

● Feature

- ☑ Endurance: **105°C 3,000h** (with ripple)
- ☑ Voltage: 350V_{dc} to 400V_{dc}
- ☑ Capacitance: 150μF to 1,500μF
- ☑ Size: Φ22×25L to Φ35×60L
- ☑ **One size smaller** than KMS series

● Product Chart

- ☑ **Recommended to replace in KMM/KMS to KHX**

*Line up for downsizing and longer life (Snap-in type)

KMM

- Old standard
- Φ35×60L (400V680μF, 2.27Arms)
- 105°C 3,000h
- -25 to 105°C

Since 1995.05

KMS

- **Downsizing**
- **Φ35×40L** (400V680μF, 2.34Arms)
- 105°C 3,000h
- -40 to 105°C (500V_{dc}以下)

Since 2006.05

NEW

KHX

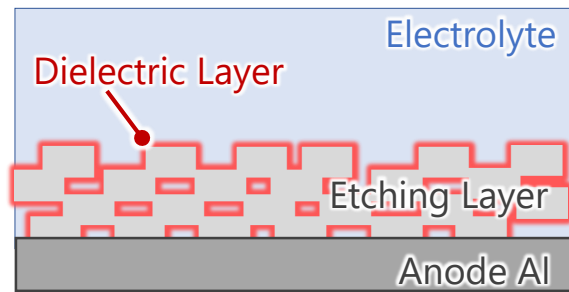
- **Higher Cap. / Higher ripple**
- **Φ35×35L** (400V690μF, 2.70Arms)
- **105°C 3,000h**
- **-40 to 105°C**



Since 2024.05

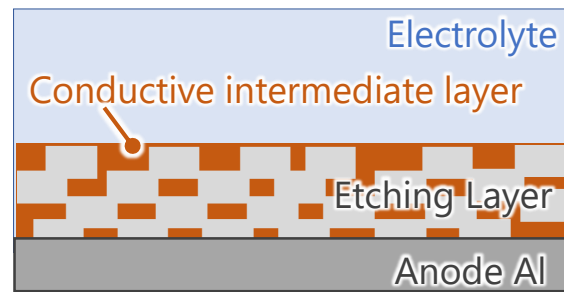
● Advantage

Conventional Foil



Dielectric layer

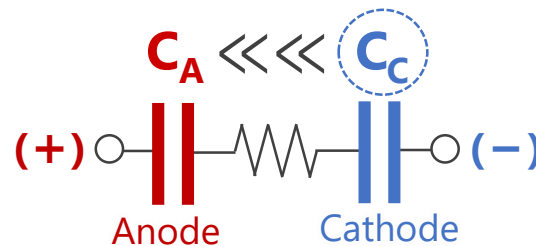
New Cathode Foil



Conductive intermediate layer

☑ Total capacitance calculation

$$C = \frac{C_A \times C_C}{C_A + C_C} \cong C_A$$



☑ Three advantages from KMS to KHX



- ① Higher capacitance
- ② Higher ripple current
- ③ Downsizing

Conventional
KMS

【 Key Technologies 】

Separator

- Thin / high density

Aluminum Foil (Anode)

- Higher capacitance

Aluminum Foil (Cathode)

- Increased foil capacitance
⇒ Increased total capacitance

New Cathode Foil



Patented

NEW
KHX

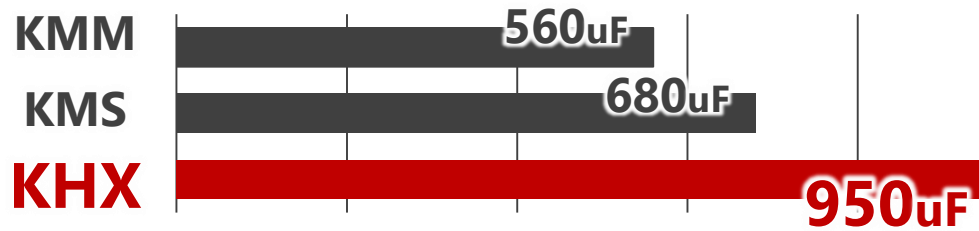
● Benefit/Evidence

- ➡ ① Higher Capacitance / ② Higher ripple current · · · Reduce # of Capacitors
③ Downsizing · · · Equipment Downsizing, Low Height, Light Weight



☑ Capacitance (400V, $\phi 35 \times 45L$)

at 120Hz
20°C

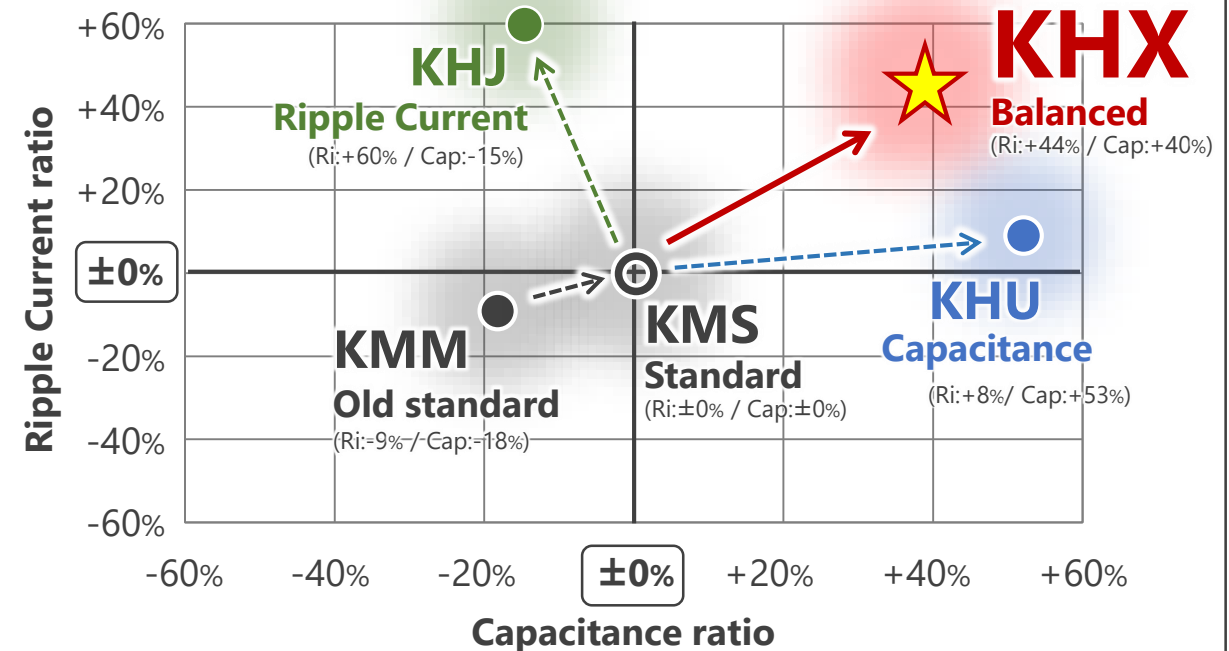


☑ Ripple current (400V, $\phi 35 \times 45L$)

at 120Hz
105°C



☑ Position of series (400V, $\phi 35 \times 45L$, 3,000H)

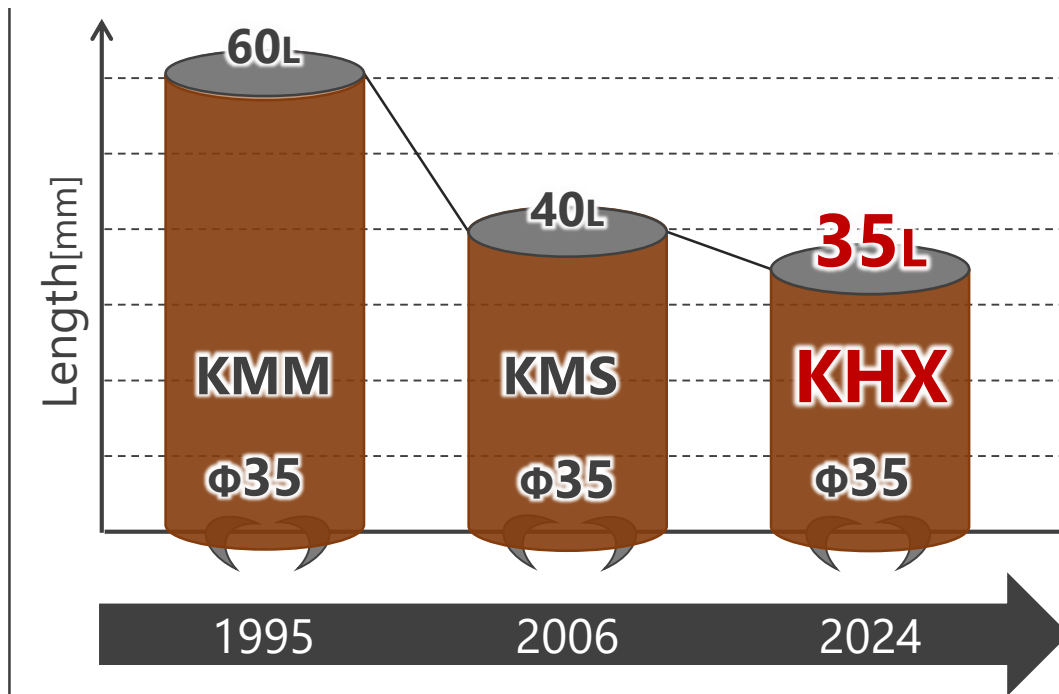


● Benefit/Evidence

- ➡ ① **Higher Capacitance** / ② **Higher ripple current** . . . **Reduce # of Capacitors**
- ➡ ③ **Downsizing** . . . **Equipment Downsizing, Low Height, Light Weight**



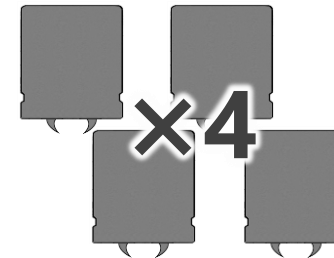
☑ **Comparison at height** (400V680 μ F, ϕ 35)



☑ **Reduced number** (Fixed total capacitance)

KMS

400V 820 μ F (ϕ 35 $\times$ 50L)
2.69Arms/pc

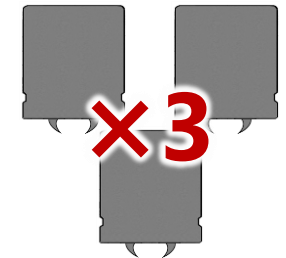


3,280 μ F (10.8Arms)

2006

KHX

400V 1,090 μ F (ϕ 35 $\times$ 50L)
3.69Arms/pc



3,270 μ F (11.1Arms)

2024