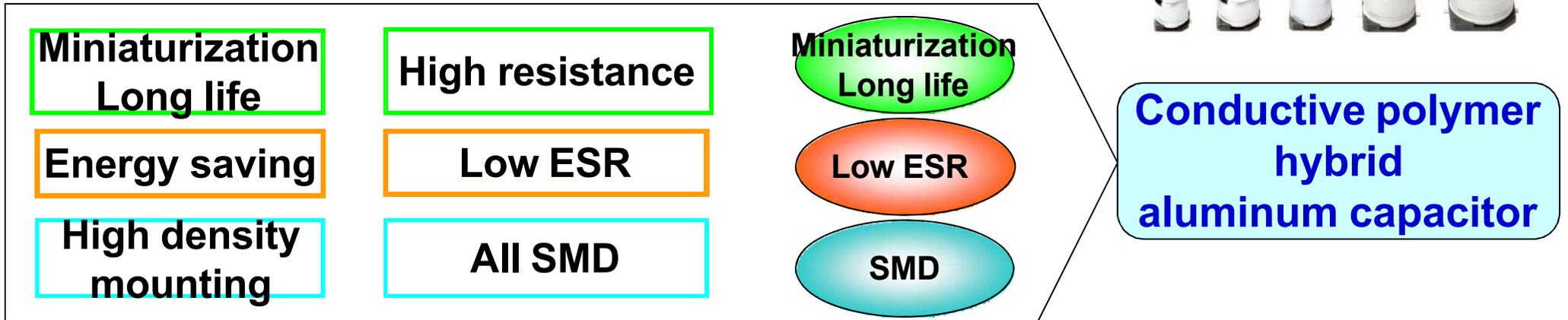


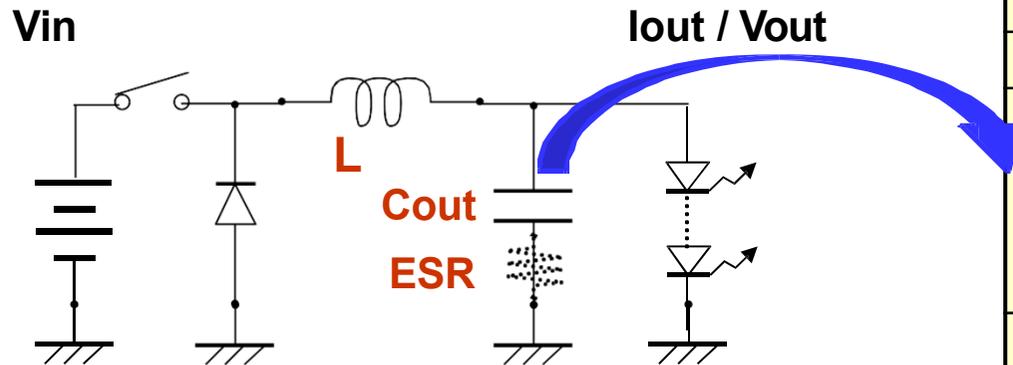
Case Study : 2-1

Contribution to miniaturization/low ESR / all SMD

◆ Panasonic proposal to LED-BL driver circuit



◆ Proposed case : LED-BL driver



Long life/Miniaturization

	50V Line
Capacitors	Hybrid capacitor ZA series
Item	$\Phi 8 \times 10.2 \text{ mm}$, 80 V, 22 μF x1 pc.  EEHZA1K220P
Mounting area	69 mm ²
Height	10.2 mm
ESR	45 m Ω (100 kHz)
Endurance	105 °C, 10000 h

Case Study : 2-2

Contribution to high performance for liquid crystal-BL

◆ Panasonic proposal to liquid crystal-BL power supply



Conductive polymer hybrid aluminum capacitor

Energy saving

Low ESR

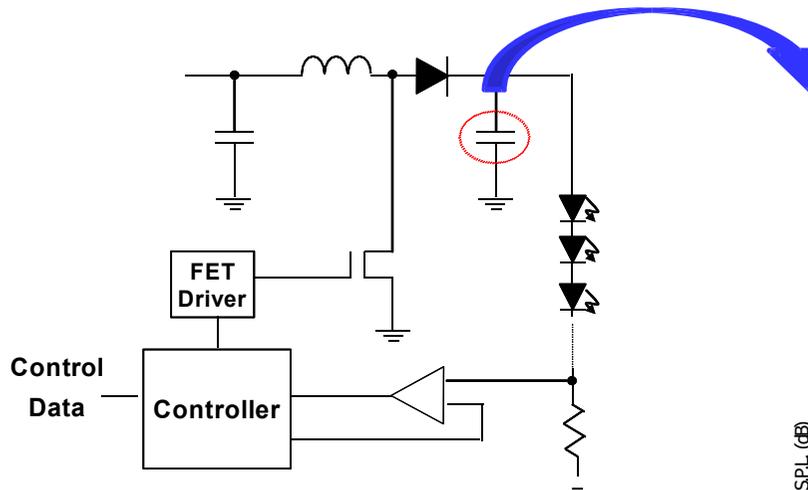
Low ESR

High reliability

No sound-noise

Hybrid

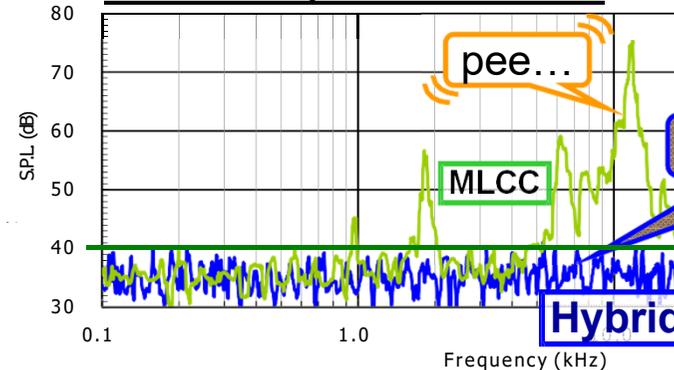
◆ Proposed case : liquid crystal-BL



Improvement sound-noise and stability of operation

12V Line		
Capacitors	MLCC	Hybrid capacitor ZA series
Item	3216, 25V, 10 μ F x1 pc. 	Φ 6.3 x 5.8 mm, 25V, 56 μ F x1 pc.  EEHZA1E560P

S.P.L. – Freq. Characteristics



Input Voltage: DC 12 V + 1.0 Vrms
Print board – Mike distance: 50 mm
0 dB = 2×10^{-5} Pa, A Filter

No sound-noise

Level noise