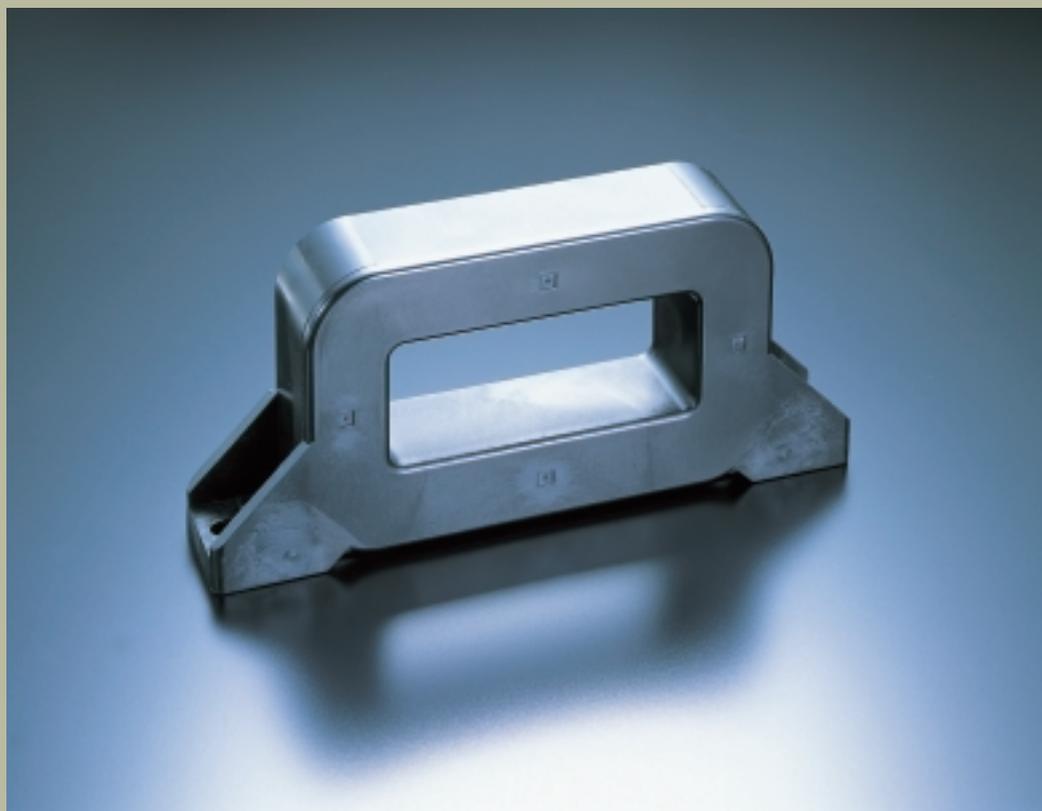


**FINEMET®**  
**EMC Components**  
**[Catalog]**



**FT-3KM S series**  
**Common mode choke core designed for bus bar**

FT-3KM S series "square shaped" common mode choke cores are designed specifically for bus bar systems. The square shape has beneficial effects for producing smaller and lighter filters that are made from nanocrystalline soft magnetic material FINEMET®

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**Materials Mag!c**  
Hitachi Metals

# 1. Features

1. **Two types are available; High performance type and low cost high performance type (Table 1)**
  - a) **S10085HB (Low cost high performance type)**  
Suitable for minimizing weight of apparatus.
  - b) **S11080HB (High performance type specialized for noise reduction)**  
Suitable for designing with maximum space saving.
2. **More efficient space utilization.**  
The square shape is well suited for bus bar applications by not wasting space that would occur using a toroidal core.  
Low height FT-3KM S series cores are easily installed in a panelboard (Fig.1).
3. **Excellent for suppressing line noise and radiation noise.**  
FT-3KM S series cores have high impedance at wide frequency range (Fig.2), resulting in excellent noise reduction effects over a wide frequency range for line noise and radiation noise.
4. **Light weight in comparison to Mn-Zn ferrite cores**  
FT-3KM S11080HB has 30% lighter weight than Mn-Zn ferrite cores of the same size and FT-3KM S10085HB has 60% lighter weight than Mn-Zn ferrite cores of the same size.
5. **Excellent stability of magnetic properties at wide temperature range**  
Impedance variation with temperature change is very small when compared to Mn-Zn ferrites. Operational temperature range is from -40 to 130°C (including the self temperature rise).
6. **Low audible noise generation in comparison with Mn-Zn ferrite cores**  
Due to Finemet's near zero magnetostriction, audible noise of FT-3KM S series is very small even in the case of audible frequency range excitation (Fig.3 and Fig.4).

# 2. Standard Specification

Table 1 Part number and specification

Product code	P/N	A <sub>e</sub> (mm <sup>2</sup> ) TYP.	L <sub>m</sub> (mm) TYP.	Weight (g) TYP.	AL value (μH/N <sup>2</sup> )	
					10kHz	100kHz
F1AH0545	FT-3KM S10085HB	112.5	290.1	410	21.9~51.2	9.3±30%
F1AH0572	FT-3KM S11080HB	271.9	303.8	765	50.6~118.1	21.35±30%

UL94V-0 certified resin (130°C heat resistance) is used for the core cases  
 No Ozone Depleting Chemicals (ODC) are used in these products and in their manufacturing process  
 A<sub>e</sub>: effective sectional area    L<sub>m</sub>: mean magnetic path length

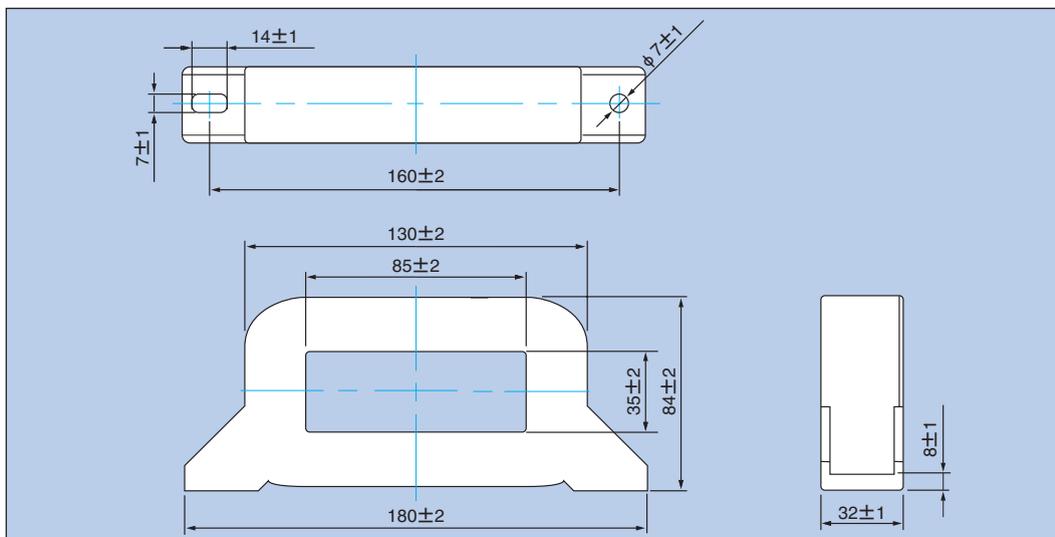


Fig.1 Dimensions



For safety and the proper usage, you are requested to approve our product specifications or to transact the approval sheet for product specifications before ordering. This catalog and its contents are subject to change without notice.

### 3. Major Applications

Major applications are: general inverters, inverter applications used in (elevator, liquid pump, air conditioner, robot, machine tool, welding equipment, train vehicles etc.), AC servo, switched mode power supplies for networking and medical equipment and UPS.

### 4. Frequency Dependence of Impedance

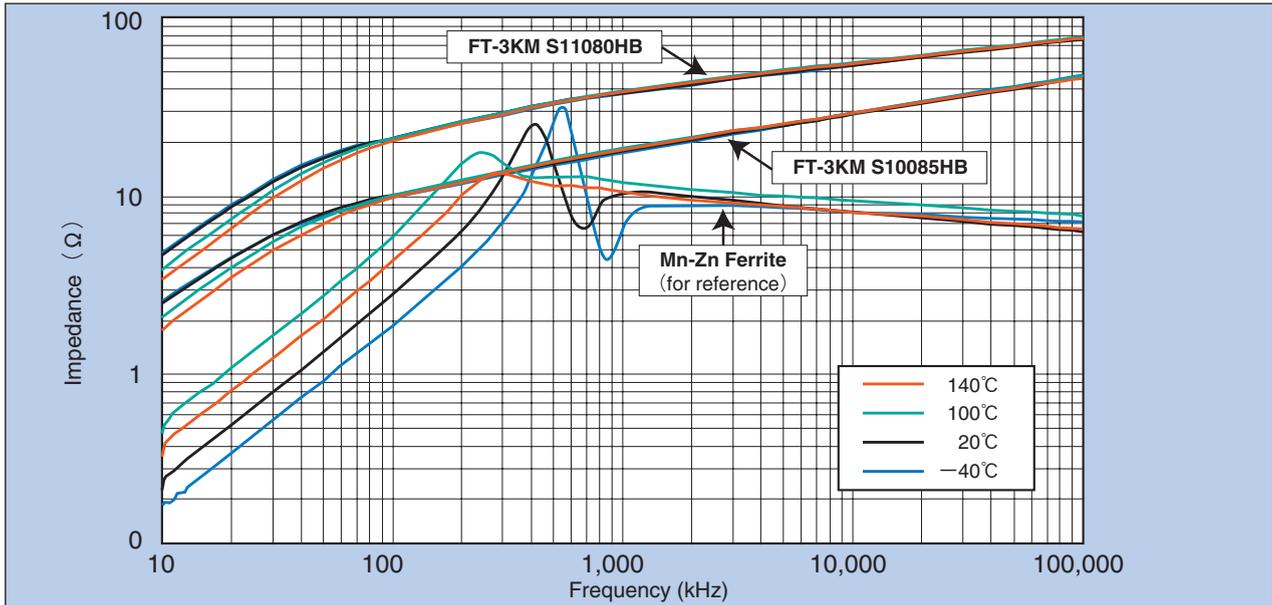


Fig.2 Comparison of frequency dependence of impedance between FT-3KM S series cores and Mn-Zn ferrite cores of the same size.

### 5. Examples of Audible Noise Level Measurement

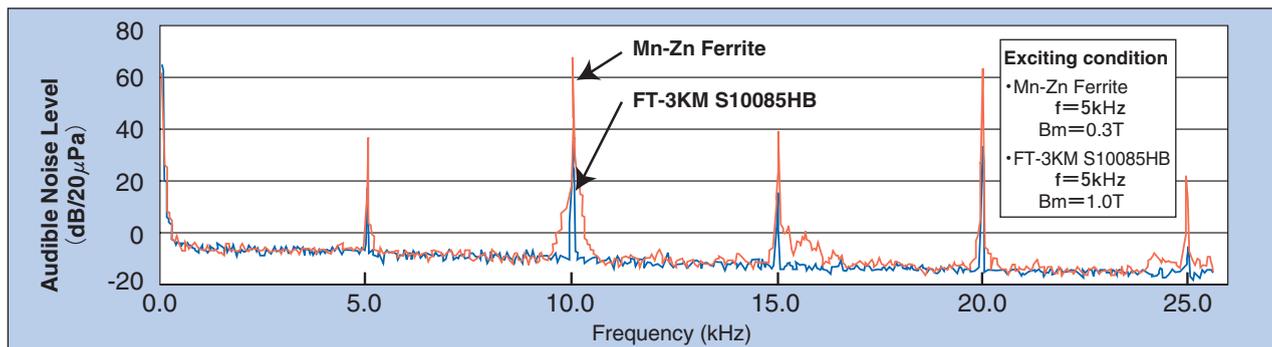


Fig.3 Comparison of audible noise level at 5kHz excitation between FT-3KM S10085HB cores and Mn-Zn ferrite cores of the same size.

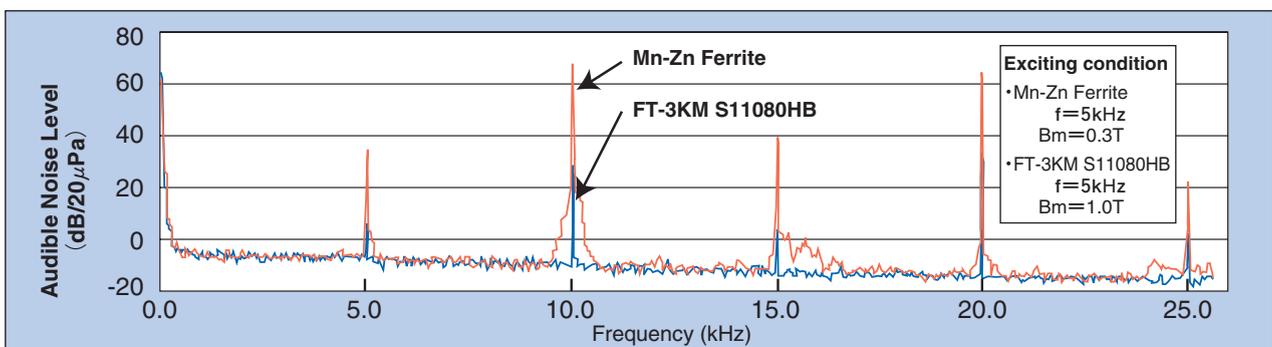


Fig.4 Comparison of audible noise level at 5kHz excitation between FT-3KM S11080HB cores and Mn-Zn ferrite cores of the same size.

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