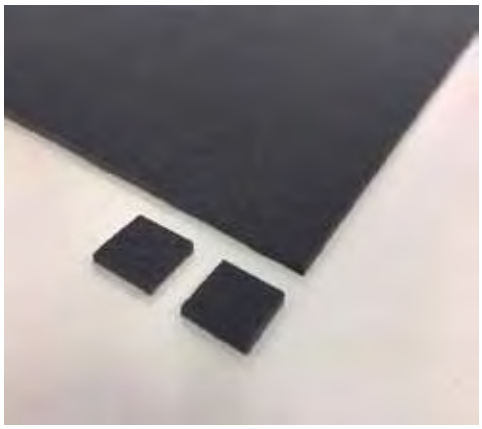
PRODUCT CATALOG

EMI Absorbers and Ferrite Cores

KITAGAWA INDUSTRIES America, Inc.
http://KGS-IND.com
Sales@KGS-IND.com
Toll Free: 1-855-EMC-PART

LESSMIRROR
LMR-RW Series

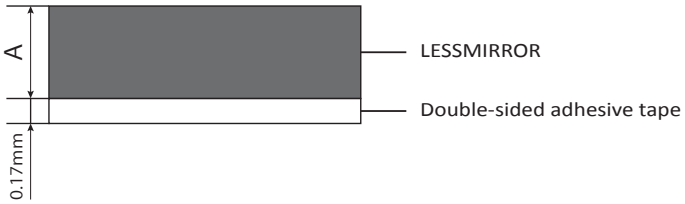
NEW



Thin and light, EM wave absorber with narrow GHz band

- Effective noise suppression in GHz band
- Lighter than conventional rubber absorber due to paper used as the main material
- Thin and suitable for small equipments

Product Structure

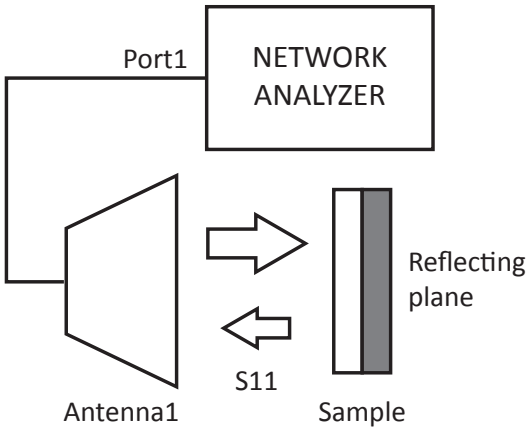


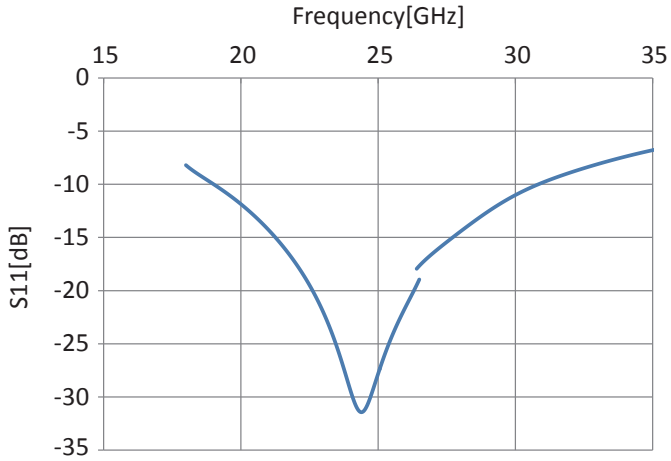
Property	Standard	LMR-25RW
Thickness (A) (mm)	–	1.45
Center Frequency (GHz)	–	25
Flame Resistance*	UL94	V-0 equivalent
Color	–	Black

*Double-Sided adhesive tape not included

Properties

Test Specification
Free-space field strength method
JIS R 1679





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Please request for detailed product specification data prior to purchase

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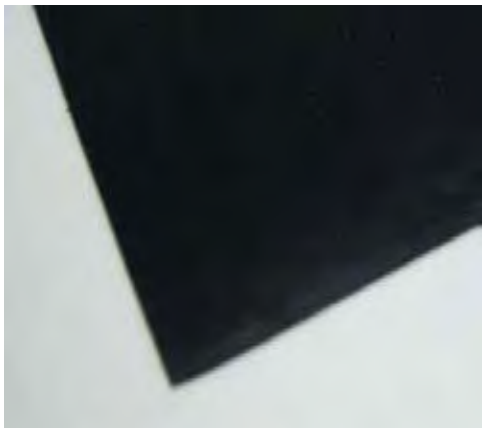
Narrowband Absorber
NSSR Series

RoHS Compliant

Halogen Free HF



Pinpoint absorber for GHz range noise suppression

- Pinpoint/narrowband absorbers with high attenuation of microwave noise problems at a specified high frequency
- Standard product includes adhesive tape on one side for easy application (no adhesive version available upon request)
- UL94-V0 equivalent flame rating
- Flexible, elastomeric sheet material can be custom cut and processed upon request

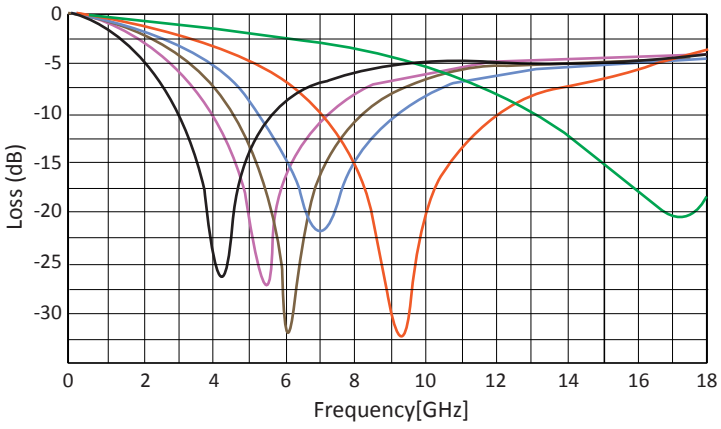
Specifications

Property	NSSR
Thickness (mm)	0.5, 1.0, 1.5, 2.0 (custom thickness available up to 4mm)
Standard sheet size (mm)	210 x 297 ±0.3
Target Frequency	4.3GHz ~ 18GHz*
Hardness (Shore A)	70 ± 15
Resistance (Ω)	>1.0 x 10^8
Flame Resistance (UL94)	V-0 Equivalent
Operating Temperature (°C)	-10 ~ 140
Color	Black

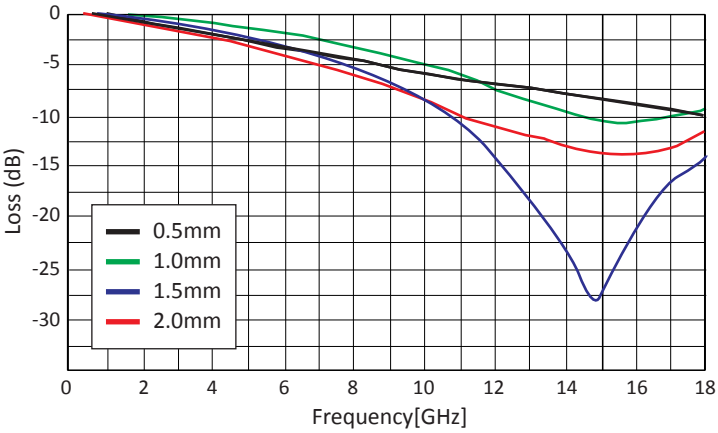
*NSSR series is meant to target a certain frequency. Part numbers are determined based on your desired target frequency: NSSR-XXG-YYT (XX= target frequency; YY= material thickness)
Example: NSSR-10G-10T = NSSR for 10GHz in 1.0mm thickness

Properties

Performance comparison among NSSR series material of the same thickness (1.5mm) for different target frequencies



Performance comparison of NSSR material in different thicknesses targeting 15GHz



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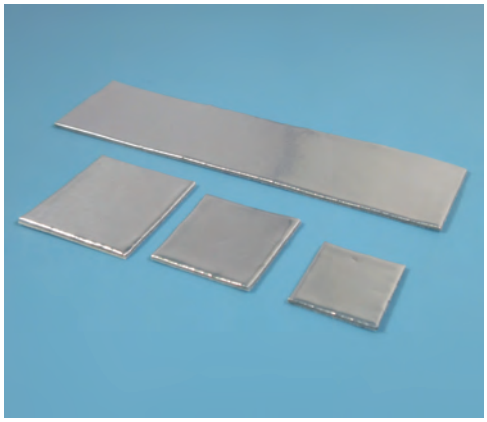
GHz Shield Sheet
GSS-HT Series

NEW

RoHS Compliant



New shielding sheet for GHz band noise

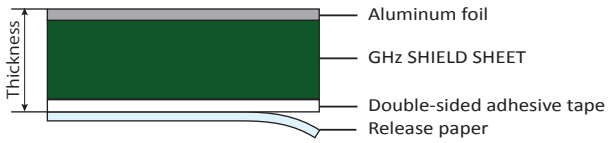
- No trace design of the SHIELD SHEET is required on PC board surfaces, providing high flexibility in circuit design
- Noise suppression in higher frequency band is available without redesign of PC board
- Interference between ICs can be suppressed by applying the sheet shield to each IC

Properties

Property	Test Method	GSS-1.0-HT
Thickness (mm)	—	1.0
Gravity*	JIS K 8807	2.24
Dielectric Constant* (1MHz)	Company Standard	35
Adhesion (N/20mm)	—	12.7
Flame Resistance	UL94	Equivalent to V-0
Operating Temperature (°C)	—	-40 ~ 105
Color*	—	Dark Green

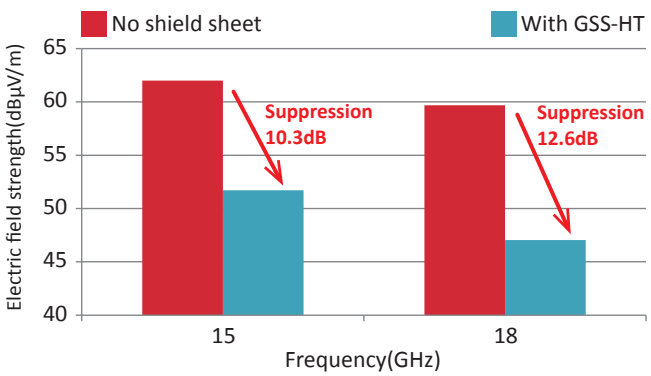
*GHz SHIELD SHEET only

Cross-section view



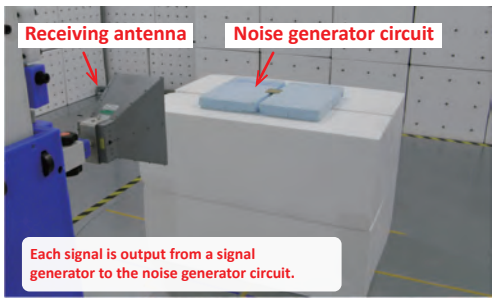
Characteristics

Evaluation results(15GHz、18GHz)

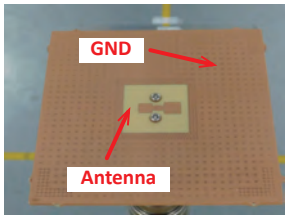


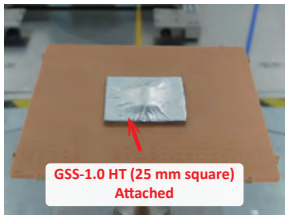
*Suppression in other frequencies may be obtained depending on the sheet size and/or environment.

Test conditions



Noise generator circuit





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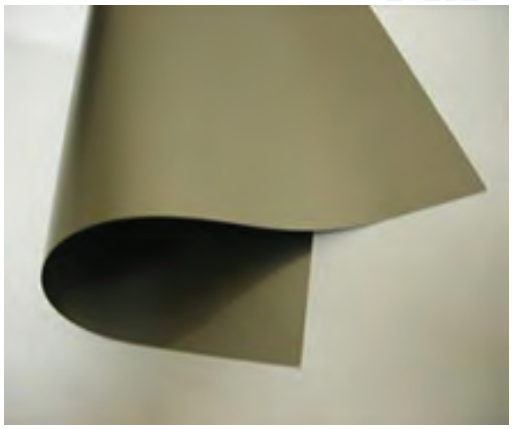
EMI Absorber
IME8 Series

NEW

HF Halogen Free

RoHS Compliant



High performance broadband absorber for EMI suppression and ESD mitigation

- Converts undesired EMI noise into negligible heat
- Easy to apply directly at the noise source
- Great for space-conscious applications
- Recommended frequency range from 10MHz and above
- Also improves RFID range at 13.56MHz by reducing metal interference
- Cutting service available upon request

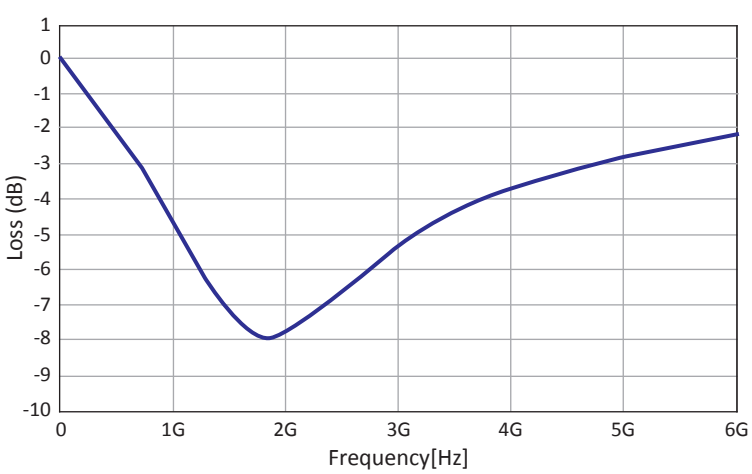
Specifications

Part Number	IME8
Thickness (mm)	0.1, 0.2, 0.5,1.0 (±15%)
Standard Sheet Size (mm)	210 x 300*
Permeability (μ' at 3MHz)	30
Surface Resistance (Ω)	1.0 x 10^8 Ω
Flame Resistance (UL94)	V-0 Equivalent
Operating Temperature (°C)	-20°C ~ 115°C

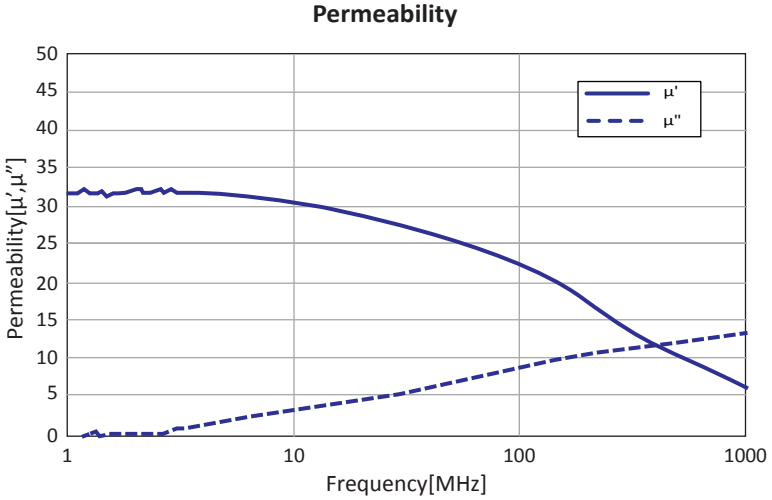
*Roll size and custom cutting available upon request

Properties

Reflection Loss



Permeability



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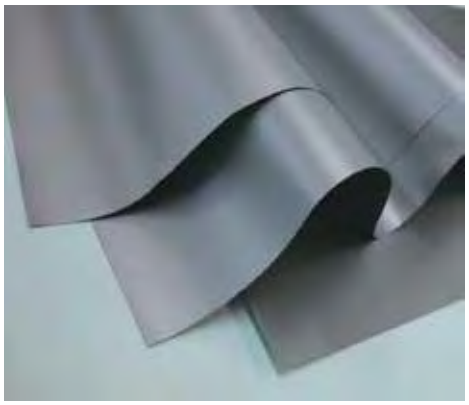
NEW!

EMI ABSORBER SHEET
MG-03A

RoHS Compliant



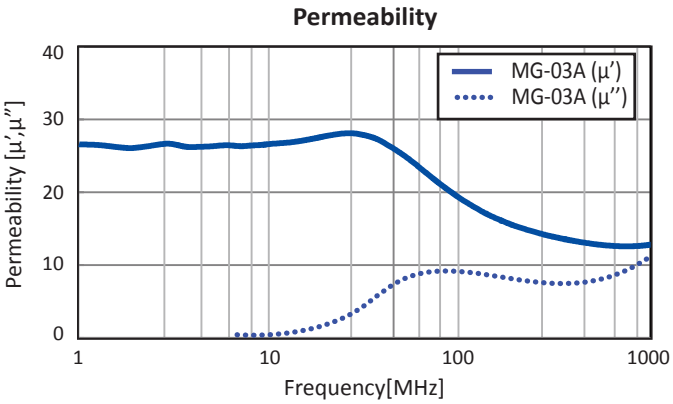
Heat resistant absorption sheet for use in high temperature environment (up to 150°C)

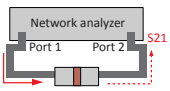
- Reduce radiated emission by attaching MG-03A on CPUs, cables, or enclosures.
- For high-temperature environment up to 150°C in vehicle equipment or CPU periphery
- Magnetic permeability is 25 @10MHz
- Cutting service provided upon request
- UL94 HB equivalent

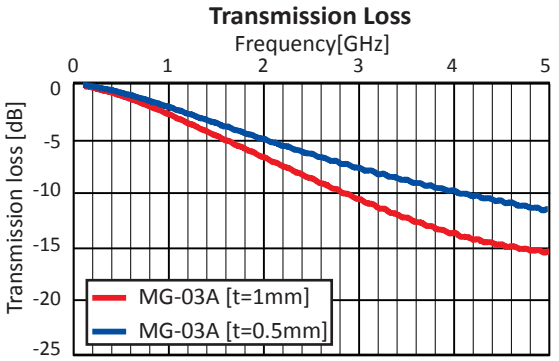
Specifications

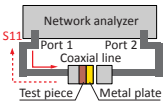
Part Number	MG-03A
Thickness (mm)	0.5, 1.0
Magnetic Permeability (μ')	25 at 10 MHz
Volume Resistivity (Ω·cm)	10^7
Operating Temperature (°C)	-40 ~ +150
Flame Rating (UL94)	UL94HB equivalent (excluding PSA)
Standard Sheet Size (mm)	240 x 390

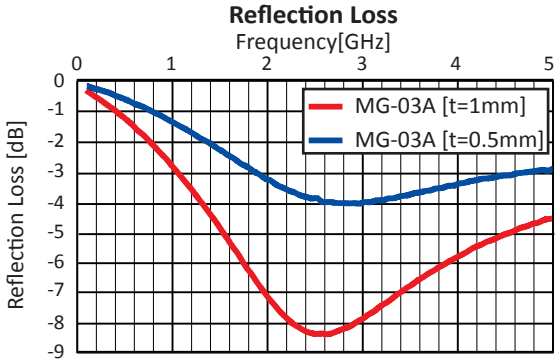
Characteristics











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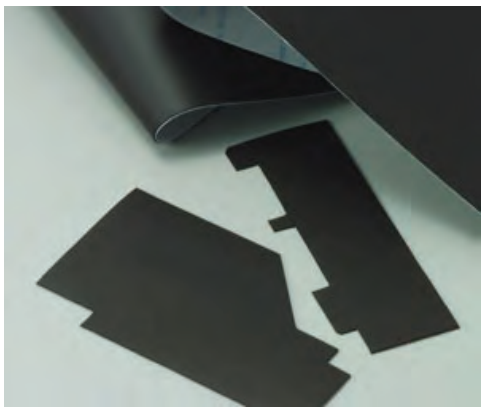
EMI ABSORBER
MAB-03



EMI Flexible Noise Suppression Ferrite Sheet

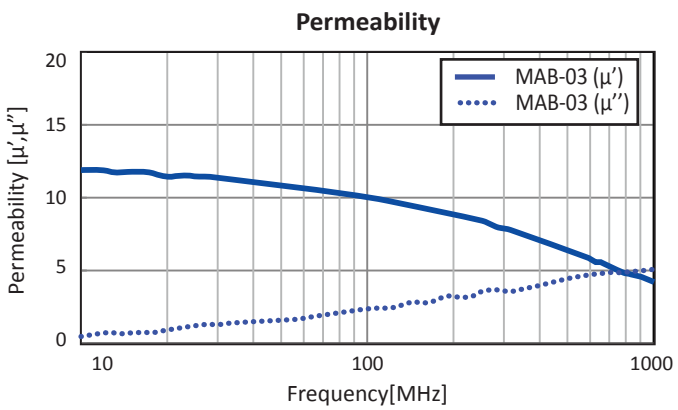
RoHS Compliant

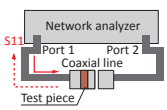
- Reduce radiated emission by attaching MAB on CPUs, cables, or enclosures.
- Improve communication distance for RFID by suppressing the interference between antenna and metals in vicinity
- Intended for low frequency range from 100MHz
- Magnetic permeability is 7 at 10MHz
- Cutting service provided upon request
- UL94V-0 certified

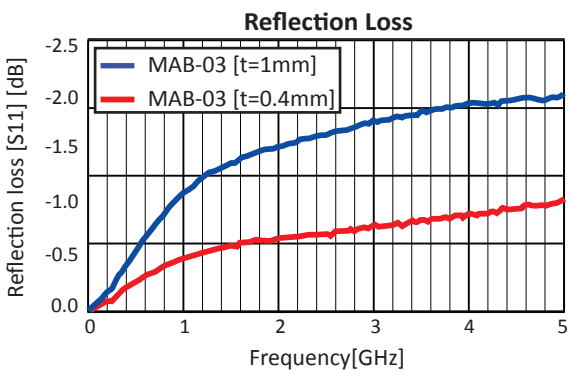
Specifications

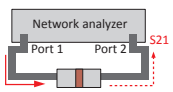
Part Number	MAB-03
Thickness (mm)	0.4, 1.0, 2.0, 4.0
Volume Resistivity (Ω·cm)	10^{12}
Operating Temperature (°C)	-40 ~+85
Flame Rating (UL94)	V-0 (excluding PSA)
Standard Sheet Size (mm)	210 x 297

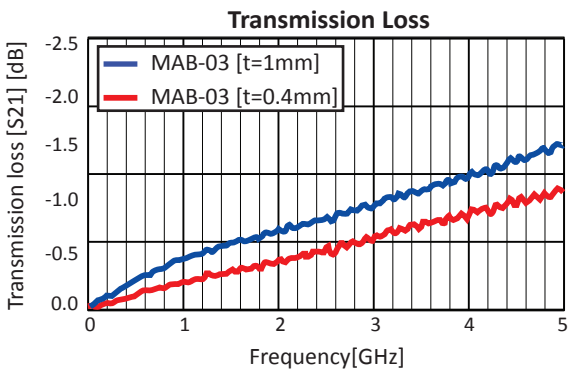
Characteristics











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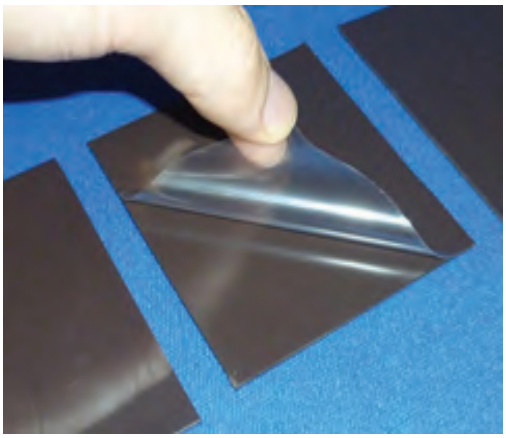
EMI Absorber And Thermal Pad
EMPV4-F Series

NEW

Silicone-Free

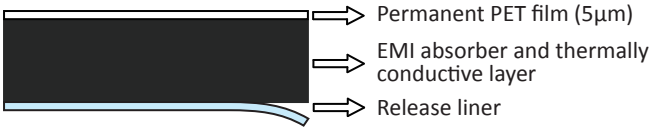


RoHS Compliant

Silicone-free thermal interface material with EMI noise suppression

- No siloxane outgassing concerns
- Compliable material (ASKER C 40) that conforms to uneven surfaces
- Excellent EMI absorber performance (μ'=13 at 10MHz)
- High operating temperature from -40 ~ +110˚C
- Custom profile available upon request (such as layering together with another silicone free thermal pad)

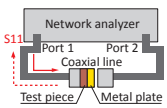
Cross-section view

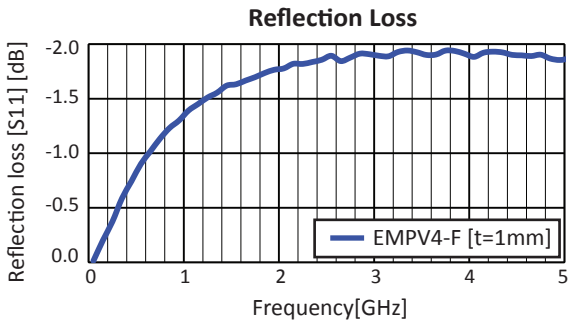


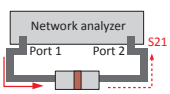
*both sides tacky available upon request

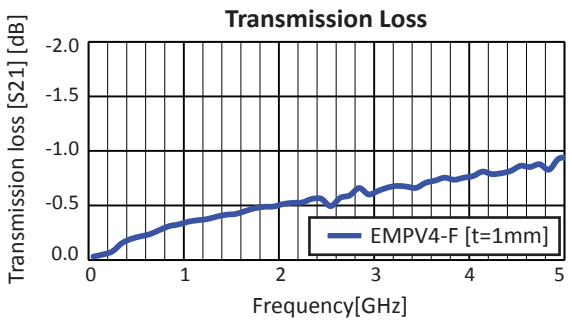
Properties

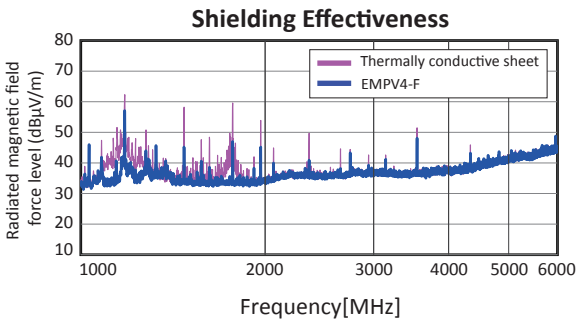
Property	Test Method	EMPV4-F
Thickness (mm)	—	1.0, 1.5, 2.0
Standard Sheet Size (mm)	—	210 x 510
Thermal Conductivity (W/m•K)	JIS R2616 Hot-wire method	1.5
	ISO 22007-2 Hot-disc method	1.3
	ASTM D5470	1.4
Hardness (ASKER C)	JIS K7312	40
Magnetic Permeability (μ' at 10MHz)	—	13
Volume Resistivity (Ω • cm)	JIS K 6911	1 X 10^{12}
Flame Resistance	UL94	V-0 Equivalent
Operating Temperature (°C)	—	-40 ~ 110
Color	—	Black

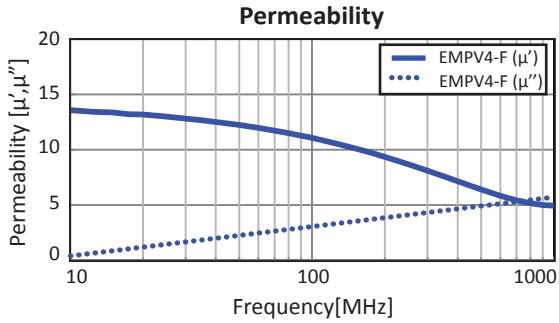












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Tel:1-855-EMC-PART (1-855-362-7278) Email: sales@kgs-ind.com

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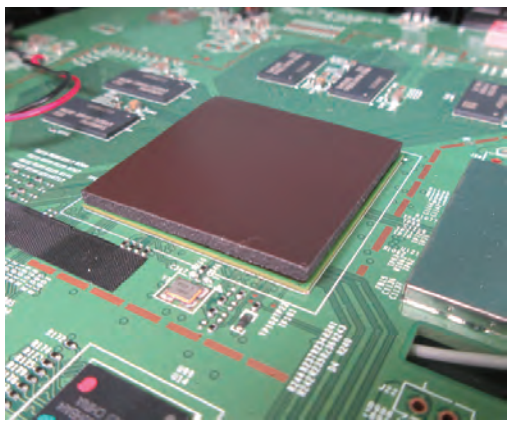
EMI Absorber And Thermal Pad
EMPV5-F Series

NEW

Silicone-Free

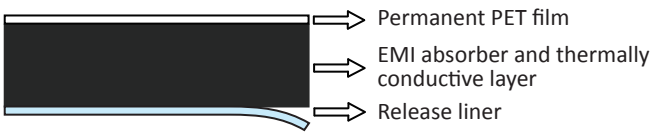


Silicone-free thermal interface material with EMI noise suppression

RoHS Compliant

- KGS-original formulation allows for great EMC noise suppression
- Recommended frequency range from 500MHz ~ 3GHz
- Silicone-free material, great for applications sensitive to siloxane and oil-bleeds
- Compliable material (ASKER C 30) that conforms to uneven surfaces
- High operating temperature from -40 ~ +110˚C

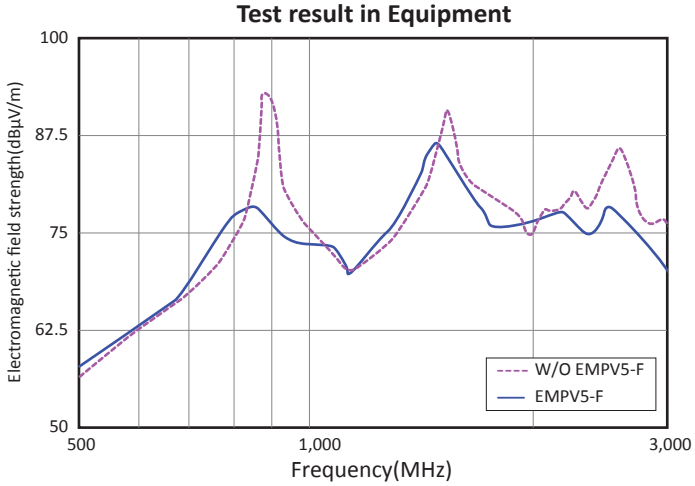
Cross-section view



Properties

Property	Test Method	EMPV5-F
Thickness (mm)	—	1.0, 1.5, 2.0, 2.5,3.0, 3.5
Thermal Conductivity (W/m•K)	ISO22007-2 Hot-wire method	0.8
Hardness (ASKER C)	JIS K 7312	30
Hardness (Shore 00)	ASTM D 2240	60
Magnetic Permeability (at 10MHz)	—	7
Volume Resistivity (Ω • cm)	JIS K 6911	1 X 10^{11}
Breakdown Voltage (kV/mm)	JIS C 2110-1	8.8
Withstanding Voltage (kV/mm)	JIS C 2110-1	5.0
Flame Resistance	UL94	V-0 Equivalent
Operating Temperature (°C)	—	-40 ~ 110
Color	—	Black

Test result in Equipment



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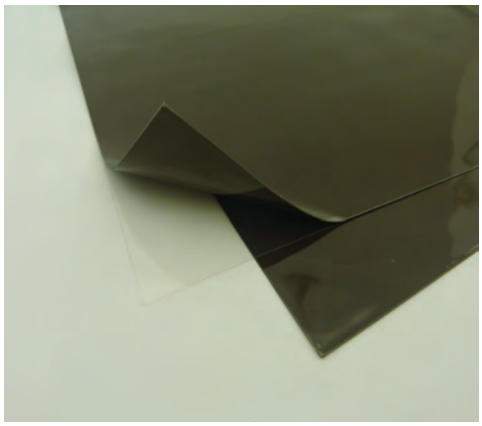
Change Gel Thermal Pad and EMC Dual Function
CGE Series

Silicone-Free

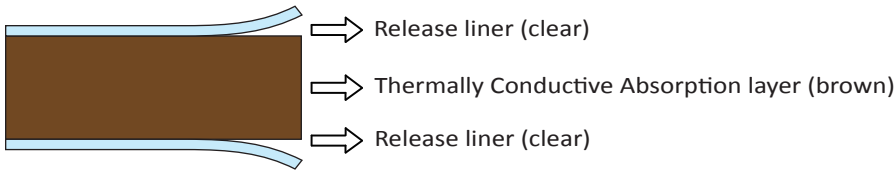


RoHS Compliant

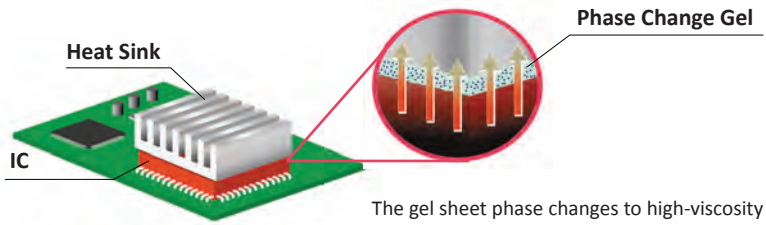
Thin + Dual function sheet for EMC and thermal management

- Multifunctional sheet for EMC and thermal management
- Helps with close contact to heating elements
- Very thin : 0.25mm; even thinner after compression
- Phase change at 50°C to secure close contact with heating elements

Cross-section view



Phase Change



The gel sheet phase changes to high-viscosity liquid from the heat of the IC and fills air gap, effectively transferring the heat to heat sink to lower the temperature and reduce EMC noise

Properties

Property	Test Method	CGE-0.25
Thickness (mm)	—	0.25 ±0.025
Standard sheet size (mm)	—	195 x 195 ±2.5
Phase Change Temperature (°C)	—	50
Volume Resistivity (Ω•cm)	JIS K 6911	1.0×10^{13}
Thermal Conductivity (W/m•K)	JIS R 2616 (Hot-wire method)	1.5
Permeability (100MHz)	—	7
Re-workability	—	No
Operating Temperature (°C)	—	-20 ~ 100
Color	—	Brown

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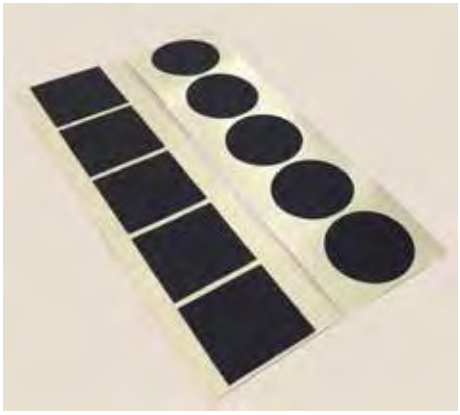
MAGNEFILM
MFMAL Series

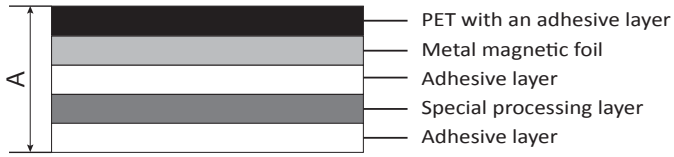
NEW



Thin film for magnetic shielding in low-frequencies

- High shielding effectiveness in low frequencies of 100 k to 1 MHz
- Insulation by laminated layer. (Without end face)
- Easy mounting with adhesives
- Cutting service is available upon request
  *Size limit (Max: length: 110mm, Max: width: 40mm)

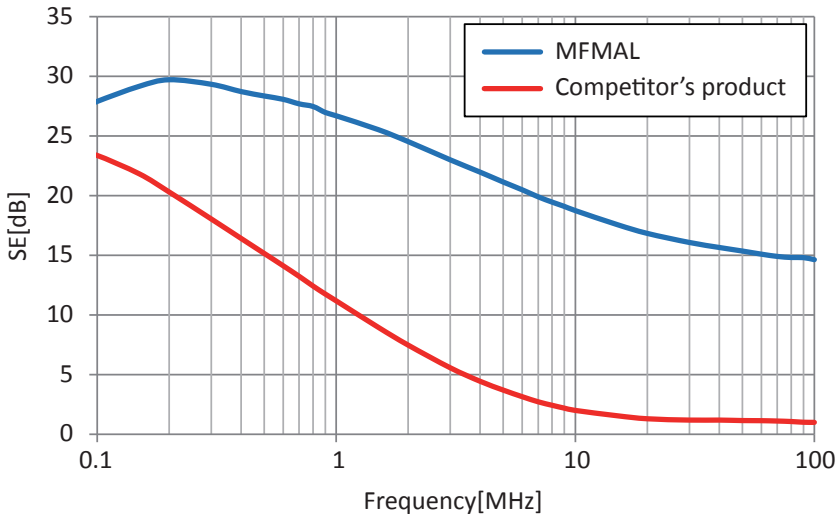
Product Structure



Property	Test Method	MFMAL
Thickness A (mm)	—	0.127
Color	—	Black

Properties

Magnetic shielding effectiveness (KEC method)



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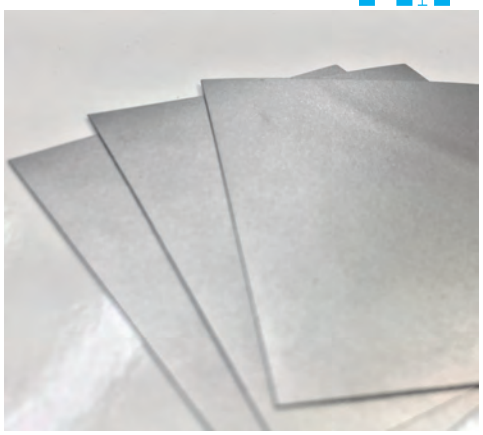
EMI ABSORBER SHEET
IMRFS Series

NEW

HF Halogen Free

RoHS Compliant

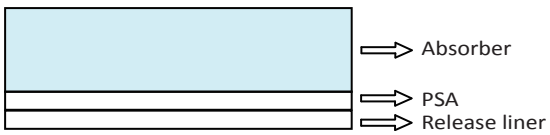


RFID/NFC Absorber

High permeability absorber, engineered for both RFID range improvement and EMI noise reduction.

- IMRFS works to improve the range of RFID (13.56MHz) via the reduction of RFID-to-metal interference.
- The material consists of high permeability fillers in an elastomeric matrix, making it suitable for EMI noise attenuation.
- Applications other than RFID-improvement include: Suppression of radiated emissions in the near-field, reduction of surface noise on shield or other metal surfaces, reduction of cross-talk or other undesired coupling.

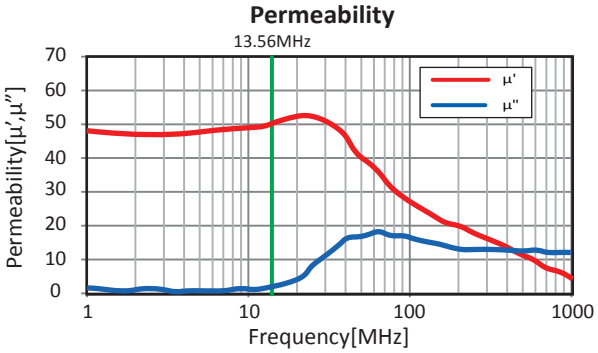
Cross-section view



Specifications

Property	IMRFS
Total Thickness (mm)	0.12, 0.22, 0.32
Material Thickness (mm)	0.1, 0.2, 0.3
Adhesive Thickness (mm)	0.02, 0.03*
Magnetic Permeability (μ') at 13.56 MHz	μ' = 48, μ'' = 1.8
Surface Resistance (Ω /sq)	min 1 x 10^3
Hardness (Shore A)	90 ± 10%
Density (g/cm^3)	3.5 ± 10%
Operating Temperature (°C)	-30 ~ 85
Sheet Size (mm)	230 x 270
Adhesive Strength (180° peel off)(gf/inch)	0.02mm= min 800, 0.03mm*= min 1300

*upon request



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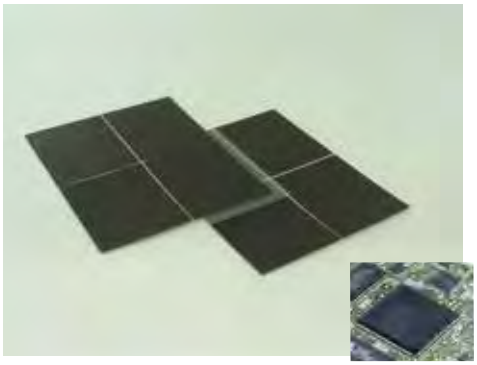
NEW!

Flexible Ferrite Tile
FFSX-H Series

RoHS Compliant

Halogen Free HF



Flexible, EMI noise suppression ferrite tiles

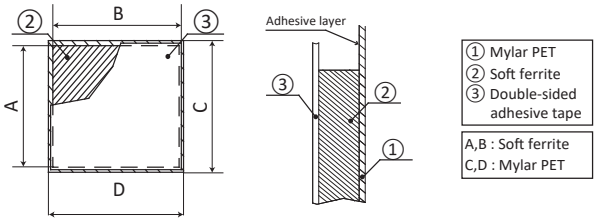
- Thin, sintered ferrite with higher loss and more flexibility
- Excellent performance in suppressing broadband noise
- Effective reduction in RFID-to-metal interference in systems at 13.56MHz
- Increased wireless charging performance at 6.78 MHz

Specifications

Part Number	FFSX-H
Ferrite Size (mm)	50 x 60 tile*
PET Film Size (mm)	51.5 x 61.5
Ferrite Thickness (mm)	0.1, 0.2, 0.3
PSA Thickness (mm)	0.03
PET Film Thickness (mm)	0.08
Total Thickness (mm)	0.21, 0.31, 0.41
Operating Temperature (°C)	-40 ~+85

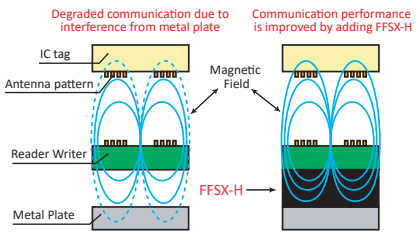
*custom size available upon request

Dimensions

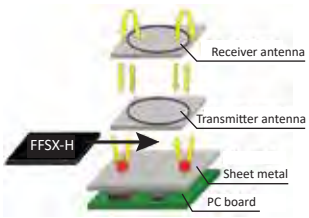


Application

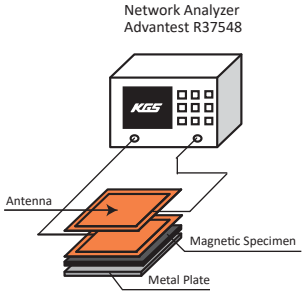
How to apply FFSX-H for RFID malfunction



Contact-less IC card system



Test Specification



Antenna

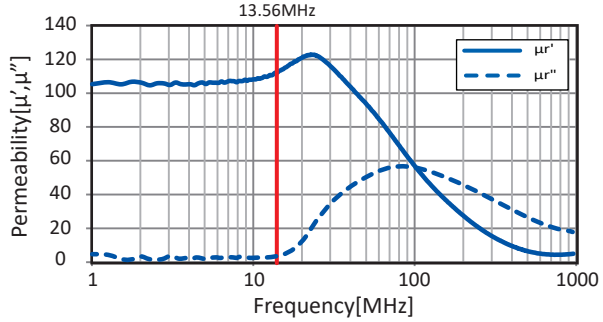
Size (mm)	31 x 41 (inner diameter)
Number of turns	3
Gap between antennas	3 mm
Gap to metal plate	1 mm

Magnetic Specimen

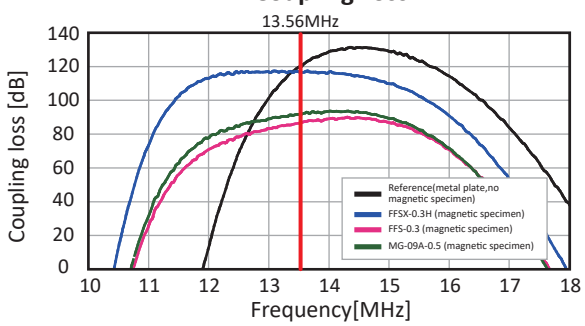
Size (mm)	50 x 60
Number of turns	0 mm (contact)
Thickness (mm)	FFSX-H: 0.3mm
	FFS: 0.3mm
	MG-09A: 0.5mm

Properties

Permeability



Coupling Loss



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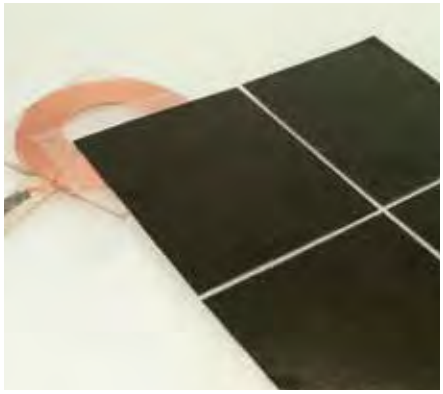
NEW!

Ferrite Sheet For Wireless Charging
FFSW/SDK15 Series

RoHS Compliant

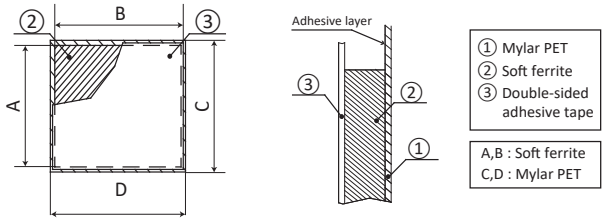
Halogen Free HF



Very thin and flexible ferrite tile, ideal for low frequency wireless charging

- Designed specifically for wireless charging applications
- Increases field strength of the transmitter and receiver antenna with the addition of this ferrite
- Magnetic permeability is 1800 at 10kHz
- Available in flexible (FFSW) or solid (SDK15) forms
- Custom profile available upon request

Dimensions

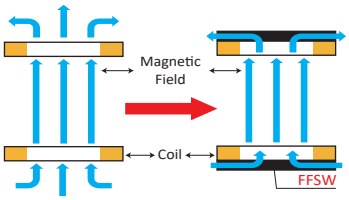


Specifications

Part Number	FFSW	SDK 15
Type	Flexible	Rigid
Standard Size (mm)	50 x 60 tile*	50 x 60 tile*
Ferrite Thickness (mm)	0.1, 0.2, 0.3	0.5, 1.0, 1.5, 2.0
PSA Thickness (mm)	0.03	0.03 (optional)
PET Film Thickness (mm)	0.08	0.08 (optional)
Total Thickness (mm)	0.21, 0.31, 0.41	Available upon request
Magnetic Permeability (μ')	≥ 380/100 kHz	≥ 1200/100 kHz
Saturation Magnetic Flux Density	240mT	
Curie Temperature	≥ 125°C	
Volume Resistivity (Ω.cm)	10^6	
Operating Temperature (°C)	-40 ~+85	-40 ~+125**

*custom size available upon request
**operating temperature without mylar or adhesive

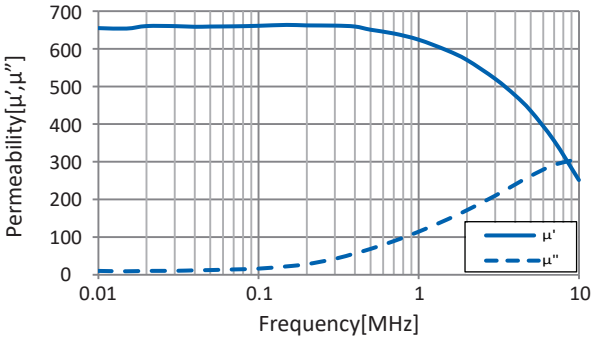
Application



Ferrite enhances the magnetic flux to boost charging

Properties

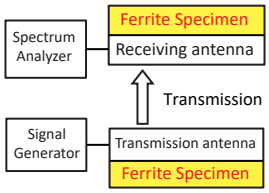
Permeability



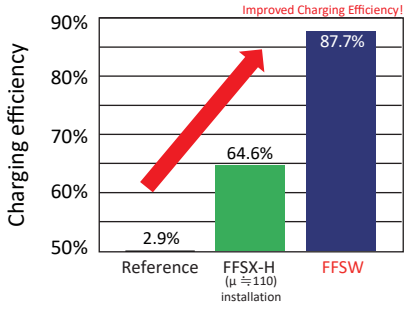
Charging Efficiency Test

Test specification

Charging frequency	100kHz
Gap between two antennas	10mm
Antenna size	ϕ50mm



Measurement results



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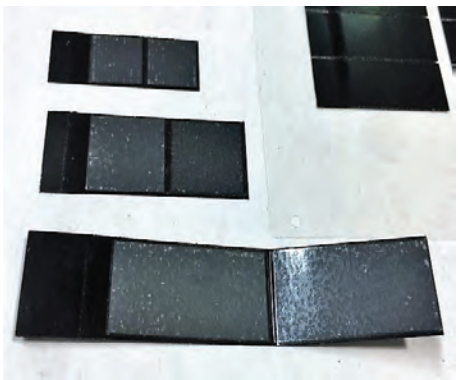
Tel:1-855-EMC-PART (1-855-362-7278) Email: sales@kgs-ind.com
www.kgs-ind.com

Thin & Flexible Ferrite Core
FFPC Series

NEW

HF Halogen Free

RoHS Compliant



EMI Cable Noise Absorber Sheet

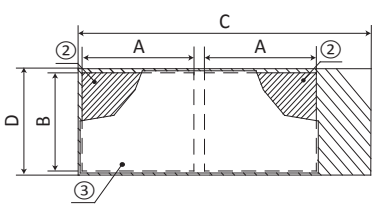
- Noise filter with sintered body for FPC which has reduced thickness overcoming the rigid and brittle feature of ferrite core
- Higher insertion loss in the low-frequency band compared to EMI absorber sheets and achieves excellent performance in suppressing noise
- Available in a sheet form
- Prevents the effect of internal interference from radiation noise generated from FPC cable use for DSC, DVC, and laptop computers, and the immunity measures as well as terrestrial digital built-in apparatus etc.

Specifications

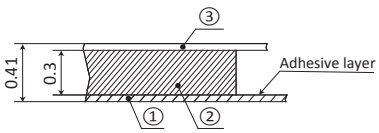
Unit:mm

Part Number	A	B	C	D	Application
FFPC-0.3-10-5	10	5	32.5	6.5	10
FFPC-0.3-10-10	10	10	30	11	10
FFPC-0.3-12-8	12	8	38.5	9.5	12
FFPC-0.3-14-14	14	14	38	15	14
FFPC-0.3-22-8	22	8	60.5	9.5	22
FFPC-0.3-22-14	22	14	54	15	22
FFPC-0.3-27-14	27	14	70.5	15.5	27
FFPC-0.3-44-14	44	14	98	15	44

*custom size available upon request

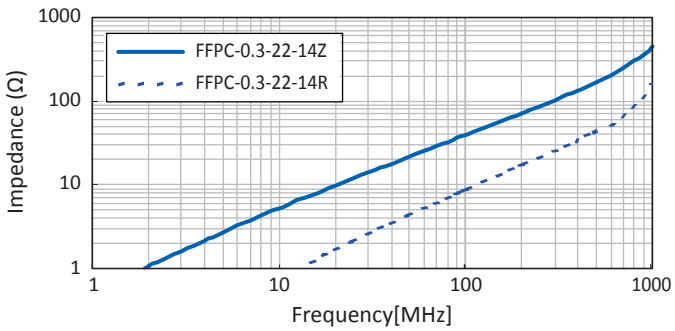


A,B : Soft ferrite
C,D : PET with adhesive layer



① PET with adhesive layer
② Soft ferrite
③ Double-sided adhesive tape

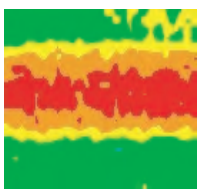
Impedance vs Frequency



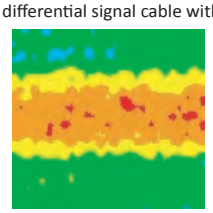
Properties

Higher insertion loss and excellent EMC suppression in low range (30MHz ~300MHz) compared to metal filler electromagnetic noise suppression sheet

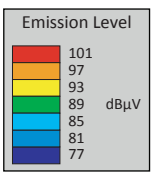
Radiated emission level from differential signal cable with component



Metal filler EMC noise suppression sheet

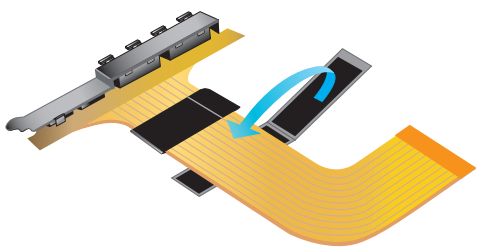


SMARTPLY



Application

EMC suppression for FPC



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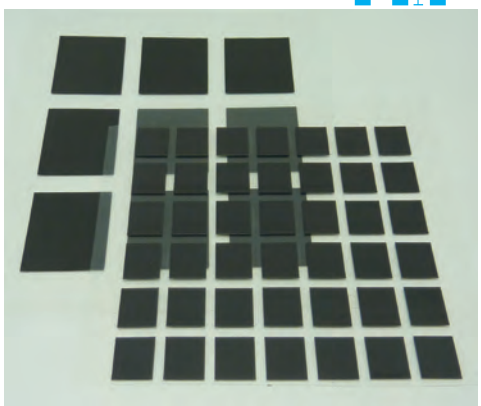
Flexible Ferrite Sheet
FFS Series

NEW

HF Halogen Free

RoHS Compliant



EMI Flexible Noise Suppression Ferrite Tiles

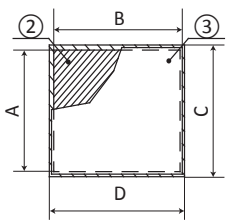
- Thin Ferrite Sheet with higher loss and more flexibility
- Higher insertion for low-frequency band and achieves excellent performance in suppressing noise

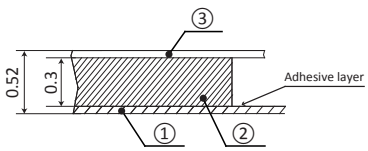
Dimensions

Unit:mm

Part Number	A	B	C	D
FFS-0.3-1010T	10	10	11.5	11.5
FFS-0.3-1020T	10	20	11.5	21.5
FFS-0.3-1515T	15	15	16.5	16.5
FFS-0.3-2020T	20	20	21.5	21.5
FFS-0.3-2030T	20	30	21.5	31.5
FFS-0.3-2525T	25	25	26.5	26.5
FFS-0.3-3030T	30	30	31.5	31.5
FFS-0.3-5050T	50	50	55	55

*custom designs available
Operating temp(˚C): -40 ~ 105

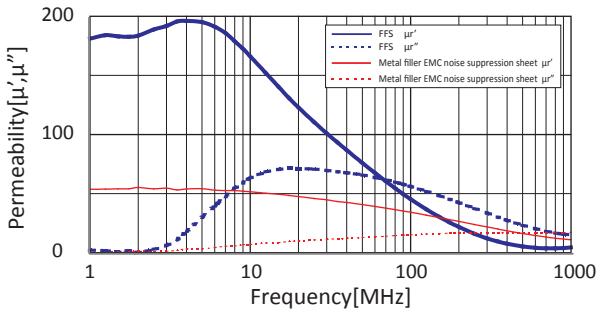




① PET with an adhesive layer
② Ferrite sheet
③ Double-sided adhesive tape

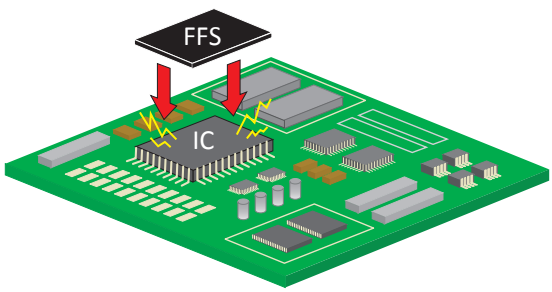
A,B : Soft ferrite
C,D : Profile (PET with adhesive layer)

Properties



Application

EMC Suppression for IC



Mounting FFS onto IC device

Gently bend the liner while take the ferrite sheet off.

It is not advisable to reuse the product once it is removed.

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Automotive Grade

Sleeve Ferrite Clamp
RFC-A Series

NEW

RoHS Compliant

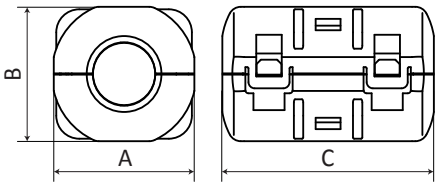
Automotive grade ferrite clamp with excellent heat resistance

- Split-type ferrite core designed for easy installation to terminated cables
- Plastic casing features strap guides to prevent ferrite from sliding along the cable (excluding RFC-20-A)
- Wide operating temperature range: -40°C~+125°C
- Plastic casing: UL94 V-2 rating
- No tool required for installation or uninstallation

Dimensions

Unit: mm

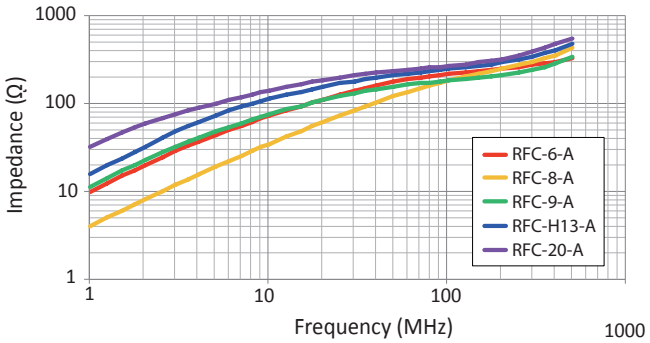
Part Number	A	B	C	Applicable cable diameter	Impedance Ω/100MHz (1 turn)
RFC-6-A	18.5	18.1	34.0	MAX Φ 6.0	≥ 135
RFC-8-A	20.6	20.1	34.0	MAX Φ 8.5	≥ 120
RFC-9-A	22.6	21.7	34.0	MAX Φ 9.5	≥ 125
RFC-H13-A	31.7	29.4	41.0	MAX Φ 13.5	≥ 170
RFC-20-A	40.0	40.0	47.0	MAX Φ 20	≥ 180



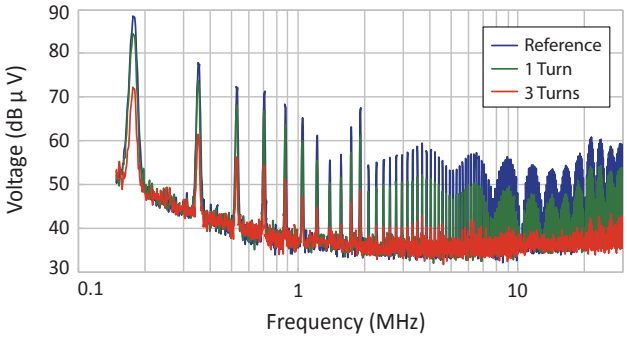
Plastic strap guides prevent sliding

Properties

Impedance vs. Frequency



Conducted noise emission



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Automotive Grade

Low Frequency Ferrite Clamp
RFCW Series

NEW
Patent Pending

RoHS Compliant

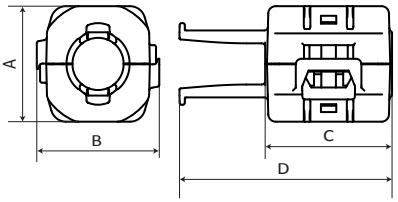
Ferrite clamp that can withstand engine compartment conditions

- Wide operating temperature range: -40℃~125℃
- On-board vibration requirement: ISO-16750-3- II compliant for passenger vehicle gear shifts
- Conducted noise suppression filter for applications up to 125℃ and 10G vibration
- Locking mechanism on plastic casing ensures secure fit; tool required to uninstall
- RFCW-C10 has a bracket for temporary fixation to corrugated tubes
- Clamp feet designed for tape mounting
- Plastic casing features strap guides to prevent ferrite from sliding along the cable
- Plastic casing: UL94V-2 rating

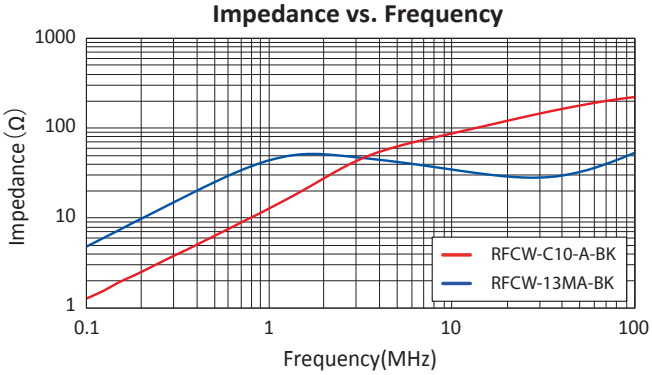
Specification

Unit:mm

Part Number	A	B	C	D	Applicable cable diameter	Impedance Ω/100MHz (1 turn)
RFCW-C10-A-BK	34.6	36.8	35.0	58.7	φ10 Corrugated tube	≥140
RFCW-13MA-BK	31.4	33.6	34.8	58.3	φ13.5 MAX	≥ 20Ω (10MHz (1 turn))



Impedance vs. Frequency



Design features

Easy to install and secure

Clamp feet designed for tape mounting

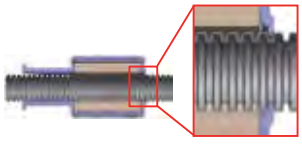
Plastic strap guide prevents sliding

Embedded metal spring

Withstands high temperature and vibration

Easy to uninstall

Slot for flat head screw driver to lock / unlock for installation and removal



* RFCW-C10-A-BK
The bracket fixture allows temporary fixation on tube corrugations.

* This product is in 1 set of configurations in two identical parts.

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Automotive Grade

Low Cut Ferrite Clamp

BFCW-MA Series

BFCW-A Series

NEW

RoHS Compliant

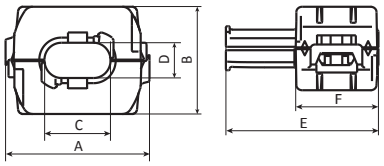
Oblong-shaped automotive-grade ferrite for suppressing common mode noise (cables comfortably set side-by-side)

- Low profile provides space saving compared with the conventional type
- Housing with anti-slip means for cable tie around its outer side
- Optimal for onboard charging cables and inverter powercables that have limited space for conducted noise suppression
- Plastic casing: UL94 V-2
- Operating temperature -40 ~ 125 °C

Dimensions

Unit:mm

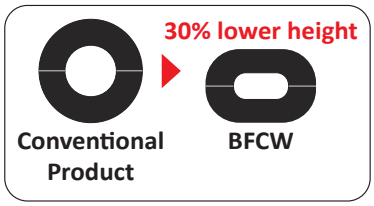
Part Number	Frequency	A	B	C	D	E	F	Applicable Cable Diameter	Impedance Ω/100MHz (1 turn)
BFCW-2010-A-BK-1PC	High-frequency	45	32	20	10	54	30	ϕ9 × two cables	≥117
BFCW-2010MA-BK-1PC	Low-frequency	45	32	20	10	54	30	ϕ9 × two cables	≥20Ω (1MHz (1 turn))
BFCW-3515-A-BK-1PC	High-frequency	67	44	35	15	56	31	ϕ14 × two cables	≥117
BFCW-3515MA-BK-1PC	Low-frequency	67	44	35	15	56	31	ϕ14 × two cables	≥16Ω (1MHz (1 turn))



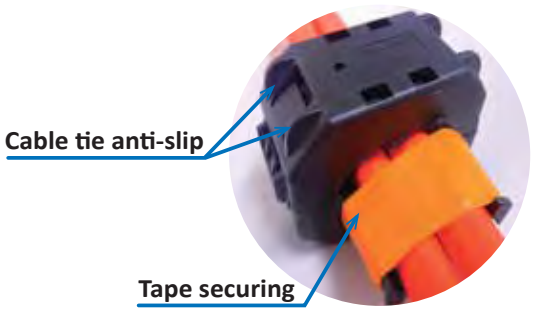
Identification

【Low-frequency grade】

【High-frequency grade】

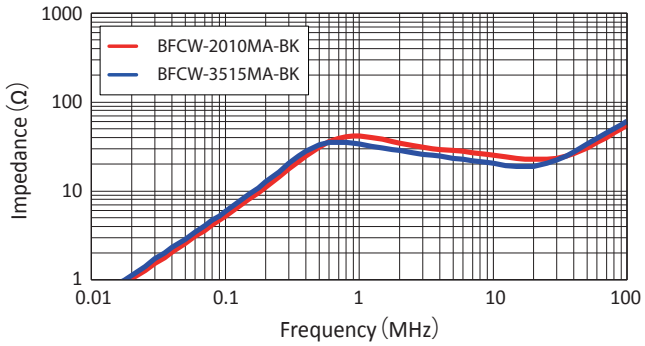


Application

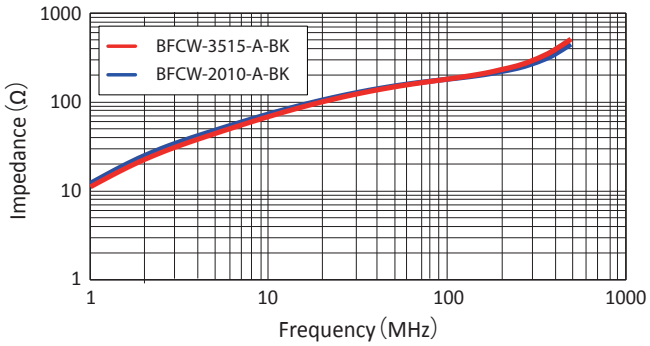


Impendance Properties

Low-frequency grade



High-frequency grade



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NEW!

Ni-Zn Ferrite Clamp
KRFC Series

RoHS Compliant

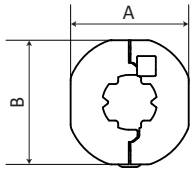
Split-core ferrite clamp designed to filter noise from around 3 ~ 50 MHz

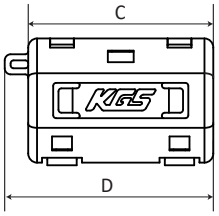
- Effective suppression of conducted noise up to 30MHz and radiated noise over 30MHz
- Cable tie loop can assist to fix ferrite clamp to wire harness (except for KRFC-4)
- Notches on both sides of the inner side of the plastic clamp prevent wires from shifting out of place when winding
- Operating temperature: -20 ~ 85°C
- White plastic case made of PA66 material
- UL94 V-0 Flammability rated housing

Specifications

Unit: mm

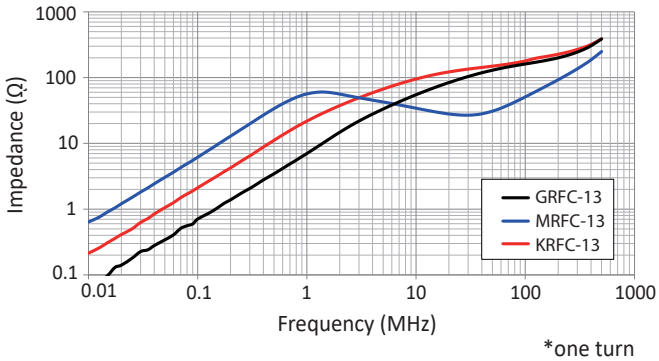
Part Number	A	B	C	D	Applicable cable diameter	Impedance Ω/100MHz (1 turn)
KRFC-4	13.7	13.5	27.5	–	Φ 3.5 ~ 4.5	≥70
KRFC-6	18.1	18.4	31.5	35.5	Φ 5.5 ~ 6.5	≥110
KRFC-8	20.1	20.4	31.5	35.5	Φ 7.5 ~ 8.5	≥80
KRFC-9	20.1	20.4	31.5	35.5	Φ 8.5 ~ 9.5	≥80
KRFC-10	26.3	26.4	32.4	37.2	Φ 9.5 ~ 10.5	≥120
KRFC-13	29.1	29.4	31.5	36.3	Φ 12.5 ~ 13.5	≥105





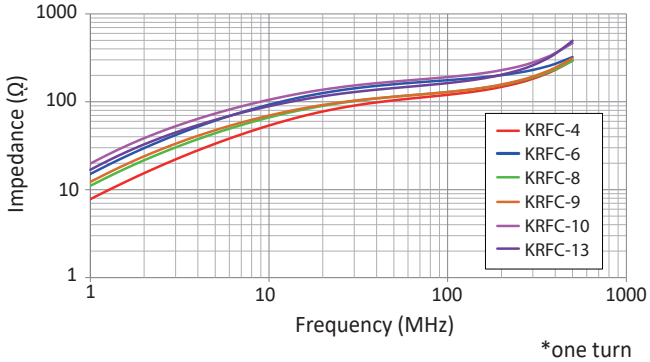
Properties

Impedance vs. Frequency



*one turn

Impedance vs. Frequency: KRFC series



*one turn

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NEW!

Toroidal Core
KTR Series

RoHS Compliant

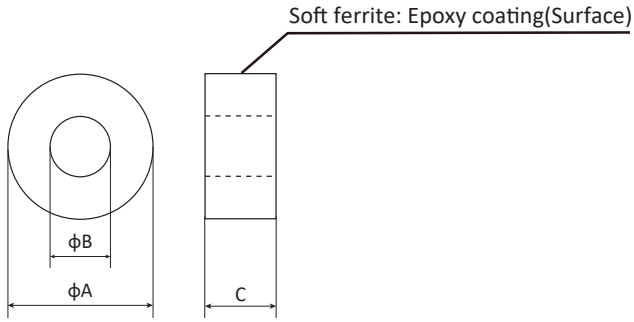
Single, solid toroidal core formulated to target 3 ~ 50MHz (mid-frequency range)

- Effective for suppression of both conducted noise (up to 30MHz) and radiated noise (over 30MHz)
- Gray epoxy coating for easy identification and to prevent electrical short
- Other sizes available upon request

Dimensions

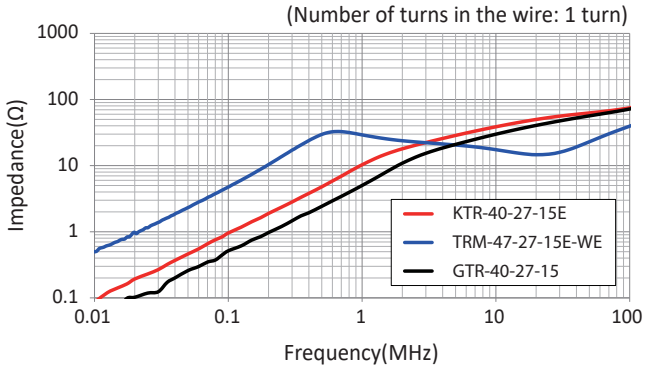
Unit:mm

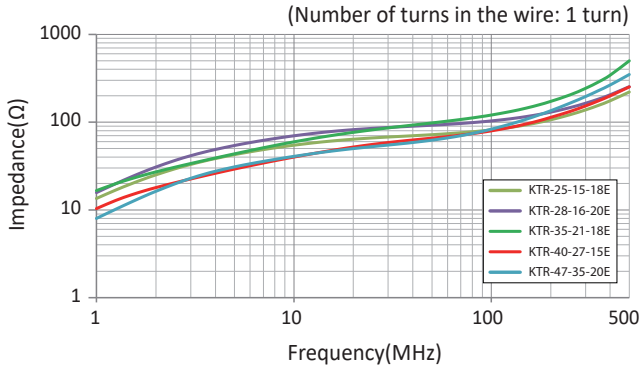
Part Number	A	B	C	Impedance Ω/100MHz (1 turn)
KTR-25-15-18E	26.7	13.4	19.5	≥54
KTR-28-16-20E	29.7	14.4	21.6	≥65
KTR-35-21-18E	35.6	20.0	18.8	≥80
KTR-40-27-15E	41.4	26.7	15.7	≥50
KTR-47-35-20E	49.1	33.1	21.6	≥54



Characteristics

Impedance vs. Frequency of KTR ferrites with 1 turn





KGS America
KITAGAWA INDUSTRIES America, Inc.

Please request for detailed product specification data prior to purchase

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2860 Zanker Road, Suite 102 San Jose, CA 95134
Tel:1-855-EMC-PART (1-855-362-7278) Email: sales@kgs-ind.com
www.kgs-ind.com

NEW!

Broad Effect Core
BRE Series

RoHS Compliant

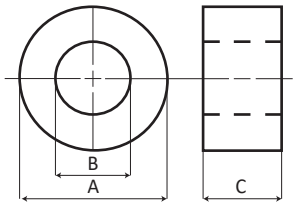
High-performance, broadband EMC noise suppression core

- Amorphous metal core, effective for suppression of conducted and radiated broadband noise from around 1 MHz~100MHz
- High impedance reduces the number of cable turns and remains stable within a wide temperature range
- PBT plastic housing provides electrical insulation and is rated UL94V-0
- Operating temperature -40°C ~ 130°C

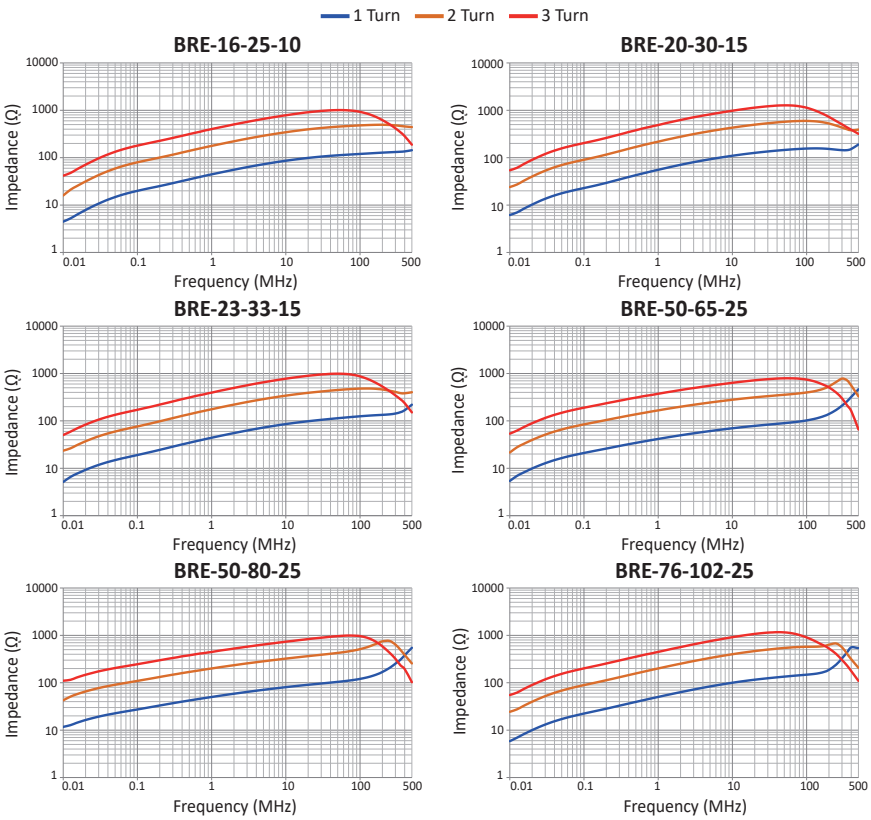
Specification

Part Number	A	B	C
BRE-16-25-10	27.5	13.8	12.6
BRE-20-30-15	33.5	17.7	17.9
BRE-23-33-15	36.3	21.0	18.0
BRE-50-65-25	68.4	46.7	28.7
BRE-50-80-25	84.0	47.0	29.2
BRE-76-102-25	107.9	70.2	30.4

Unit: mm

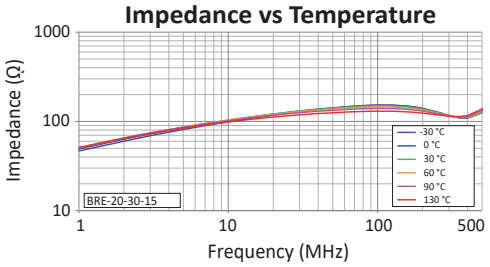


Impedance vs Frequency Characteristics

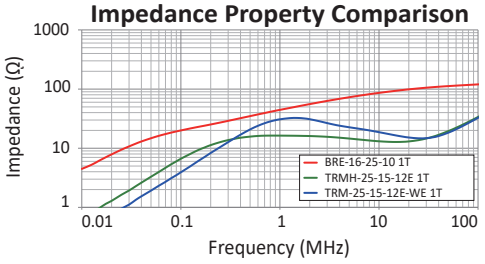


Properties

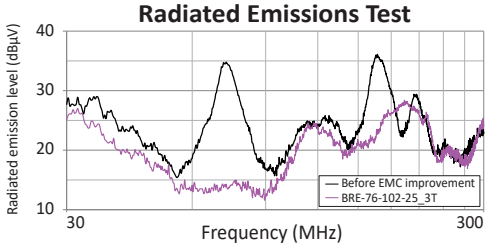
Impedance vs Temperature



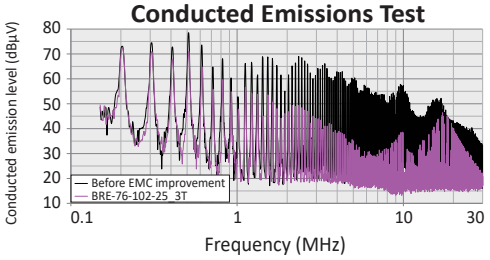
Impedance Property Comparison



Radiated Emissions Test



Conducted Emissions Test



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NEW!

Broad Effect Core
BREK Series

RoHS Compliant

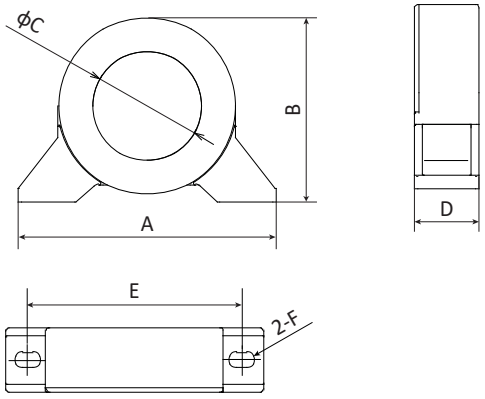
High-performance noise suppression cores with secure screw-mounts for fixation

- Stable suppression effect of conducted and radiated noise across a wide frequency range and temperature range
- BREK includes screw-mount tabs to prevent the core from swinging and damaging the cable and surroundings
- Plastic insulating housing is UL94 V-0 certified PBT
- Operating temperature from -40˚C ~ 130˚C

Dimensions

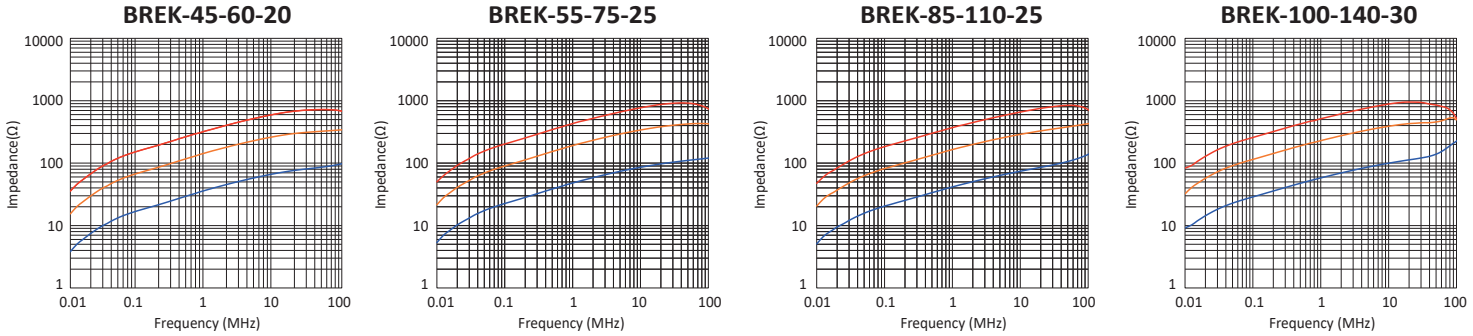
Unit:mm

Part Number	A	B	C	D	E	F (applicable screw)	Impedance Ω/1MHz (1 turn)
BREK-45-60-20	94	67	40	25	80	M5	≥20
BREK-55-75-25	120	86	50.6	30	100	M6	≥27
BREK-85-110-25	180	133	76.8	30.5	150	M6	≥28
BREK-100-140-30	180	154	96.2	35	160	M6	≥40



Impedance vs Frequency

1 Turn 2 Turn 3 Turn



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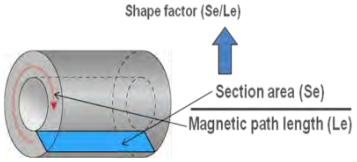
Ferrite Cores, Tiles, and Sheets

RoHS Compliant

1. Shape factor (Se/Le): the larger the shape factor, the higher the impedance. If there is 1 turn through the ferrite, a snug fit and longer core is recommended (space permitting).
2. Adjust the ferrite core's position to target the antinode of the problem frequency.
3. Impedance performance can be increased by turning the cable around the core.

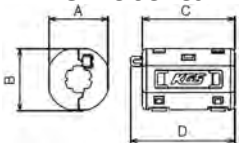


ROUND CABLE CORES: Split Type

G Ferrite Core – nickel-free

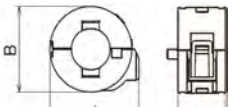
RFCK2-20
(w/ mounting tab)

GRFC Series

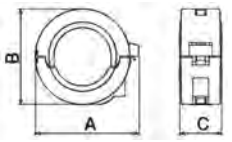


GTFC Series

Profile 1

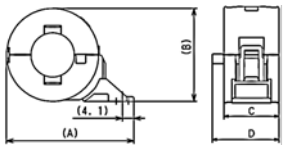


Profile 2

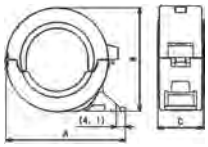


GTFCK Series

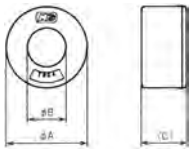
Profile 1



Profile 2



GTRCA Series



Unit: mm

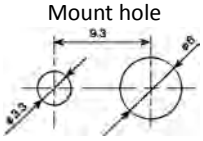
GRFC Series

PART NO.	Profile	A	B	C	D	Applicable Cable Diameter	Impedance Ω/100MHz (1Turn)
GRFC-3	N/A	13.7	13.5	18.0	-	3.0 ~ 4.0	≥35
GRFC-4	N/A	13.7	13.5	27.5	-	3.5 ~ 4.5	≥75
GRFC-5	N/A	18.1	18.4	31.5	35.5	4.5 ~ 5.5	≥100
GRFC-6	N/A	18.1	18.4	31.5	35.5	5.5 ~ 6.5	≥100
GRFC-7	N/A	14.25	15.8	20.0	24.0	7.0 MAX	≥45
GRFC-8	N/A	20.1	20.4	31.5	35.5	7.5 ~ 8.5	≥75
GRFC-9	N/A	20.1	20.4	31.5	35.5	8.5 ~ 9.5	≥75
GRFC-10	N/A	26.3	26.4	32.4	37.2	9.5 ~ 10.5	≥105
GRFC-13	N/A	29.1	29.4	31.5	36.3	12.5 ~ 13.5	≥95
RFC Series							
RFC-H13	N/A	31.7	29.4	41.0	-	12.5 ~ 13.5	≥170
RFC-20	N/A	40.0	40.0	47	-	20 MAX	≥180
RFCK2-20 (RFC-20 with mount tab)	N/A	40.0	40.0	47	-	20 MAX	≥180
GTFC Series							
GTFC-16-8-13	1	22.3	20.1	18.9	-	7.2 MAX	≥ 45
GTFC-16-8-16	1	22.3	20.1	21.9	-	7.2 MAX	≥ 55
GTFC-20-10-10	1	27.1	24.9	16.0	-	8.5 MAX	≥ 40
GTFC-23-11-14	1	30.5	28.3	20.2	-	10.5 MAX	≥ 55
GTFC-25-15-12	1	31.1	28.9	17.8	-	13.0 MAX	≥ 40
GTFC-28-16-13	1	35.1	32.9	18.8	-	14.7 MAX	≥ 50
GTFC-28-16-20	1	35.1	32.9	25.8	-	14.7 MAX	≥ 70
GTFC-41-27-16	2	48.2	44.5	19.6	-	26.0 MAX	≥ 50
GTFCK Series							
GTFCK-16-8-13	1	32.5	20.4	18.9	22.9	7.2 MAX	≥ 45
GTFCK-16-8-16	1	32.5	20.4	21.9	25.9	7.2 MAX	≥ 55
GTFCK-20-10-10	1	37.1	24.9	16.0	20.0	8.5 MAX	≥ 40
GTFCK-23-11-14	1	40.5	28.3	20.2	24.2	10.5 MAX	≥ 55
GTFCK-25-15-12	1	41.2	28.9	17.8	21.8	13.0 MAX	≥ 40
GTFCK-28-16-13	1	45.3	32.9	18.8	22.8	14.7 MAX	≥ 50
GTFCK-28-16-20	1	45.3	32.9	25.8	29.8	14.7 MAX	≥ 70
GTFCK-41-27-16	2	51.8	44.5	19.6	-	26.0 MAX	≥ 50
GTRCA Series							
GTRCA-20-10-10	N/A	22.6	8.2	13.3	-		≥ 45
GTRCA-25-15-12	N/A	27.3	12.8	15.2	-		≥ 40
GTFCR Series							
GTFCR-16-8-16	1	35.8	20.1	16.3	21.9	7.2 MAX	≥ 55
GTFCR-41-27-16	2	55.2	44.5	23.6	19.6	26 MAX	≥ 50

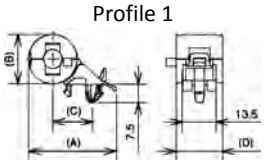
Operating temperature: -40 ~ 85°C

GTFCR Series

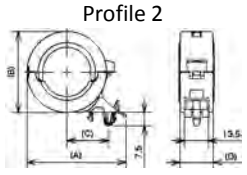
Mount hole



Profile 1



Profile 2



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Tel: (408) 971-2055 Fax: (408) 971-6033
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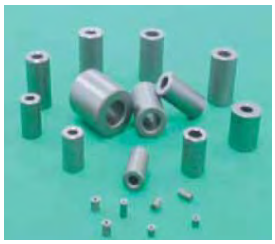
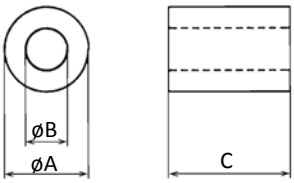
ROUND CABLE CORES: One-Piece Type G Ferrite Core – nickel-free

GRI Series





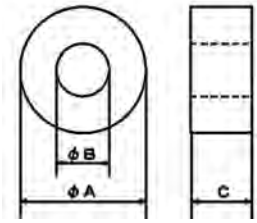
GRI Series

Unit: mm

Part No.	A	B	C	Impedance Ω/100MHz (1Turn)
GRI-3-4-1	3	1	4	≥25
GRI-3.5-3.5-1.2	3.5	1.2	3.5	≥25
GRI-3.5-7-1.2	3.5	1.2	7	≥40
GRI-4-5-1.5	4	1.5	5	≥30
GRI-11-18-5	11	5	18.5	≥85
GRI-11-20-5	11	5	20	≥90
GRI-11-25-5	11	5	25	≥105
GRI-12-16-8.5	12	8.5	16	≥35
GRI-12.3-20-7	12.3	7	20	≥70
GRI-14-28-6	14.3	6.3	28.6	≥130
GRI-16-20-7	16	7	20	≥95
GRI-16-28-7	16	7	28	≥130
GRI-16-28-8	16	8	28	≥115
GRI-16-28-9	16	9	28	≥95
GRI-17.5-28.5-10.7	17.5	10.7	28.5	≥85
GRI-18-28-10	18	10	28	≥100
GRI-26-28-13	26	13	28	≥120

Operating temperature: -40 ~ 85°C

GTR Series



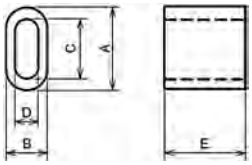
GTR Series

Unit: mm

Part No.	A	B	C	Impedance Ω/100MHz (1Turn)
GTR-7-3-4	7	3.5	4	≥20
GTR-9-5-8	9	5	8	≥30
GTR-10-5-5	10	5	5	≥25
GTR-11-5-9	11	5	9	≥45
GTR-12.5-8-12	12.6	8.1	12	≥35
GTR-13-7-6	13	7	6	≥25
GTR-13-7-12.7	13	7.1	12.7	≥45
GTR-14.5-10-8	14.5	10.2	8	≥20
GTR-16-8-13	16.5	8.2	13	≥55
GTR-16-8-16	16.5	8.2	16	≥65
GTR-16-10-7	16	10	7	≥25
GTR-16-10-10	16	10	10	≥30
GTR-18-10-6	18	10	6	≥25
GTR-20-10-5	20.5	10.2	5	≥25
GTR-20-10-10	20.5	10.2	10	≥45
GTR-21-13-6	21.2	12.7	6	≥25
GTR-22-14-10	22	14	10	≥30
GTR-23-11-14	23.6	11.4	14	≥60
GTR-25-15-8	25	15	8	≥30
GTR-25-15-12	25	15	12	≥40
GTR-28-16-13	28	16	13	≥45
GTR-28-16-20	28	16	20	≥70
GTR-31-19-8	31	19	8	≥30
GTR-40-27-15	40.6	27.4	15	≥45

Operating temperature: -40 ~ 85°C

GTRE Series



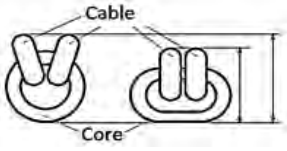
GTRE Series

Unit: mm

Part No.	A	B	C	D	E	Impedance Ω/100MHz (1Turn)
GTRE-14-12.5-8	14.0	8.0	10.0	4.0	12.5	≥30
GTRE-14-14-8	14.0	8.0	10.0	4.0	14.0	≥35

Operating temperature: -40 ~ 85°C

Cross-sectional view of GRI (round) and GTRE (oblong) ferrite cores

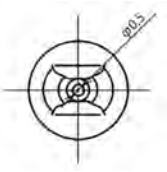


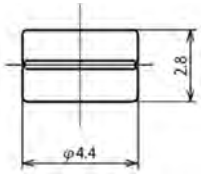
GRIP Series

Unit: mm

Part No.	Outer Diameter	Height	Applicable Lead Diameter	Applicable Lead Dimension	Impedance Ω/100 MHz (1Turn)
GRIP-3.5-1.8-2	Ø 4.4	2.8	Ø 0.6~1.6	W: 0.8~1.5 T:0.3~0.7	≥15

Operating temperature: -40 ~ 125°C





Inner structure

Application Example

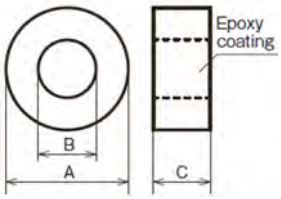
Low Frequency Cores

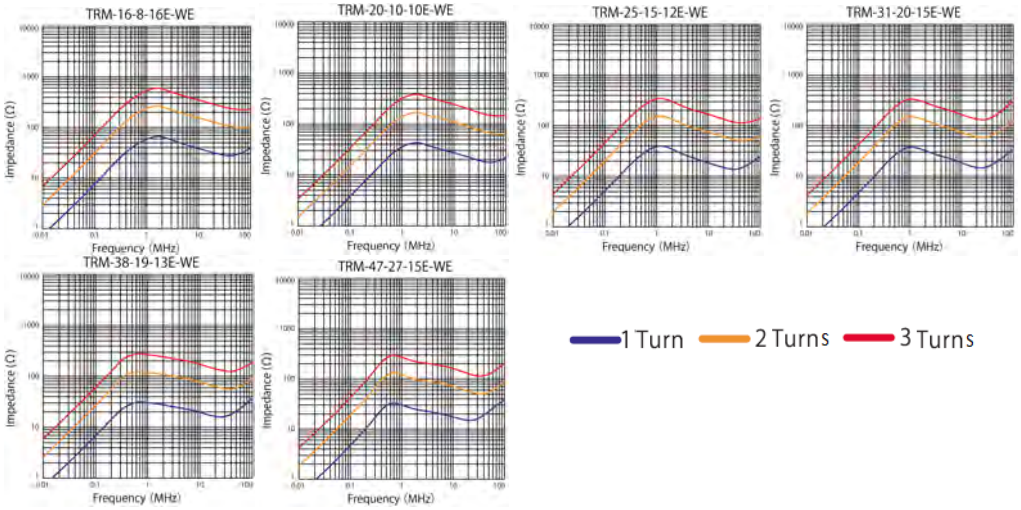
TRM – cores for low frequency range

- High impedance noise filters for the low MHz range
- Turning the cable around the core increases effectiveness by a power of 2 (N^2)
- Operating temperature: -40 ~ 85°C

Unit: mm

Part No.	A	B	C	Impedance Ω/10MHz (2 turns)
TRM-16-8-16E-WE	17.0	7.1	16.9	≥70
TRM-20-10-10E-WE	21.0	9.1	10.9	≥35
TRM-25-15-12E-WE	26.0	14.1	12.9	≥35
TRM-31-20-15E-WE	32.1	19.0	15.9	≥30
TRM-38-19-13E-WE	39.2	17.9	14.0	≥35
TRM-47-27-15E-WE	48.5	25.7	16.3	≥25



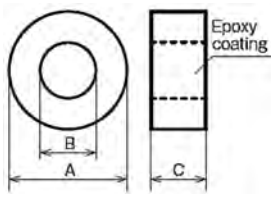


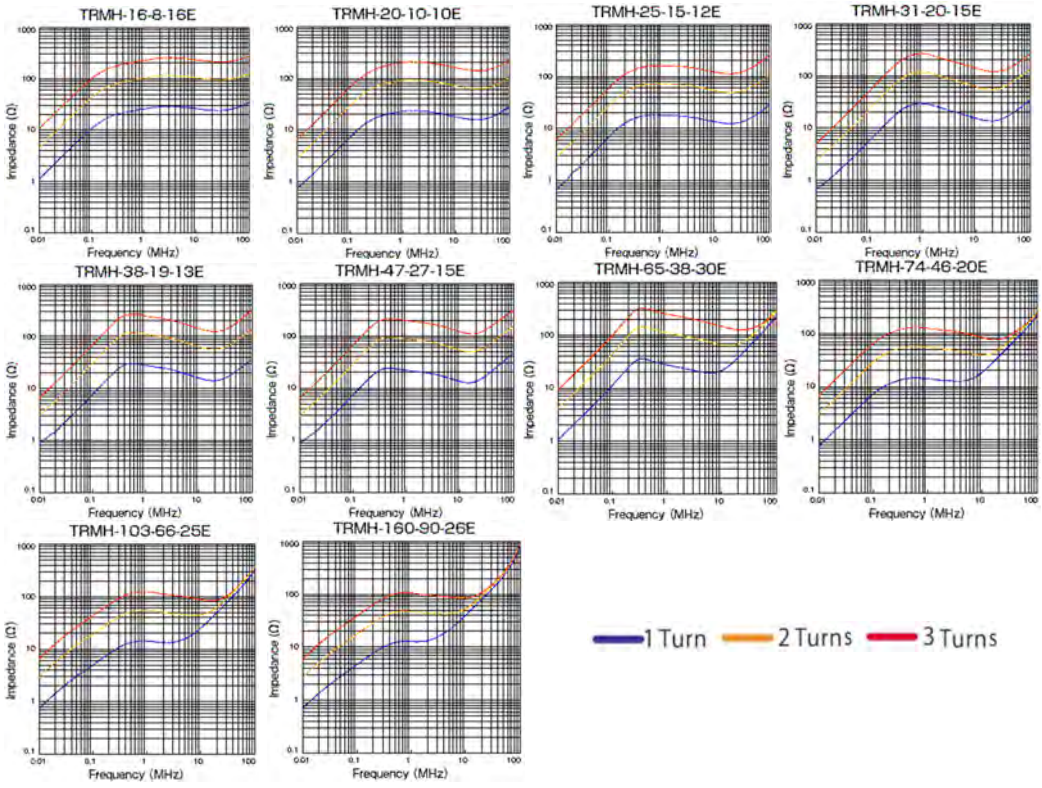
TRMH – Low frequency, high μ ferrite cores

- High impedance at less than 1MHz
- Increased impedance obtained with each turn around the core
- Suitable for conducted emissions in the kHz range
- Operating temperature: -40 ~ 85°C

Unit: mm

Part No.	A	B	C	Impedance Ω/1MHz (1 Turn)
TRMH-16-8-16E	16.9	7.2	16.8	≥18
TRMH-20-10-10E	21.0	9.2	10.9	≥11
TRMH-25-15-12E	25.9	14.1	12.8	≥9
TRMH-31-20-15E	32.1	19.0	15.9	≥9
TRMH-38-19-13E	39.1	18.0	13.9	≥11
TRMH-47-27-15E	48.3	26.0	15.9	≥10
TRMH-65-38-30E	67.3	36.6	31.1	≥12
TRMH-74-46-20E	75.76	44.22	21.0	≥6
TRMH-103-66-25E	105.6	63.1	26.9	≥6
TRMH-160-90-26E	165.1	87.9	28.1	≥6

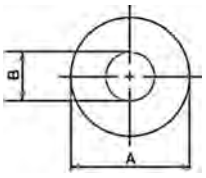




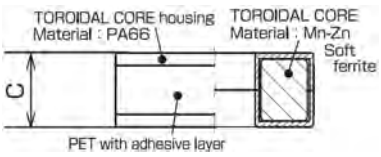
TRCB – Low frequency ferrite core with plastic casing

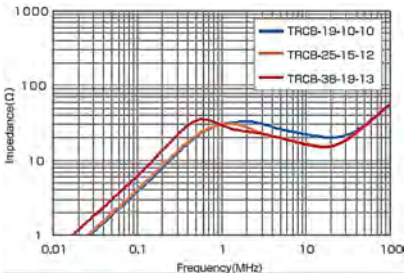
- Plastic casing protects ferrite from cracking and chipping
- Suitable for conducted emission from kHz to lower MHz range

Unit: mm

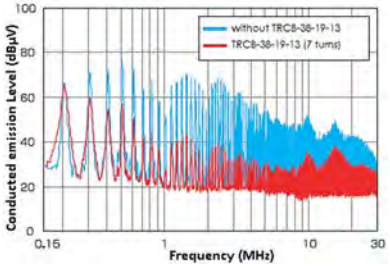


Part No.	A	B	C	Impedance Ω/10MHz (1Turn)
TRCB-19-10-10	20	8.1	(11.7)	≥ 11
TRCB-25-15-12	26.7	13.3	(13.5)	≥ 8
TRCB-38-19-13	40.5	16.6	(15.1)	≥ 7





Noise Attenuation Effectiveness



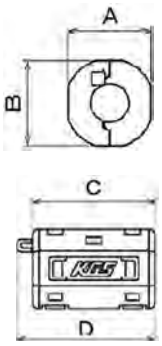
MRFC – ferrite clamp for low frequency range

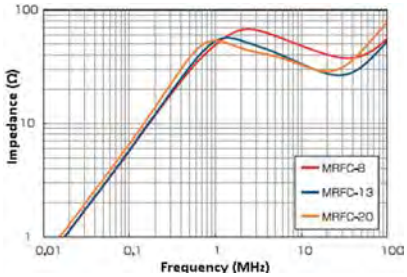
- Aimed to suppress low frequency noise between 150kHz ~ 30MHz
- Plastic screw mount option available
- Operating temperature: -40°C ~ 85°C
- UL94 V-0 rated housing

Unit: mm

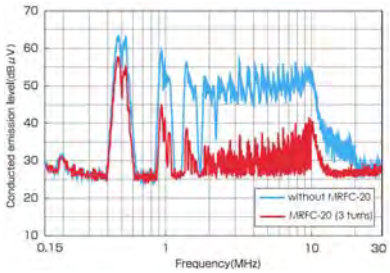
Part No.	Part No. (screw mount option)	A	B	C	D	Applicable cable diameter	Impedance Ω/10MHz (1 Turn)
MRFC-8	-	20.1	20.4	31.5	35.5	8.5 (MAX)	≥20
MRFC-13	MRFCK-13	29.1	33.05	32.3	37.1	13.5 (MAX)	≥20
MRFC-20	MRFCK2-20	40.3	40	47	53.5	20.0 (MAX)	≥20

Screw mount option





Noise Attenuation Effectiveness

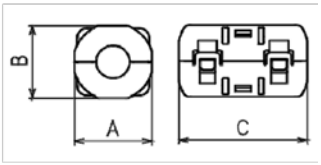


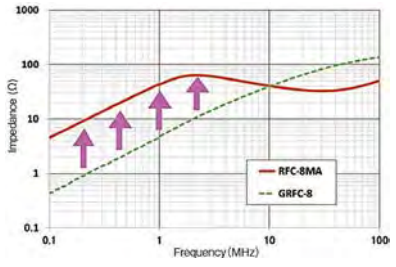
RFC-*MA – Low frequency, high μ ferrite cores

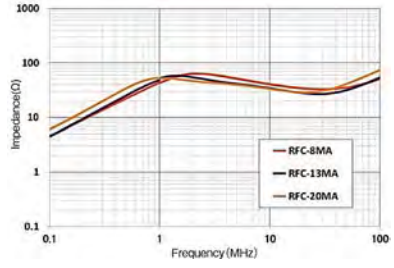
- Aimed to suppress low frequency noise generated by engine control units (ECU), inverters, and motors
- Split type with heat-resistant plastic casing
- Operating temperature: -40°C ~ 125°C
- Casing designed with a slot for a plastic cable tie
- UL94 V-2 rated housing

Unit: mm

Part No.	A	B	C	Applicable Cable Diameter	Impedance Ω/10MHz (1 Turn)
RFC-8MA	20.6	19.8	34.0	8.5 (MAX)	≥20
RFC-13MA	29.6	28.4	34.0	12.5~13.5	≥20
RFC-20MA	40.0	40.0	47.0	20 (MAX)	≥20







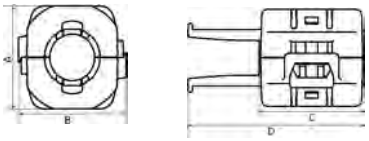
Low Frequency Ferrite Clamp *NEW!*

- Automotive grade ferrite for suppressing low frequency noise (150kHz~30MHz)
- Specifically designed to withstand vibration requirements for passenger vehicles
- Easy to install and very secure; uninstallation requires a tool to unfasten the clamp's interlocking feature
- Outer casing also feature strap and tape mounting guides to prevent sliding
- Casing is UL94V-2 rating
- Operating temperature: -40~125°C

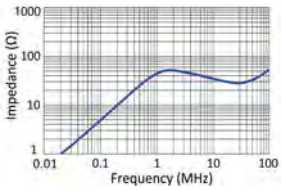
Unit: mm

Part No.	A	B	C	D	Applicable Cable Diameter	Impedance Ω/10MHz (1turn)
RFCW-13MA-BK-1PC	31.4	33.6	34.8	58.3	13.5 MAX	≥20

Product dimensions (2 pieces locked together)

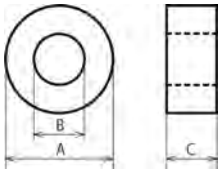


RFCW-13MA-BK-PC



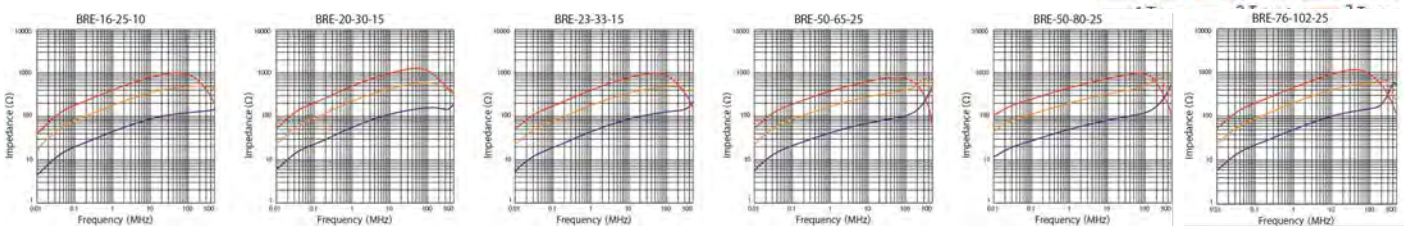
BROAD EFFECT CORE

- Amorphous metal core, effective for conducted and radiated broadband noise suppression from around 1MHz~100MHz
- High impedance characteristics reduces the number of cable turns
- Impedance characteristics remains stable within a wide temperature range
- Operating temperature: -30 ~ 130°C
- PBT plastic housing provides electrical insulation and is UL94 V-0 rated



Unit: mm

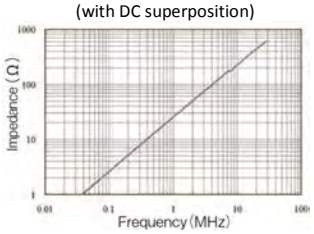
Part No.	A	B	C	Impedance Ω/1MHz (1turn)
BRE-16-25-10	27.5	13.8	12.6	≥28
BRE-20-30-15	33.5	17.7	17.9	≥36
BRE-23-33-15	36.3	21	18	≥28
BRE-50-65-25	68.4	46.7	28.7	≥34
BRE-50-80-25	84	47	29.2	≥38
BRE-76-102-25	107.9	70.2	30.4	≥31



METAL CORE

- Due to higher magnetic flux density, current superposition (current at 20A or less) will not lower the impedance
- Resin-coated core to protect cables
- Impedance is stable from -40°C ~ +140°C, with a high Curie temperature
- Possible to suppress normal mode noise

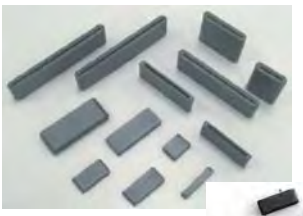
MPTR-40-24-15E
Impedance vs Frequency
(with DC superposition)



Unit: mm

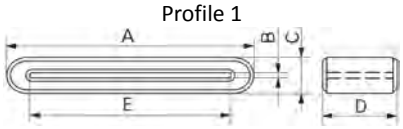
PART NO.	Max Outer Diameter	Min Inner Diameter	Max Length	Impedance Ω/1MHz (5turns)
MPTR-20-13-10E	21.2	11.8	10.9	≥7
MPTR-27-15-11E	27.8	13.8	12.1	≥12
MPTR-40-24-15E	40.9	23.1	15.48	≥12

FLAT CABLE CORES: 1-Piece Type G Ferrite Core – nickel-free

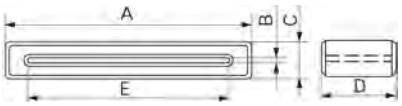


GFPC Series

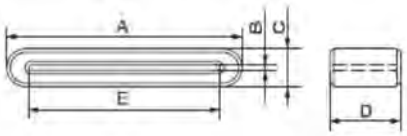
Profile 1



Profile 2



GSSC Series



Unit: mm

GFPC Series

Part No.	Profile	A	B	C	D	E	Impedance Ω/100MHz (1 Turn)
GFPC-11-8-2	1	11.0	0.7	2.3	8.0	9.0	≥25
GFPC-16-5-3	1	16.0	0.5	3.0	5.0	11.5	≥20
GFPC-16-8-2	1	15.5	0.7	2.3	8.0	12.0	≥25
GFPC-16-8-3	1	16.0	0.5	3.0	8.0	11.5	≥25
GFPC-16-12	1	16.0	0.5	5.0	12.0	11.5	≥45
GFPC-16-20	1	16.0	0.8	5.0	20.0	11.5	≥60
GFPC-18-3-2	1	18	0.7	2.3	3.0	14.5	≥20
GFPC-18-8-2	1	18.0	0.7	2.3	8.0	14.5	≥25
GFPC-22-8-2	1	21.5	0.7	2.3	8.0	18.0	≥25
GFPC-24-12-3	2	23.3	0.9	3.0	12.0	20.0	≥30
GFPC-25-10-3	2	25.5	0.8	3.0	10.0	21.5	≥25
GFPC-25-12	1	24.5	0.5	5.0	12.0	20.0	≥35
GFPC-25-15-3	2	25.5	0.8	3.0	15.0	21.5	≥35
GFPC-25-20	1	24.5	0.5	5.0	20.0	20.0	≥50
GFPC-31-12	1	31.0	0.5	5.0	12.0	27.0	≥40
GFPC-31-12-3	2	31.0	1.0	3.0	12.0	27.0	≥30
GFPC-46-12	1	46.0	0.5	5.0	12.0	41.5	≥40
GFPC-56-12	1	56.2	0.5	5.0	12.0	52.4	≥35

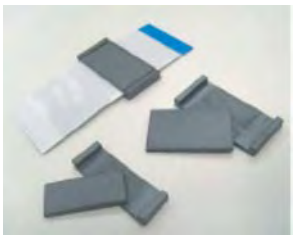
GSSC Series

GSSC-33.5-8	N/A	33.5	1.4	6.5	8.0	28.4	≥30
GSSC-33.5-10	N/A	33.5	1.4	6.5	10.0	28.4	≥30
GSSC-33.5-12	N/A	33.5	1.4	6.5	12.0	28.4	≥35
GSSC-33.5-20	N/A	33.5	1.3	6.5	20.0	27.8	≥50
GSSC-33.5-10-2	N/A	33.5	2.2	7.4	10.0	27.0	≥30
GSSC-40-12	N/A	40.0	1.3	6.5	12.0	35.0	≥35
GSSC-45-8	N/A	45.2	1.3	6.5	8.0	40.0	≥30
GSSC-45-12	N/A	45.2	1.3	6.5	12.0	40.0	≥35
GSSC-50-12	N/A	50.0	1.4	6.5	12.0	44.9	≥35
GSSC-58-12	N/A	57.6	1.3	6.5	12.0	52.0	≥35

GSSC series operating temperature: -40~85°C

FLAT CABLE CORES: 2-Piece Type

- GSSH and GFPH series are a set of two of the same U-shaped pieces
- GFPO series has a combination of one U-shaped piece and one flat piece



Unit: mm

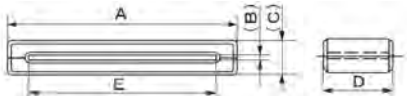
GFPH and GFPO Series

Part No.	A	B	C	D	E	Impedance Ω/100MHz (1 Turn)
GFPH-10-6-5	10.0	1.8	5.0	6.0	6.8	≥25
GFPO-23-8-3	23.0	0.5	2.8	8.0	19.0	≥30
GFPO-25-12-3	25.0	0.5	2.8	12.0	21.0	≥35
GFPO-31-12-3	31.0	0.5	2.8	12.0	27.0	≥35

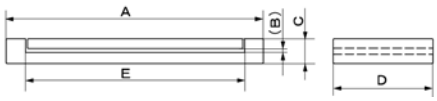
GSSH Series

GSSH-33.5-12	33.5	1.2	6.6	12.0	27.0	≥35
GSSH-33.5-20	33.5	1.2	6.6	20.0	27.0	≥50
GSSH-40-12	40.0	1.2	6.6	12.0	34.8	≥35
GSSH-45-12	45.2	1.2	6.6	12.0	40.0	≥35

GFPH and GSSH Series

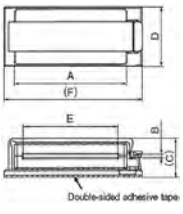


GFPO Series



FLAT CABLE CORES: Large 2-Piece Type

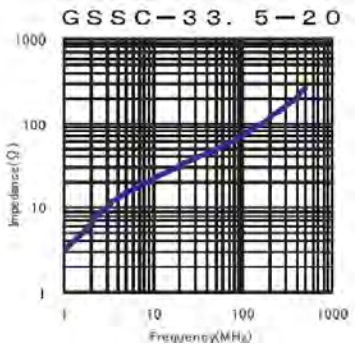
BCN

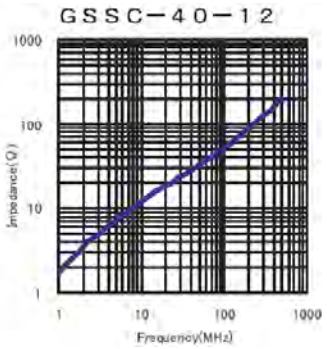


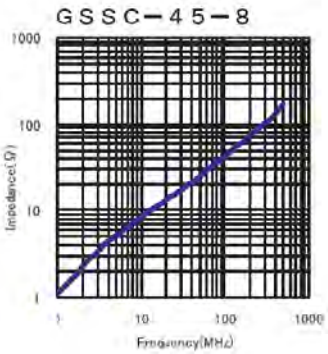
Unit: mm

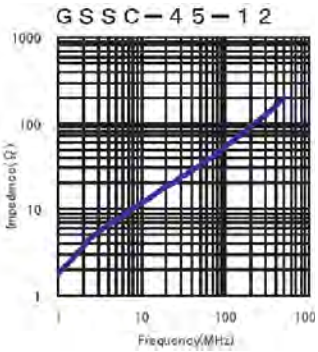
BCN Series *Adhesive mount* with plastic holders

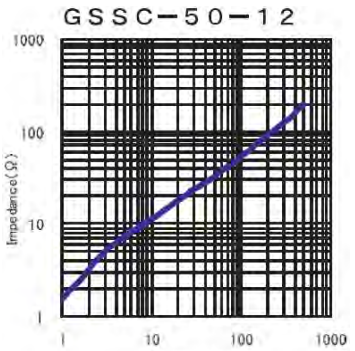
Part No.	A	B	(C)	D	(E)	(F)	Impedance Ω/100MHz (1 Turn)
BCN-26	45.0	2.0	19.6	30	34.0	59.2	≥125
BCN-40	63.0	2.0	19.5	30	52.0	76.5	≥137
BCN-50	76.5	2.0	19.5	30	64.5	90.7	≥142

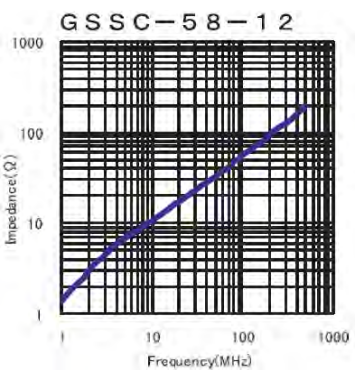




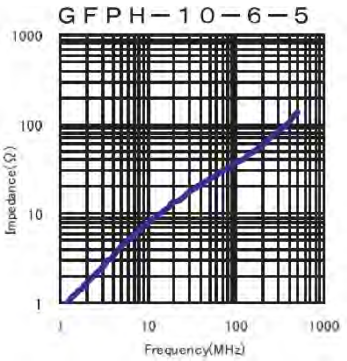




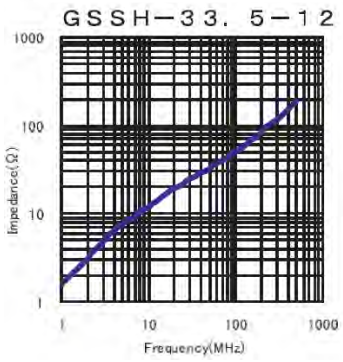


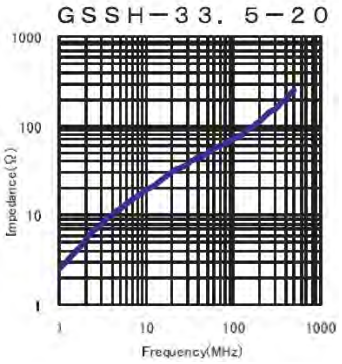


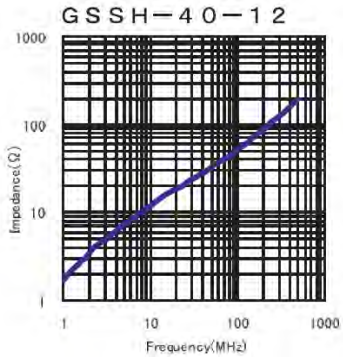
GFPH Impedance Graph

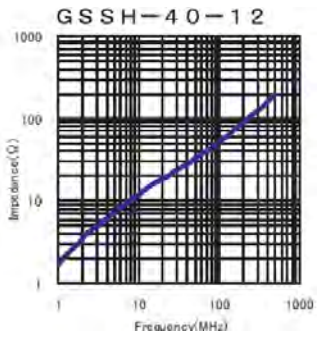


GSSH Impedance Graphs

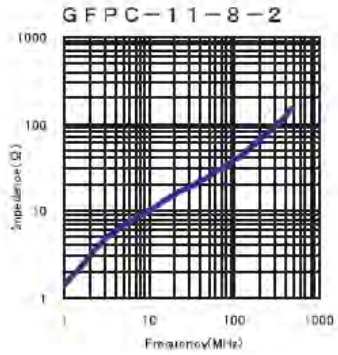


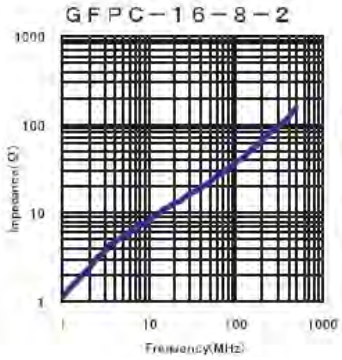


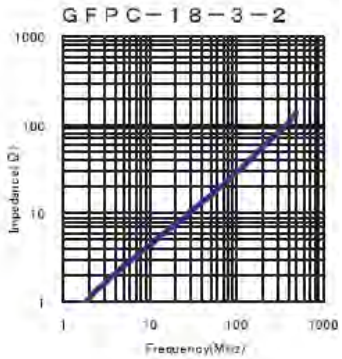


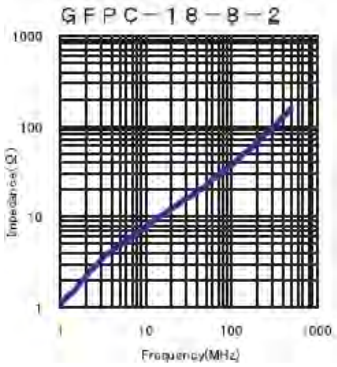


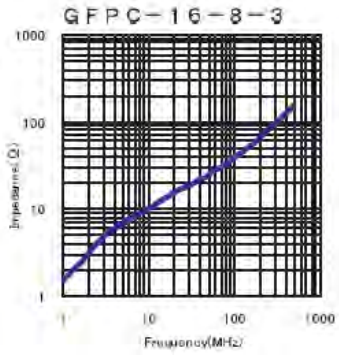
GFPC Impedance Graphs

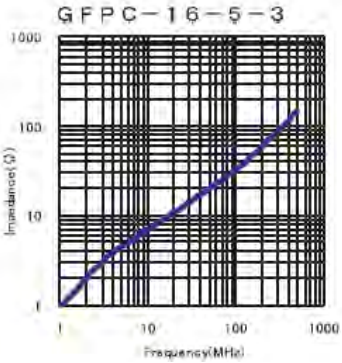


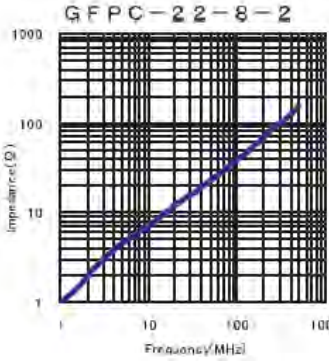


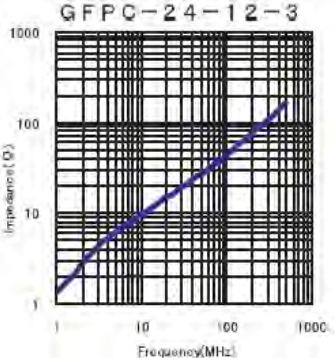








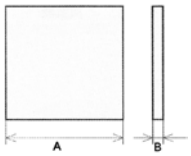




FERRITE TILES and SHEETS

SD Tiles – high performance, sintered ferrite tiles for CPU's high density

- Solid ferrite tiles for RF noise suppression
- Options for with adhesive (with "T") and without adhesive (no "T") available



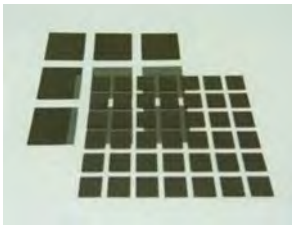
Unit: mm

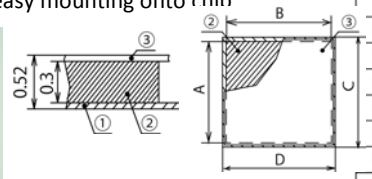
PART NO.	A	B	Impedance* Ω/25MHz	Impedance* Ω/100MHz
SD-28-28-0.8	28	0.8	≥22	≥76
SD-28-28-0.8T	28	0.8	≥22	≥76
SD-28-28-1.5	28	1.5	≥34	≥115
SD-28-28-1.5T	28	1.5	≥34	≥115

*Test method for impedance test wire was sandwiched between two pieces of SD tiles in the center.

FFS Series – flexible ferrite tiles for low frequency

- 0.3mm thick, flexible ferrite
- Suppresses low frequency noise around 1MHz
- Adhesive on one side for easy mounting onto chip





① PET/Mylar layer
② Ferrite layer
③ High temp adhesive layer

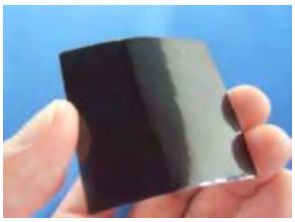
Unit: mm

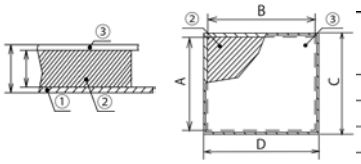
Part Number	Ferrite Dimension A	Ferrite Dimension B	PET/Mylar Dimension C	PET/Mylar Dimension D
FFS-0.3-1010T	10	10	11.5	11.5
FFS-0.3-1020T	10	20	11.5	21.5
FFS-0.3-1515T	15	15	16.5	16.5
FFS-0.3-2020T	20	20	21.5	21.5
FFS-0.3-2030T	20	30	21.5	31.5
FFS-0.3-2525T	25	25	26.5	26.5
FFS-0.3-3030T	30	30	31.5	31.5
FFS-0.3-5050T	50	50	55	55

Operating temperature: -40 ~ 105°C

FFSX Series – flexible ferrite sheet for RFID/NFC and Rezence wireless charging

- Thin, flexible ferrite sheet with high u'; low loss at lower frequencies
- Effective for RFID/NFC-to-metal systems at 13.56MHz
- Increases field strength from Tx to Rx for wireless charging (6.78MHz)





① PET/Mylar layer (0.08mm)
② Ferrite layer (see chart)
③Adhesive layer (0.03mm)

A, B: ferrite dimension
C, D: PET/Mylar dimension

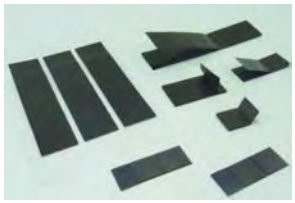
Unit: mm

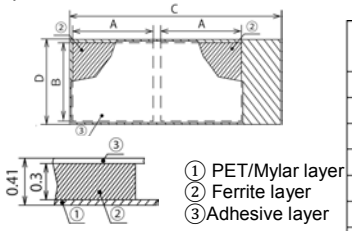
Part Number	Ferrite thickness	Total thickness	Standard Ferrite Size Tile	Standard Ferrite Size Sheet
FFSX-0.1	0.1	0.21	50 x 60	180 x 200
FFSX-0.2	0.2	0.31	50 x 60	180 x 200
FFSX-0.3	0.3	0.41	50 x 60	180 x 200

Operating Temperature: -40°C~+85°C

FFPC Series – flexible ferrite cores

- 0.3mm thick, flexible ferrite cores that will not shatter if dropped
- Ideal for applications that cannot accept the weight and bulkiness of solid ferrite cores
- Adhesive on one side for easy installation





① PET/Mylar layer
② Ferrite layer
③Adhesive layer

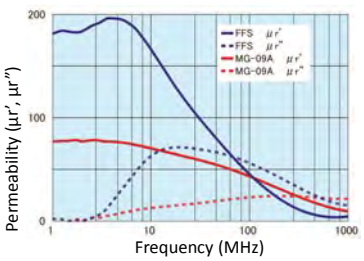
Unit: mm

Part Number	Ferrite Dimension A	Ferrite Dimension B	PET/Mylar Dimension C	PET/Mylar Dimension D
FFPC-0.3-10-5	10	5	32.5	6.5
FFPC-0.3-10-10	10	10	30	11
FFPC-0.3-12-8	12	8	38.5	9.5
FFPC-0.3-14-14	14	14	38	15
FFPC-0.3-22-8	22	8	60.5	9.5
FFPC-0.3-22-14	22	14	54	15
FFPC-0.3-27-14	27	14	70.5	15.5
FFPC-0.3-44-14	44	14	98	15

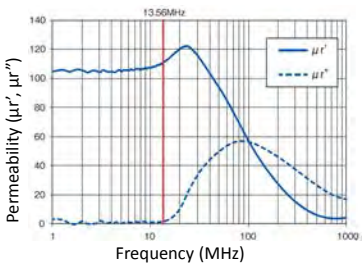
Operating temperature: -40 ~ 85°C

Ferrite Sheet Permeability Graphs

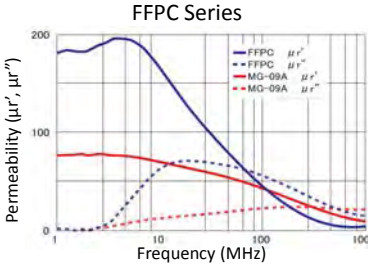
FFS Series



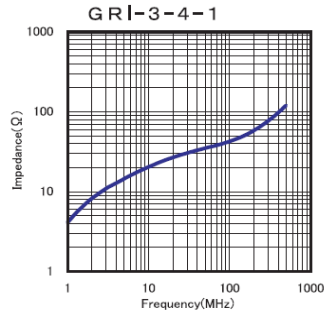
FFSX Series

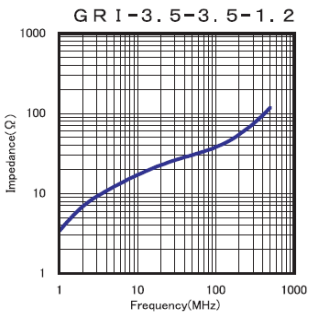


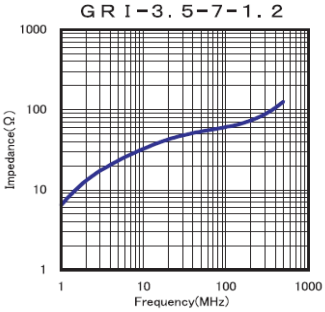
FFPC Series

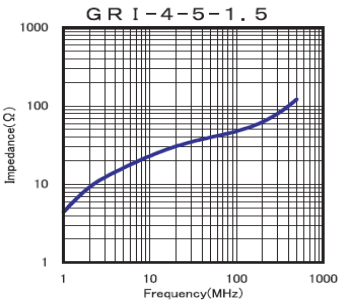


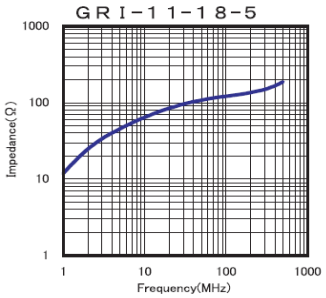
GRI Impedance Graphs

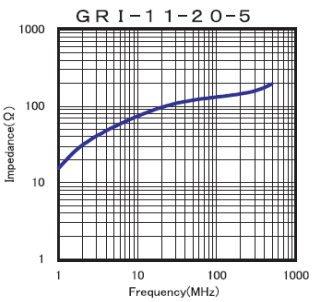


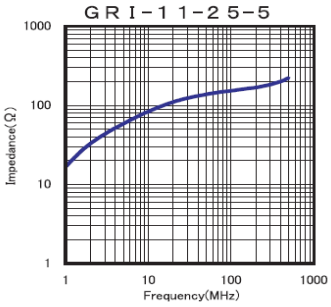


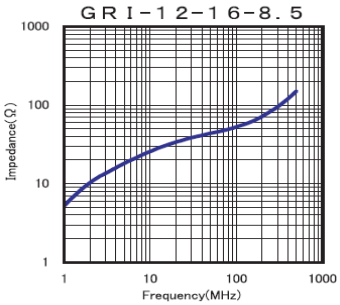


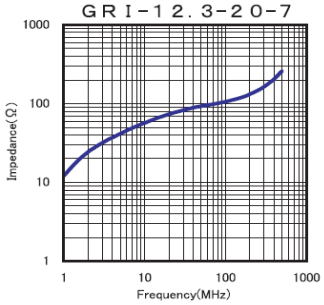


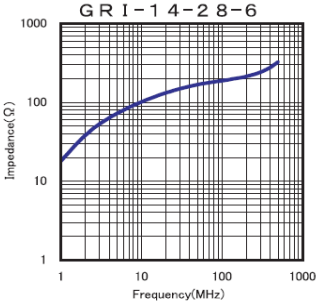


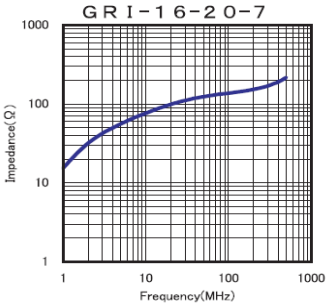


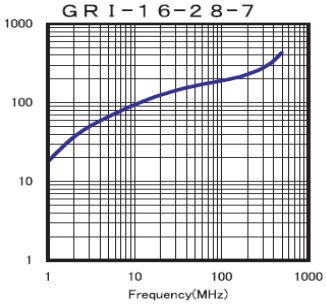


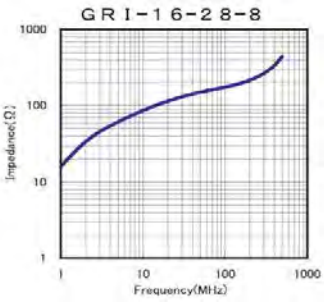


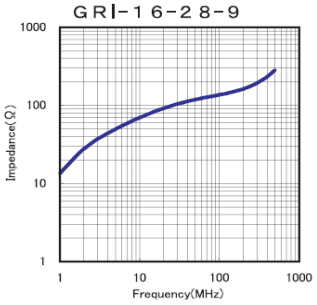


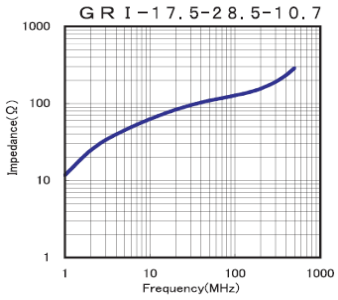


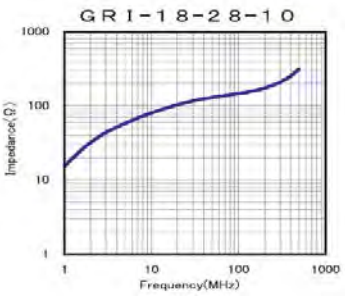


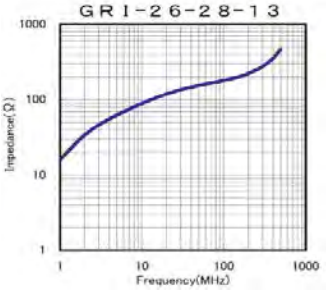




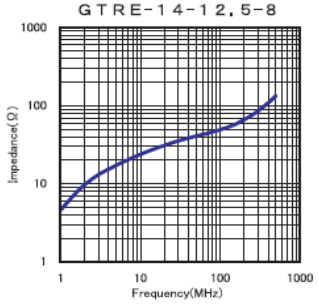


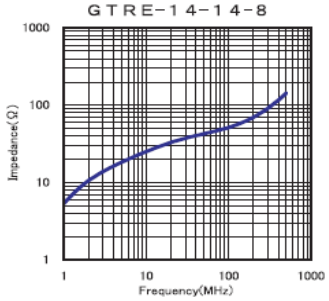


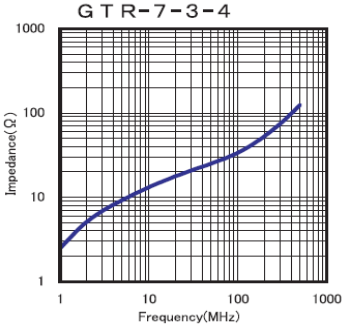


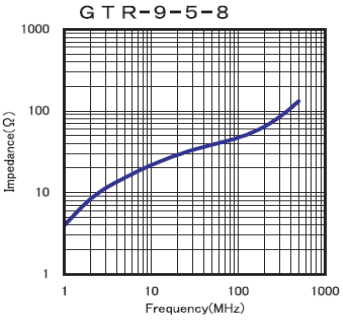


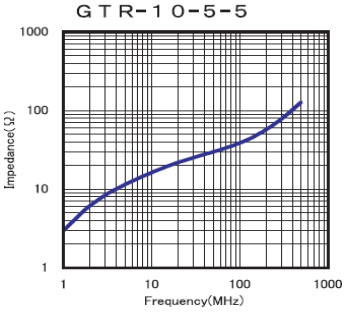
GTRE Impedance Graphs

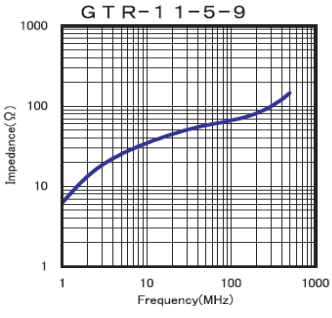




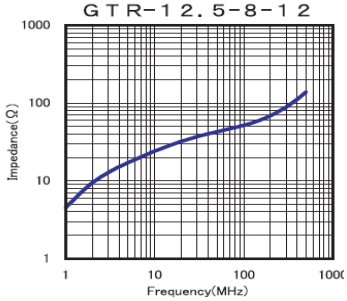




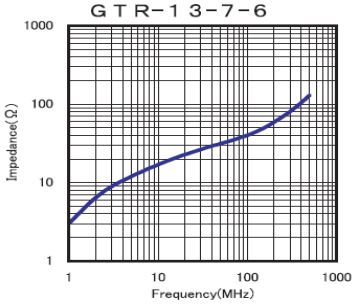




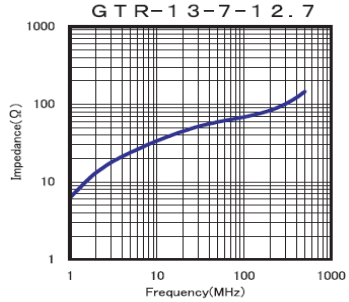
GTR-12.5-8-12



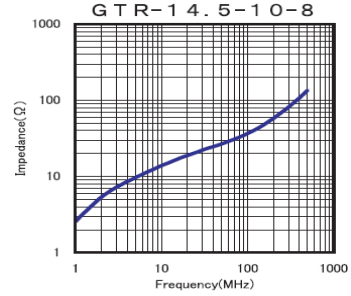
GTR-13-7-6



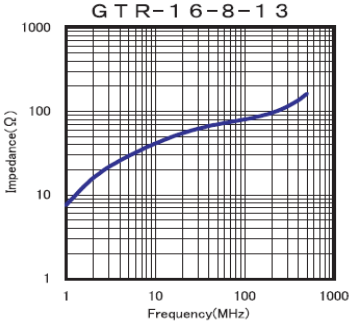
GTR-13-7-12.7



GTR-14.5-10-8



GTR-16-8-13



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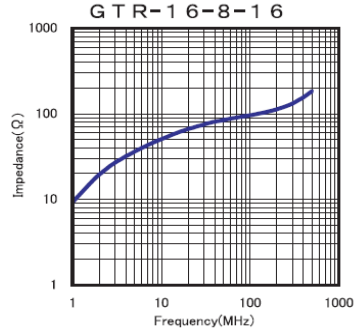
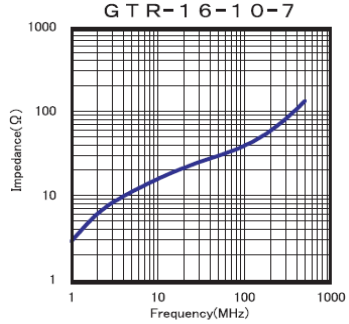
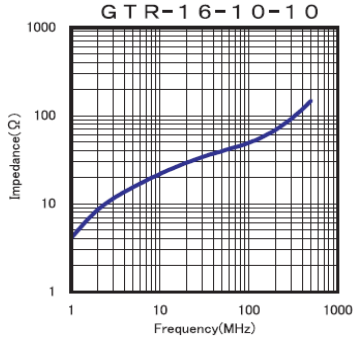


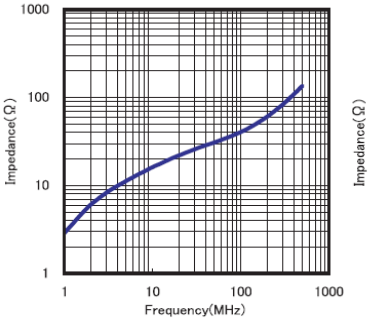
GTR-16-10-7



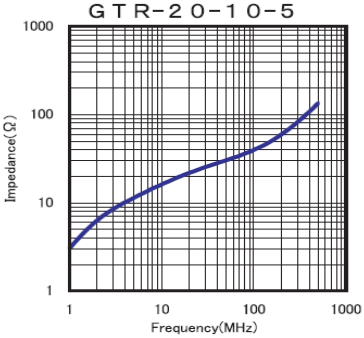
GTR-16-10-10



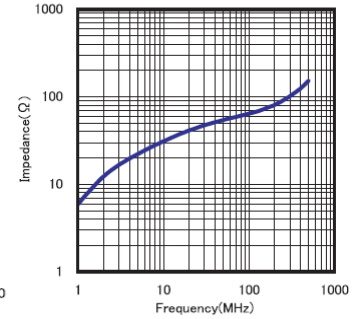
GTR-18-10-6



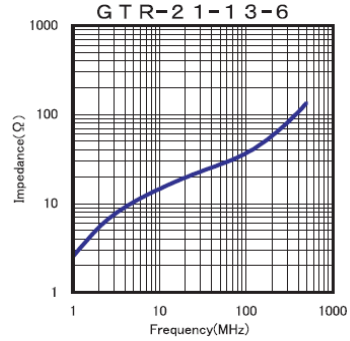
GTR-20-10-5



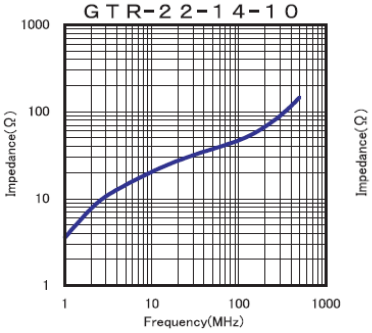
GTR-20-10-10



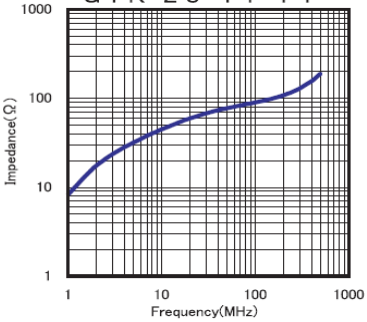
GTR-21-13-6



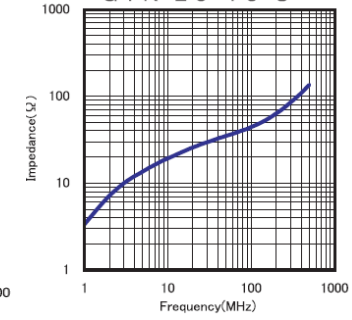
GTR-22-14-10



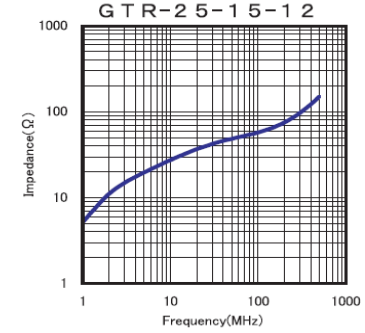
GTR-23-11-14



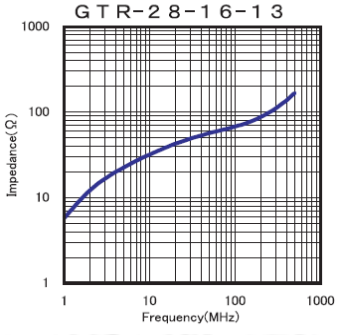
GTR-25-15-8



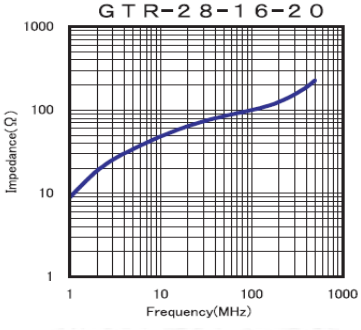
GTR-25-15-12



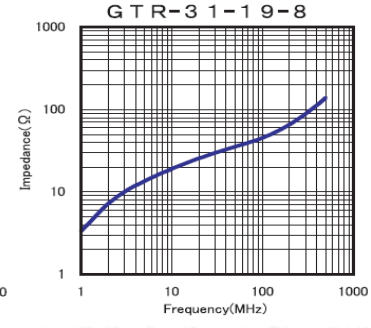
GTR-28-16-13



GTR-28-16-20

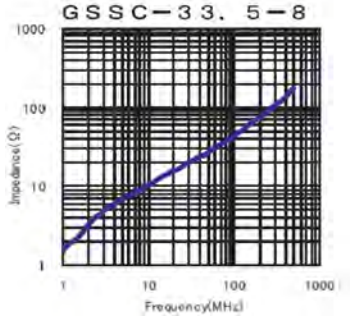


GTR-31-19-8

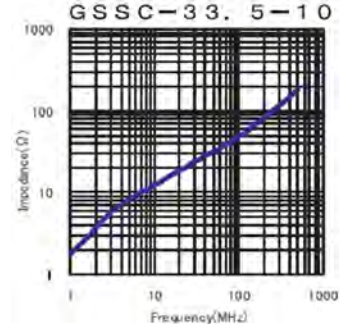


GSSC Impedance Graphs

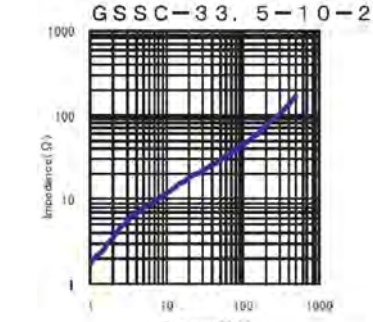
GSSC-33.5-8



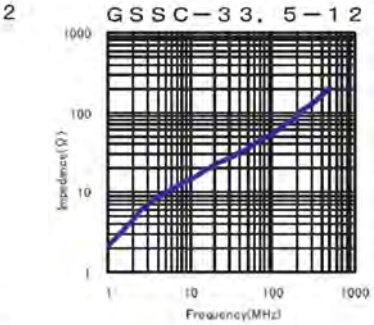
GSSC-33.5-10



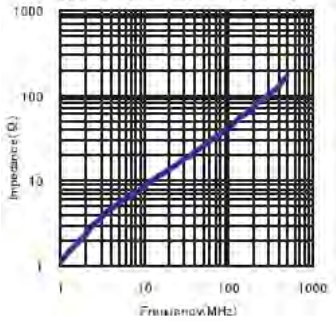
GSSC-33.5-10-2



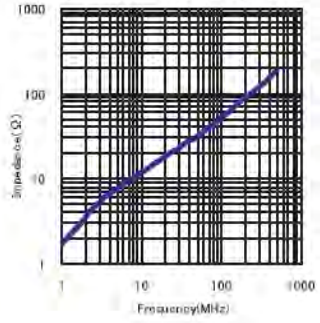
GSSC-33.5-12



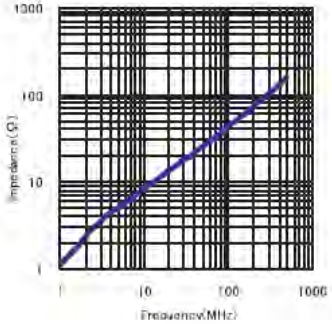
GFPC−25−10−3



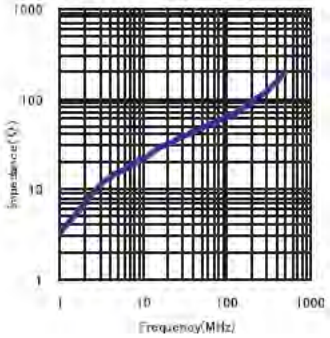
GFPC−25−15−3



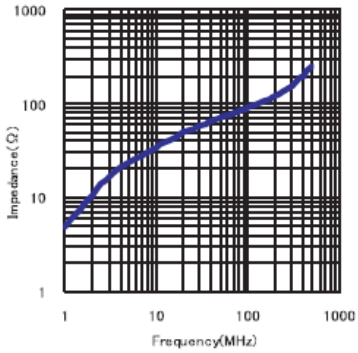
GFPC−31−12−3



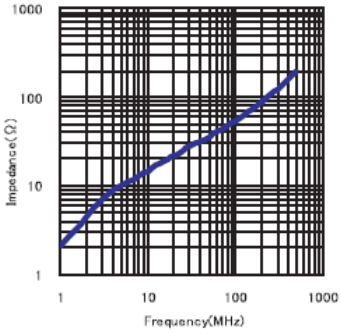
GFPC−16−12



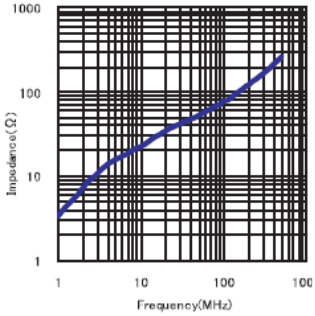
GFPC−16−20



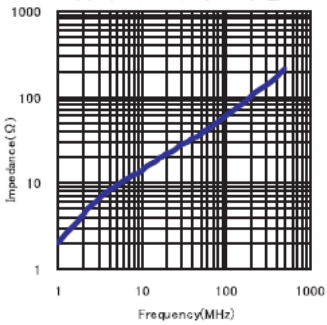
GFPC−25−12



GFPC−25−20

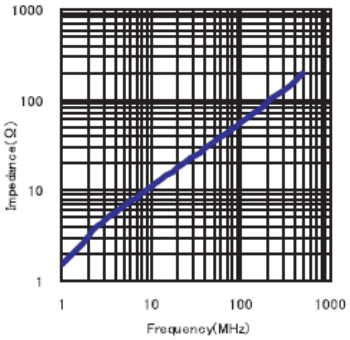


GFPC−31−12

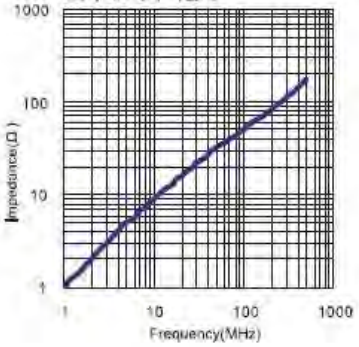


GFPO Impedance Graphs

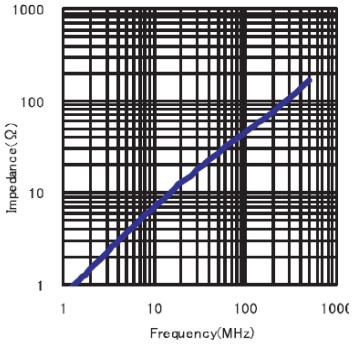
GFPC−46−12



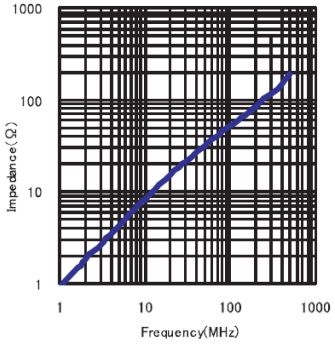
GFPO-31-12-3



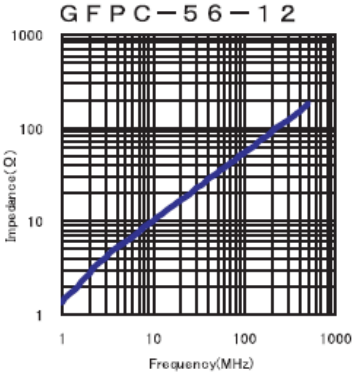
GFPO−23−8−3



GFPO−25−12−3

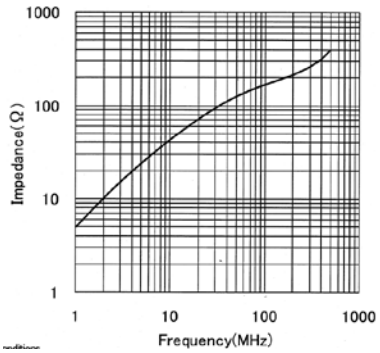


GFPC−56−12

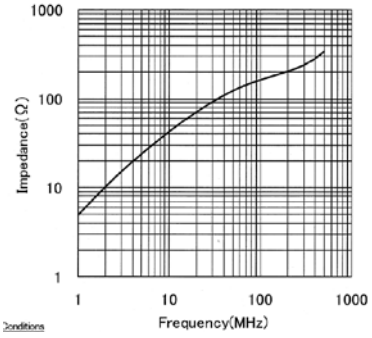


GRFC Impedance Graphs

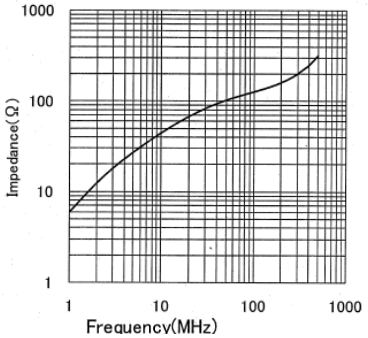
GRFC-5



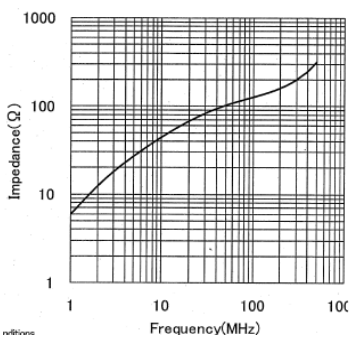
GRFC-6



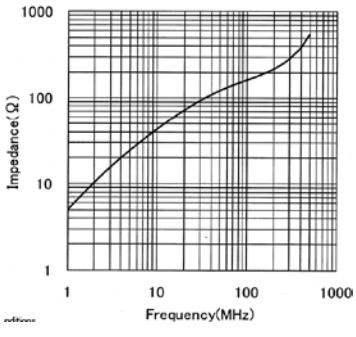
GRFC-8



GRFC-9



GRFC-13



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