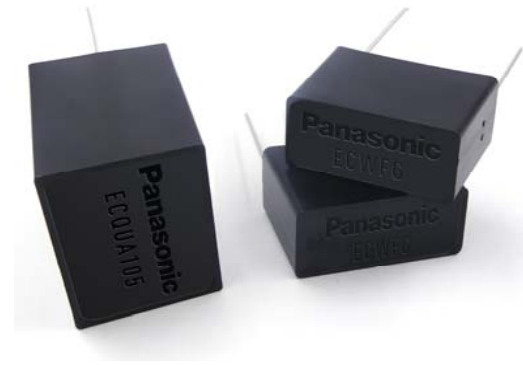



Panasonic

Film Capacitors for Automotive

Product Marketing

Panasonic Industry Europe



- 
- **Features**
 - Main Applications
 - Technical Characteristics
 - Why Panasonic?

Features

Series	ECQUA	ECWFG
Dielectric Film	Metallized Polypropylene Film	
Application	Interference Suppression (Safety Class X2) for Filtering	Power Factor Correction / Smoothing / Filtering / Snubber
Rated Voltage	275 VAC	630 VDC
Capacitance Range	0.1 μ F to 4.7 μ F	1 μ F, 1.5 μ F, 2.2 μ F, 3 μ F, 4.7 μ F*
Capacitance Tol.	\pm 10%, \pm 20%	\pm 5%, \pm 10%
Category Temperature	-40°C to 110°C	-40°C to 110°C ※125°C max (for limited time)
Failure Mode	Open Circuit	
Moisture Resistance	85°C / 85% RH / 240VAC / 1000h	85°C / 85% RH / 500VDC / 1000h
Thermal Shock Resistance	-40°C \leftrightarrow 85°C / 1000 cycle	
AEC-Q200	Compliant	

*Under development

Features


ECQUA

Capacitance	L(mm)	W(mm)	H(mm)	F(mm)
0.1uF(104)	17.5	5.0	12.0	15.0
0.15uF(154)	17.5	6.0	13.0	15.0
0.22uF(224)	17.5	7.5	14.0	15.0
0.33uF(334)	17.5	9.0	16.0	15.0
0.47uF(474)	26.0	8.5	15.0	22.5
0.68uF(684)	26.0	10.0	17.0	22.5
1.0uF(105)	26.0	12.0	19.0	22.5
1.5uF(155)	31.0	12.0	22.0	27.5
2.2uF(225)	31.0	14.5	24.5	27.5
3.3uF(335)	31.0	19.0	29.0	27.5
4.7uF(475)	31.0	23.0	33.0	27.5

ECWFG

F(mm)	Cap.	L(mm)	W(mm)	H(mm)	I rms @85°C10kHz
22.5	1.0uF	26.5	11.0	18.0	2.6
	1.5uF	26.5	12.5	20.0	3.5
	2.2uF	26.5	16.0	23.0	4.7
	3.0uF	26.5	18.0	27.0	6.0
27.5*	1.5uF	31.0	11.0	20.0	2.4
	2.2uF	31.0	12.5	24.0	3.3
	3.0uF	31.0	14.0	26.5	4.2
	4.7uF	31.0	18.0	33.0	5.7

*Under development

- 
- Features
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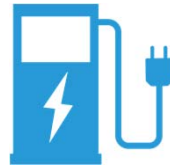
Target Applications



Automotive



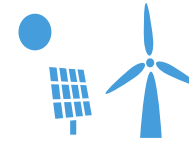
Industrial
power supply



EV / PHEV
charger

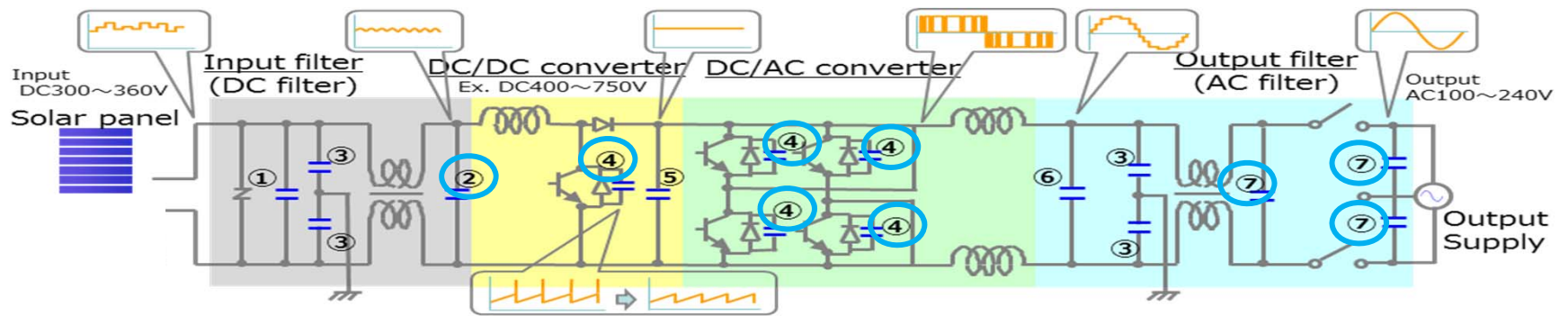
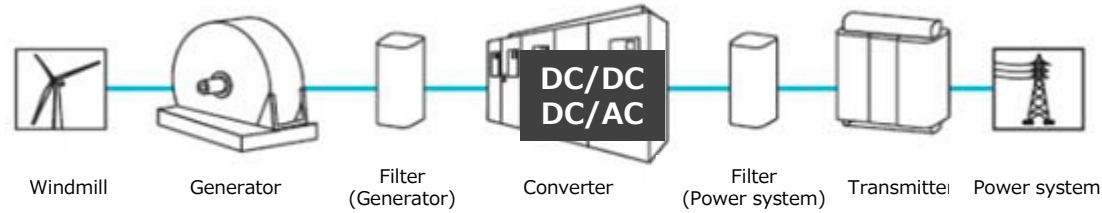


DC/DC, AC/DC
converter



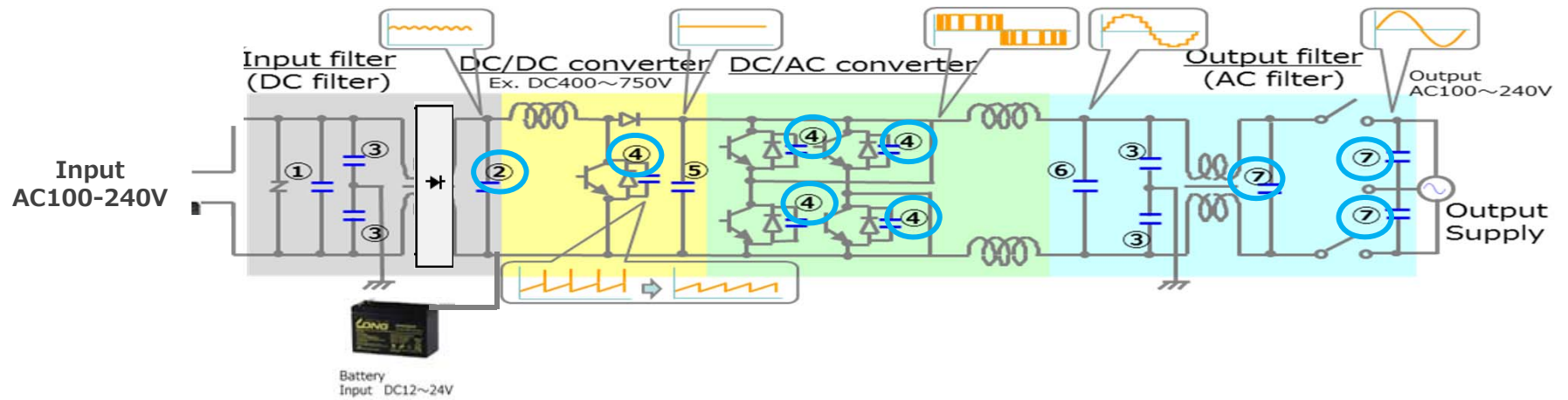
Renewable
Energy

Main Application 1. PV Inverter



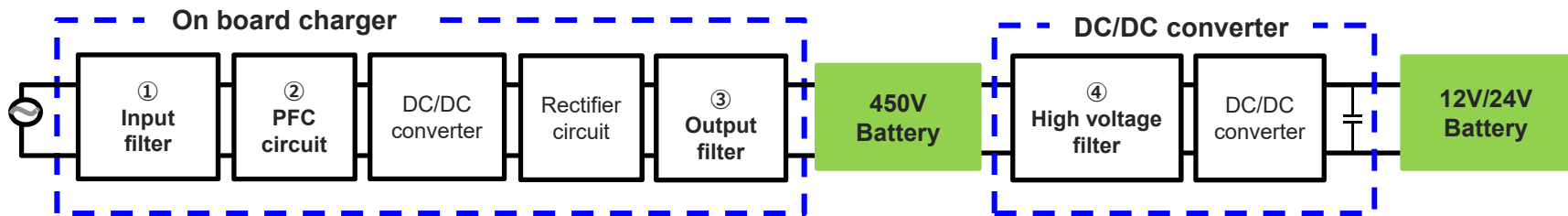
Application	② Input Filter	④ Snubber	⑦ Output Filter
Product	ECWFG		ECQUA

Main Application 2. UPS




Application	② Input Filter	④ Snubber	⑦ Output Filter
Product	ECWFG		ECQUA

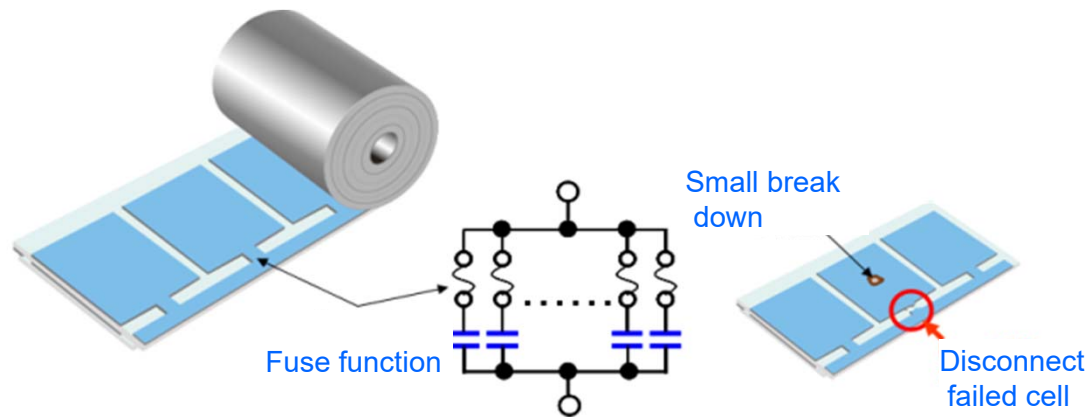
Main Application 3. EV & PHEV on board Charger



Application	① Input Filter	② PFC circuit	③ Output Filter	④ High Voltage Filter
Product	ECQUA	ECWFG		

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Patterned Metallization with fuse function

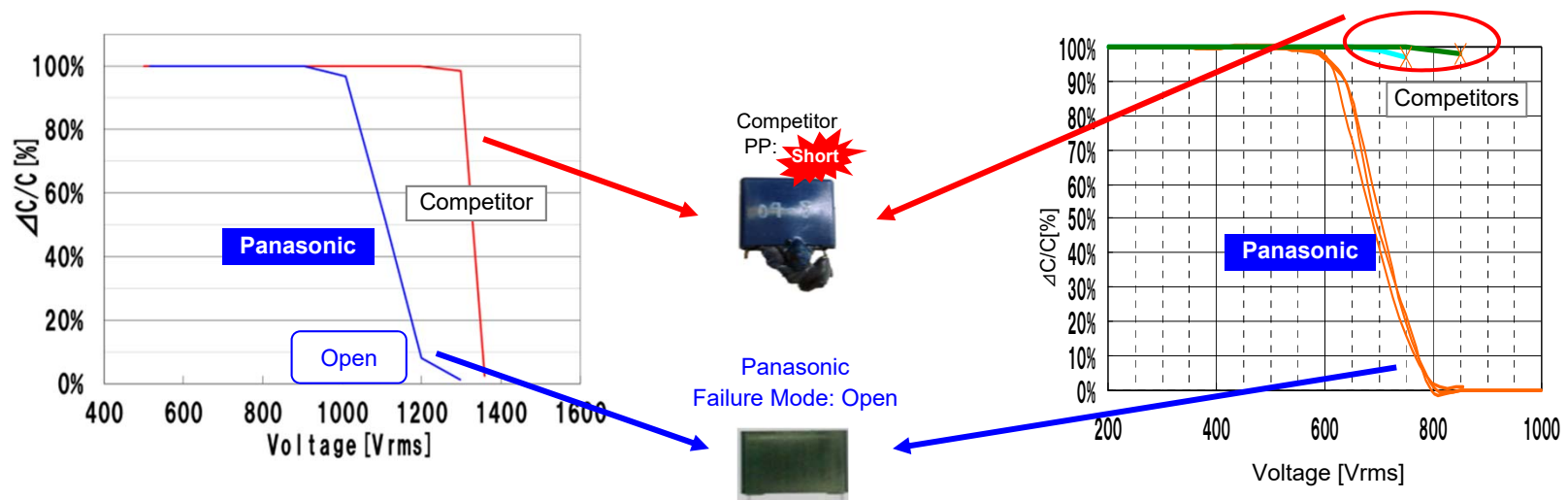


**Panasonic original
IN-HOUSE
metallization process**

Safety mechanism

Patterned Metallization with fuse function

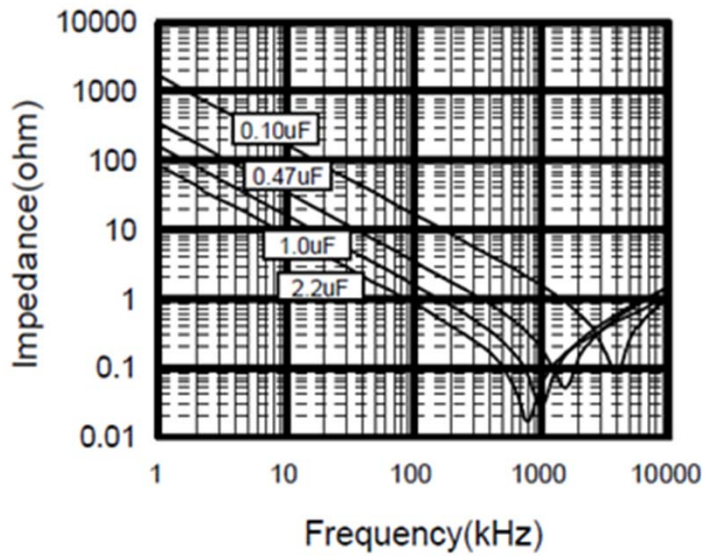
Step up AC Voltage Test



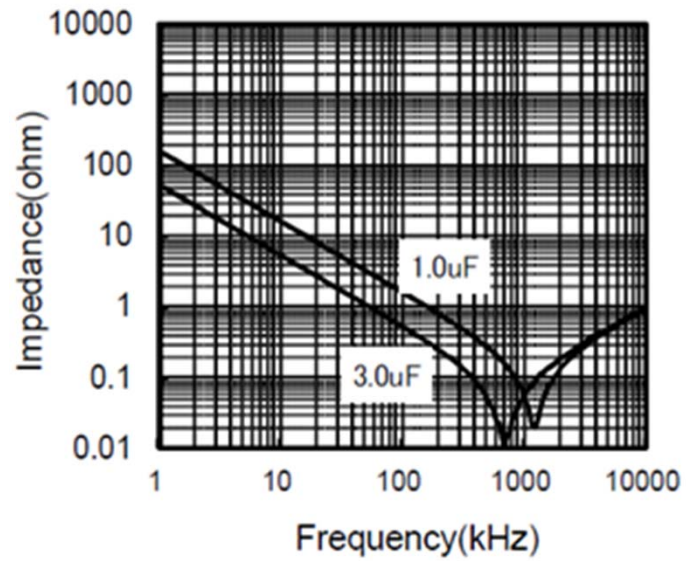
- Ensure the safety in the preservation mechanism by patterned vapor deposition
- Open direction in operating with fuse, it is difficult to smoke or fire.


Frequency Characteristics

ECQUA



ECWFG



- 
- Features
 - Main Applications
 - Technical Characteristics
 - **Why Panasonic?**

Why Panasonic

- **High Safety and high reliability**
- **Attractive pricing**
- **Various promotion tools and full technical support from us**



THANK YOU!