



Film Capacitors

for Solar Inverters in Photovoltaic Systems

Photovoltaic systems consist of multiple components, including cells, mechanical and electrical connections or mountings. They regulate and/or modify the electrical output. The generated electricity can be stored, used directly or fed into a large grid powered by central generating plants connected or tied to the grid.

The solar inverter transforms DC to AC current. Power electronic designers are under increasing pressure to achieve:

- Higher power requirements with very high efficiencies.
- Overvoltage and overcurrent protection due to switching failures, lightning, ground faults, safety regulations etc.
- Long-term stability and reliability.
- Use of approved materials and components according to recognized institutes such as UL and VDE.

EPCOS offers specific products for many circuit functions, depending on the application requirements. Thus, its film capacitor technology is particularly suitable for power electronics designers looking for proven performance:

- Higher rated voltages compared to other capacitor technologies.
- Option of AC operation (reverse current).
- High overvoltage capability due to their self-healing properties.
- Lower equivalent serial resistance (ESR) and inductance (ESL).
- Higher power operation (I_{RMS} vs. frequency).
- Stability of electrical parameters over time and temperature.

Film Capacitors

Schematic circuit

DC filter series (C₁)

B3252...
B3277...

DC link series (C₂)

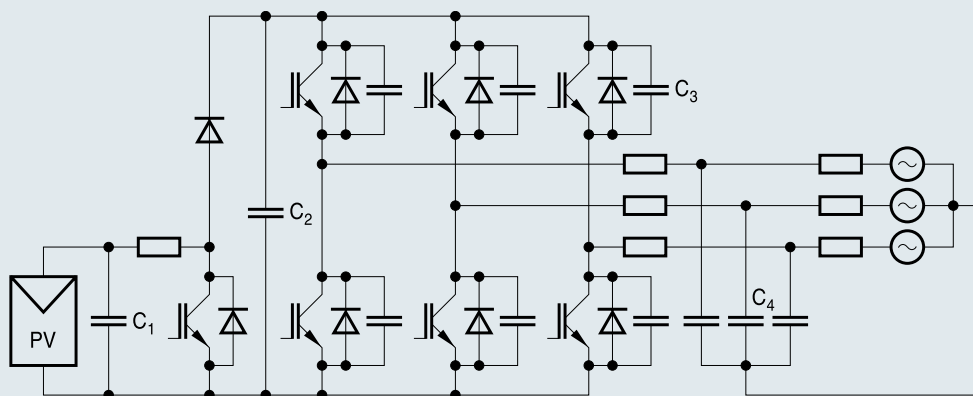
B3252...
B3277...
B2562...
B25655M...

Snubber series (C₃)





B3265...

Output filter series (C₄)

B3279
B3292... (X2)
B3202... (Y2)
B3236...



Technical data

	Capacitance	Voltage	Ordering code / Type
DC filter capacitors			
	1 nF ... 220 µF 1.5 µF ... 110 µF	63 ... 400 V DC 450 ... 1300 V DC	B3252... B3277...
DC link capacitors			
	1 nF ... 220 µF 1.5 µF ... 110 µF 30 µF ... 2000 µF 300 µF ... 3800 µF	63 ... 400 V DC 450 ... 1300 V DC 880 ... 1980 V DC 450 ... 1500 V DC	B3252... B3277... B2562... B25655M...
Snubber capacitors			
	1 nF ... 8.2 µF 47 nF ... 3.3 µF	250 ... 2000 V DC 850 ... 2000 V DC	B32651 ... B32656 B32656S...
Output filter capacitors			
	2 µF ... 75 µF 10 nF ... 45 µF 1 nF ... 1 µF 3 µF ... 600 µF	250 ... 300 V RMS 305 V RMS (X2) 300 V RMS (Y2) 250 ... 600 V RMS	B3279... B3292... B3202... B3236...

Data sheets are available under www.epcos.com using the Search by ordering code function.
Custom specific design upon request.

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