Built-in board

Set product trend

- Higher performance of CPU/FPGA
  → High-speed drive
- Larger capacity of DDR memory
- Medical/Machine tool/FA equipment

Power circuit trend

- Increased load current

(1) CPU/FPGA core power source
(2) DDR power source
(3) System power source
(4) Removal of power input noise

Capacitor required specifications

- Low ESR
- Small
- Low profile
- High withstand voltage

Features of recommended products

SP-Cap
- Ultra-low ESR (3 mΩ -)
- Low profile (1-2 mm)

POSCAP
- Low ESR (5 mΩ -)
- Downsizing (3.5x2.8 mm)

Input **Output**

12V-	Vcore	1V (-100A) → CPU FPGA
	Vtt	1.05V →
	Vsa	0.8V →
	DDR3	1.5V → (DDR3 memory)
	I/O	3.3V → LSI
	USB	5V →

	SP-Cap	POSCAP
CPU	2V470uF 3-6 mΩ/Dsize	2.5V270uF 6 mΩ/Bsize
DDR3	2V470uF 3-6 mΩ/Dsize	2.5V330uF 9 mΩ/Bsize
System (2V max.)	2V470uF 3-6 mΩ/Dsize	2.5V330uF 15 mΩ/Bsize
I/O USB	6.3V220uF 15 mΩ/Dsize	6.3V220uF 25 mΩ/Bsize
USB (5V)	-	16V100uF 50 mΩ/Dsize