

Overview

The KEMET Noise Suppression Tape FLEX SUPPRESSOR is optimized for cable EMI issues and proposes a flexible noise suppression solution, by attenuating surface conduction noise and reducing radiation effectively. Its smart design allows to simply apply to wrap under the jacket or to wrap around outer surface.

The flexible tape is a polymer base, blended with micron-sized magnetic powders dispersed throughout the material.

Applications

- Charger cables
- Power cables
- Interface cables (HDMI, USB, etc.)

Benefits

- Electromagnetic wave suppression – electromagnetic wave conducting along cable is effectively absorbed by magnetic loss and radiation out from the cable can be reduced
- Resonance suppression – controls the high frequency current and suppresses unwanted electromagnetic resonance by adding resistive component of impedance
- Effective radiation suppression in wide frequency range beyond 30 MHz
- Replace bulky ferrite core for a smart cable design
- Applicable to wide range of cable diameter by 5 mm or 10 mm tape width
- Maintains cable flexibility
- Wrap under jacket or around outer surface
- No space constraints
- No cosmetic impact
- Withstands cable sheath process
- Aluminum layer stack up available on request
- RoHS compliant and halogen-free

Tape Type



Part Number System

| FX5 | (50)- | 5X10M | T2900 |
|--------|----------------|--|---|
| Series | Thickness | Standard Dimensions | Attached Tape Thickness |
| FX5 | (50) = 0.05 mm | 5X50M = Reel 5 mm x 50 m 10X50M = Reel 10 mm x 50 m | T0055 = 0.012 mm, with PET support tape T2900 = Adhesive Tape, 0.01 mm |

Specifications

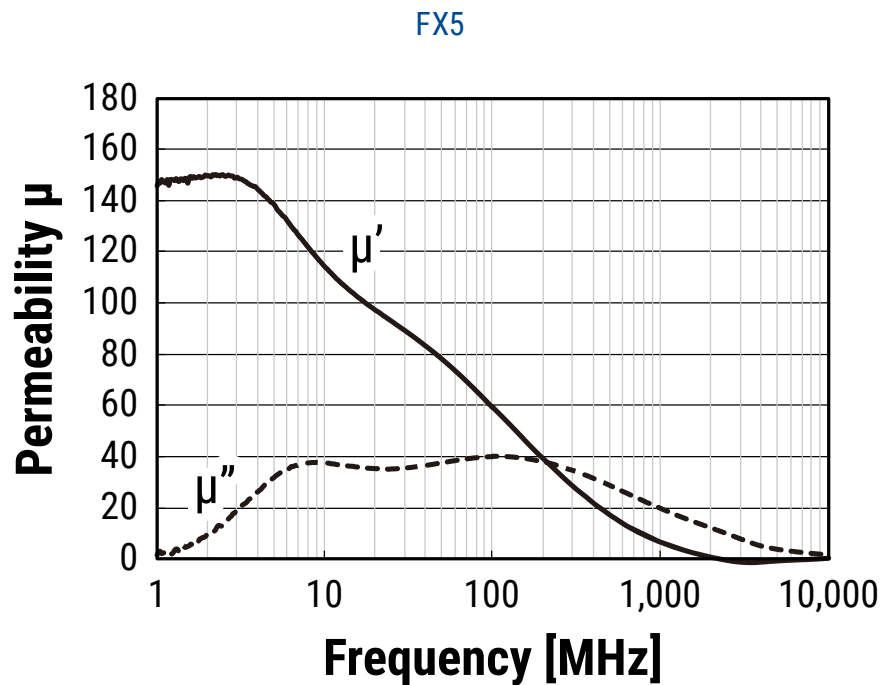
| Features | | Noise Suppression Tape Type |
|-----------------------------|----------------|-------------------------------|
| Series | | FX5 |
| Effective Frequency | | 1 MHz to 3 GHz |
| Operating Temperature (°C) | | -40 to +105 |
| Permeability (μ) | | 150 typical, at 3 MHz |
| Specific Gravity | | 3.3 typical |
| Surface Resistivity (Ω/sq.) | | 1.0 X 10 ⁶ typical |
| Approved Standard | | UL94 HB |
| | | UL File No. E176124 |
| Environment | RoHS | Compliant |
| | Halogen | Free |
| | PVC | Free |
| | Lead | Free |
| | Red Phosphorus | Free |

Table 1 – Ratings & Part Number Reference

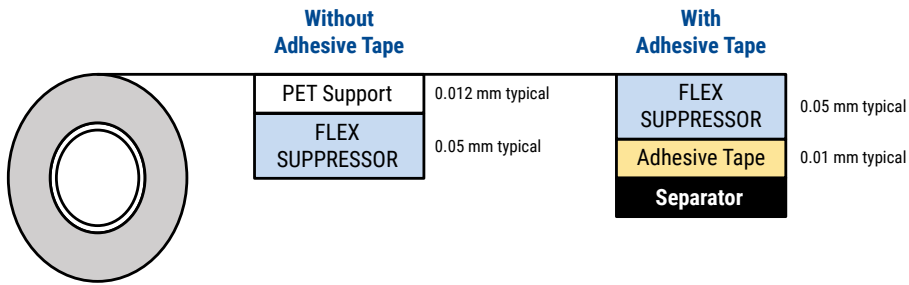
| Part Number | Series | Thickness | Tape Thickness | Permeability at 3 MHz | Specific Gravity | Surface Resistivity | Weight |
|---------------------|--------|-----------|--------------------|-----------------------|------------------|-----------------------|--------|
| | | mm | mm | μ | Typical | Ω /sq. Typical | g |
| FX5(50)-5X50MT0055 | FX5 | 0.05 | 0.012 ¹ | 150 | 3.3 | 1.0 X 10 ⁶ | 60.00 |
| FX5(50)-10X50MT0055 | FX5 | 0.05 | 0.012 ¹ | 150 | 3.3 | 1.0 X 10 ⁶ | 120.00 |
| FX5(50)-5X50MT2900 | FX5 | 0.05 | 0.01 | 150 | 3.3 | 1.0 X 10 ⁶ | 85.00 |
| FX5(50)-10X50MT2900 | FX5 | 0.05 | 0.01 | 150 | 3.3 | 1.0 X 10 ⁶ | 170.00 |

¹ PET support tape.

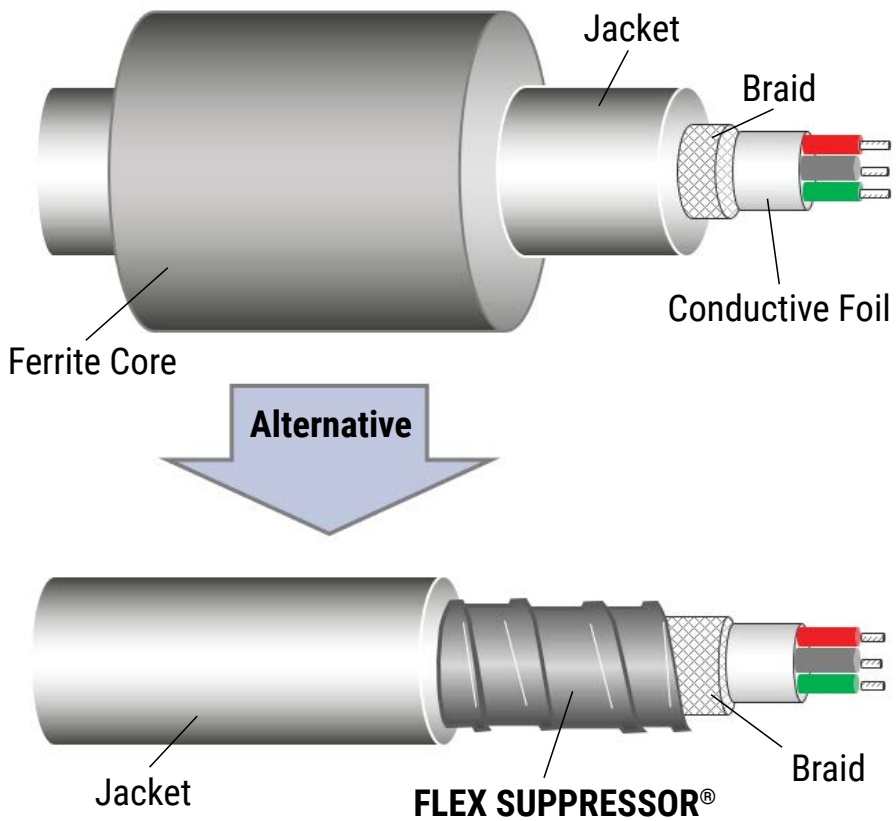
Permeability Characteristics



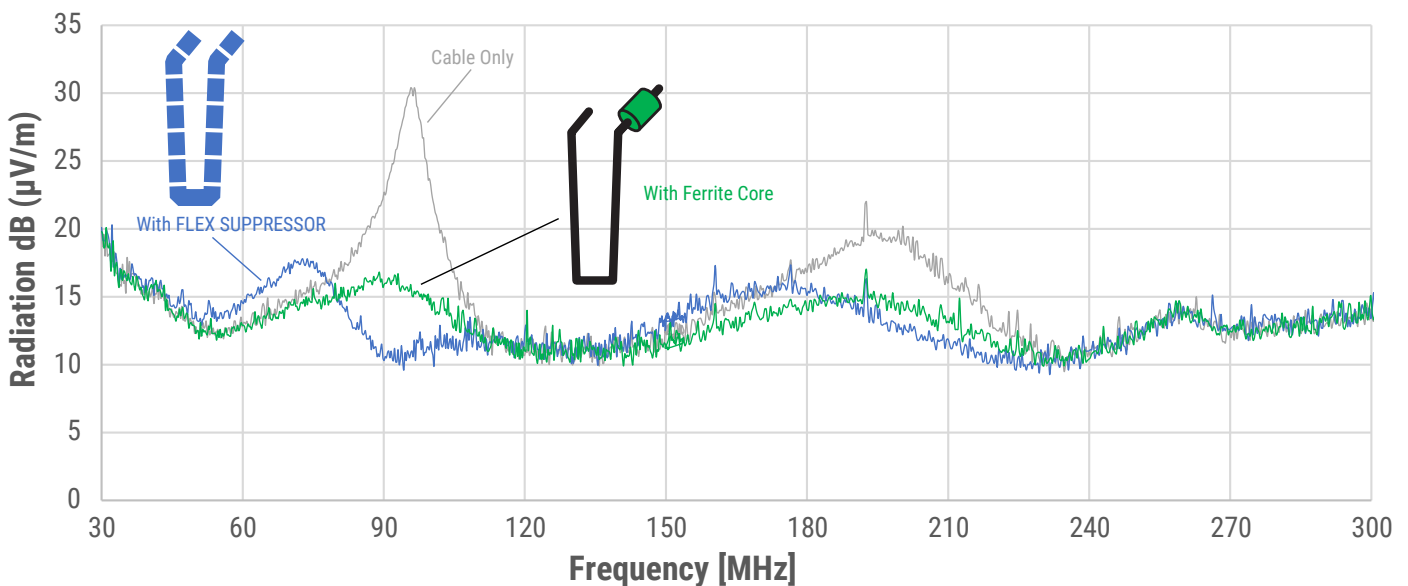
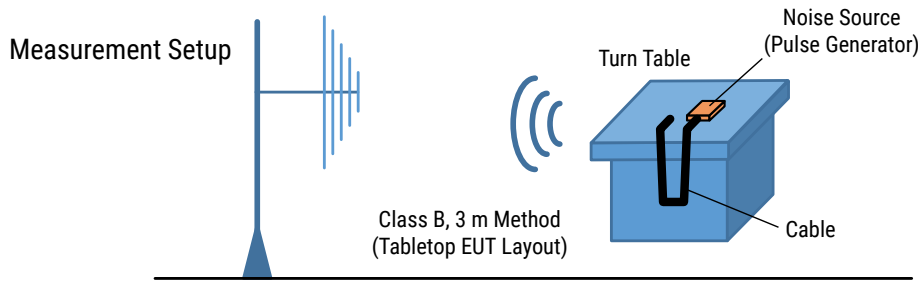
Layer Structure



An Alternate EMI Solution to Ferrite Cores



Radiation Suppression Example



Handling Precautions

Avoid high temperature, humidity and direct sunlight. Storage environment should be below 40°C and below 70% relative humidity. The surface resistance value listed in this catalog is a reference value of the circuit parameter to indicate noise suppression. The value does not represent the product's insulation characteristics. The value may become lower if an excess pressure is applied to the product. The products in this datasheet are not insulators, they need to be handled as conductors. Care must be taken when in use, so that conductive material does not contact the surface or the edge of the FLEX SUPPRESSOR sheet. Insulation process should be performed when contact to conductive material is probable.

Depending on the processing procedure, powdery substance may drop out from sheet surface or the edge, if the cutting of the sheet is performed. Depending on the location, care must be taken, as this powder may affect the component's performance. Any dust, oil or moisture must be cleaned from the surface of the installation area when using an adhesive tape to attach the sheet. The adhesive tape may begin to lose some of its adhesiveness after being in storage for six months. This has no impact on the EMI filtering effectiveness.

Information on environmentally influential substances

The FLEX SUPPRESSOR does not contain any of the substances listed below:

(1) Ozone depleting substance

- CFC (chlorofluorocarbon)
- Halon
- Carbon tetrachloride
- 1,1,1-Trichloroethane
- HCFC (hydrochlorofluorocarbon)
- HBFC (hydrobromfluorocarbon)
- Methyl bromide

(2) Substances regulated by EU RoHS Directive 2011/65/EU and EU Directive 2015/863

- Lead and lead compound
- Mercury and mercury compound
- Cadmium and cadmium compound (content of plastics that are below 5 ppm)
- Hexavalent chromium and hexavalent chromium compound
- PBB (polybrominated biphenyl) and its kind
- PBDE (polybrominated diphenylether)
- DEHP (bis-(2-ethylhexy) phthalate)
- BBP (benzylbuty phthalate)
- DBP (dibutyl phthalate)
- DIBP (diisobuty phthalate)

(3) Other environmentally influential substances (examples)

- PCB (polychlorinated biphenyl)
- Polychlorinated naphthalene
- Hexachlorobenzene
- Organotin compounds (tributyl tin, triphenyl tin)
- Asbestos
- Azo compound
- Chlorinated paraffin and its kind (paraffin chloride, chlorinated paraffin and chloroparaffin)
- Radioactive substance
- PVC

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Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated or that other measures may not be required.

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