FLEX SUPPRESSOR®

Noise Suppression Tape

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 – the electromagnetic wave enters through the sheet and is suppressed by losing its magnetic structure
- Resonance suppression – controls the high frequency current and suppresses unwanted electromagnetic resonance by creating impedance
- Effective radiation suppression in very wide frequency range
- 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 aesthetic impact
- Withstanding 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

[1] *PET support tape.*

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

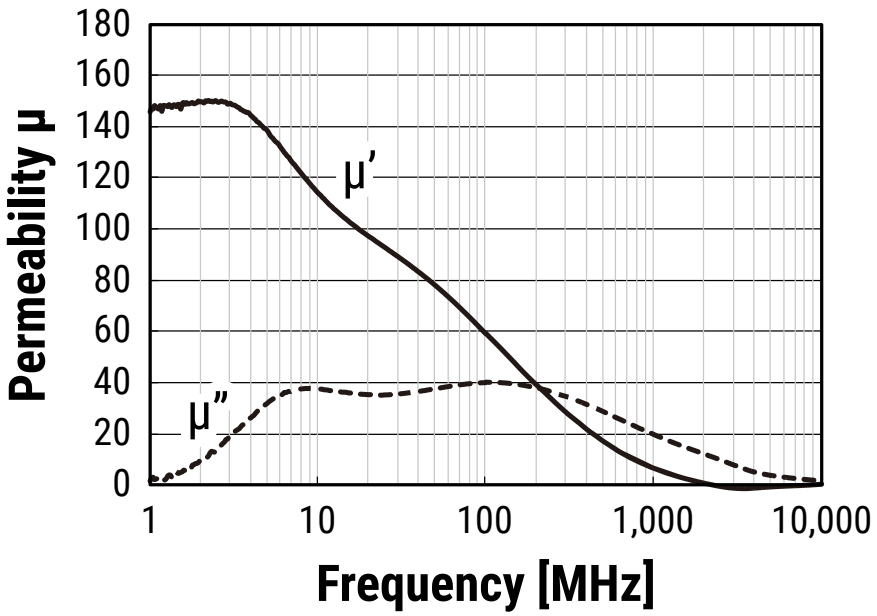
Table 1 – Ratings & Part Number Reference

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

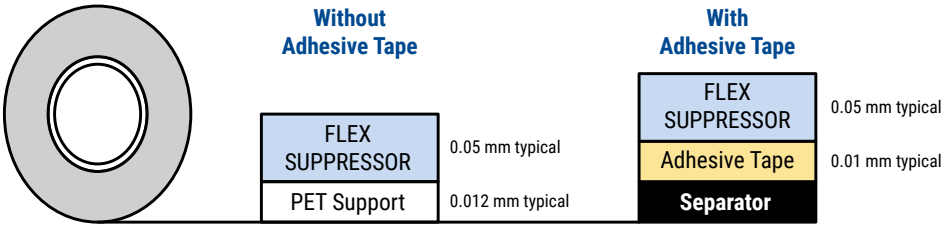
[1] *PET support tape.*

Permeability Characteristics

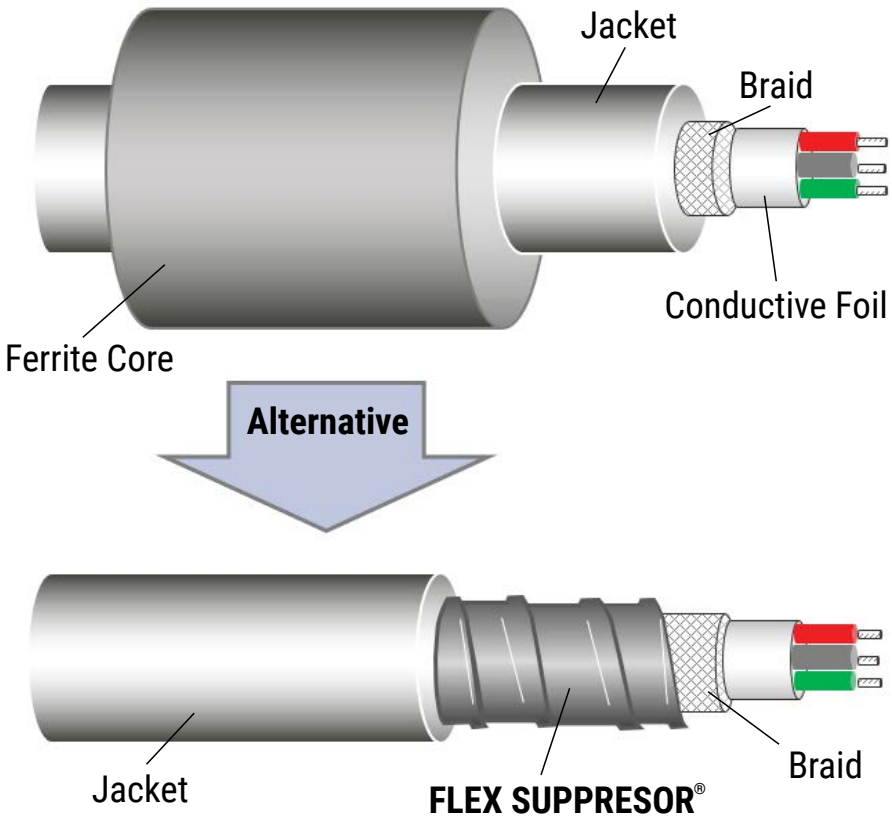
FX5



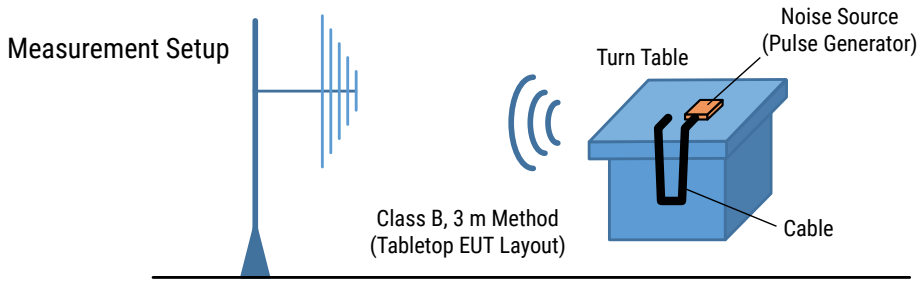
Layer Structure

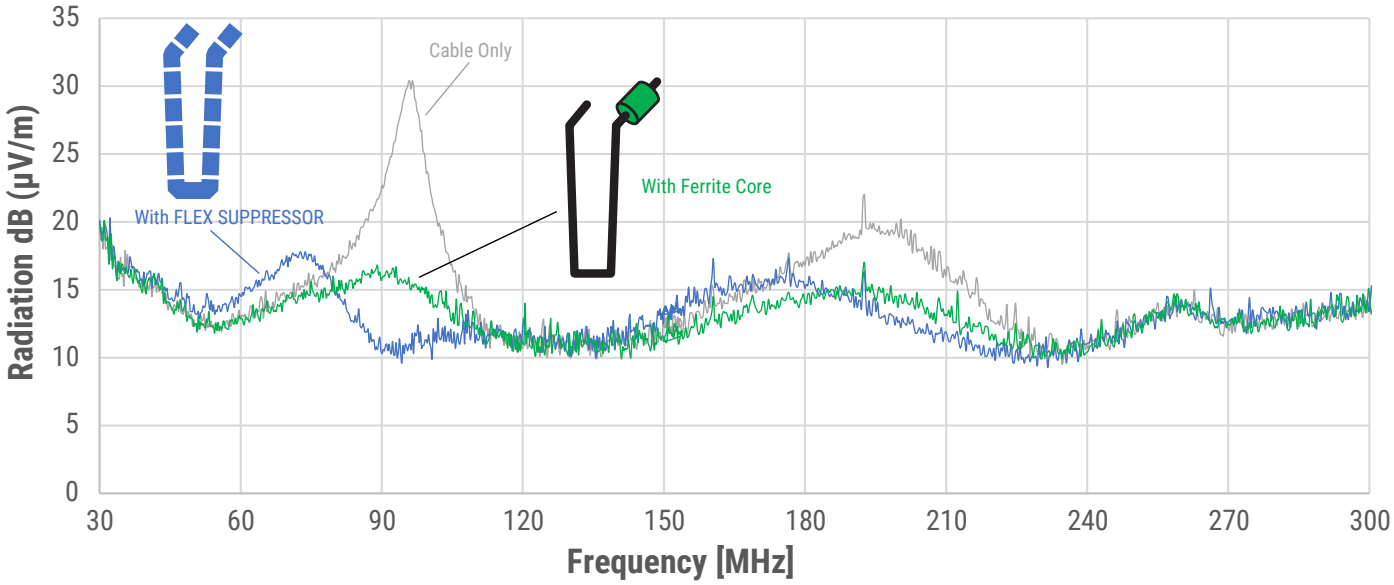


An alternate EMI solution to Ferrite Cores



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 (hydrobromfluorcarbon)
- 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 KEMET designs and manufactures its products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

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

When providing KEMET products and technologies contained herein to other countries, the customer must abide by the procedures and provisions stipulated in all applicable export laws and regulations, including without limitation the International Traffic in Arms Regulations (ITAR), the US Export Administration Regulations (EAR) and the Japan Foreign Exchange and Foreign Trade Act.

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