

# Ferrites (7000 Series)



## Flat Cable Suppression Core (MRP Type)

Split ferrites for EMI suppression on flat cable assemblies.

- Internal floppy disk and hard disk ribbon cables.
- Internal ribbon cables between circuit boards and data connectors.
- Internal ribbon cables with 8, 16, 32 or 64-bit digital signal busses.

## Flat Cable Suppression Cores (MRS Type)

Rectangular solid ferrites for EMI suppression on flat cable assemblies.

- Internal floppy disk ribbon cables.
- Internal ribbon cables between circuit boards and data connectors.
- Internal ribbon cables with 8, 16, 32 or 64-bit digital signal busses.

## Round Cable Suppression Core (MSC Type)

Enclosures for channel-type EMI-suppressor snaps.

- Internal and external power cables.
- Internal cables between PC boards and data connectors.

## Round Cable Suppression Cores (MRC Type)

Enclosures for channel-type EMI-suppressor snaps.

- Internal and external power cables.
- Internal cables between PC boards and data connectors.

## Connector Suppressor Elements (MFD Type)

EMI suppression for connectors and dual in-line integrated circuits.

- 9, 15, 25 and 37 pin subminiature "D" connectors.

### ■ Connector Suppressor Elements (F Type)

Specially designed for Ethernet module jacks or phone jacks.

### ■ Toroidal Cores (MRT Type)

T-type ring cores for coupling transformers and balancing coils, fixed coils and filter coils.

### ■ Sleeve Cores (MRI Type)

Produced for assembling cable wire and making MATV CATV.

- Internal and external computer data and power cables.

### ■ Wound Chip Beads (MBC Type)

For computer products (mother board, hard disk, TV card, etc.); communication products (pager, cordless phone, etc.); modems, OA products, power suppliers, etc.

Counter-measures for complying with CE, FCC, or VCCI radiated emissions.

### ■ Multi-line Suppressor Beads (SH Type)

- Filtering of power input pins of oscillators or logic devices using high speed docks.
- Filtering of low-frequency input/output signal entering/exiting shielded enclosures.
- High frequency filtering of medium speed docks and video signals.
- Preventing oscillation in high-frequency amplifiers.

### ■ Wide Band Choke (7R61 Series)

Mainly used in PC boards to filter EMI from the outside.

- High-performance medium-current DC power and signal filtering.

### ■ Rod Cores (R Type)

For coils which do not require adjustments as well as for magnetic shielding.

### ■ Balun Cores (RID, RHH, R4H Types)

For wide-band transformers that provide balance to unbalanced transformers. Also used in the input circuits for TV and FM tuners, and in CATV, MATV networks and installations.

### ■ Multi-layer Chip Beads (FBM Type)

EMI suppression for various electric equipment by the addition of impedance to the circuit. Particularly effective with unstable grounding. High-frequency EMI prevention of computers, printers, VCRs, TVs and portable telephones.

### ■ Multi-layer Chip Inductors (FLM Type)

EMI suppression for various electric equipment by the addition of impedance to the circuit. Suitable for all computer-related products. For composing different LC filters with capacitors to modify signal wave-form, such as TV-out in a notebook computer or audio-out in a CD-ROM circuit.

### ■ Wound Chip Inductors (FLC Type)

Used for computer products (hard disks, floppy disks, etc.), communication products (cordless phones, etc.), modems, OA products, TV sets, VCRs, etc.

- Counter-measures for complying with CE, FCC, VDE or VCCI radiated emissions.
- High resistance to heat and humidity as well as resistance to mechanical shocks and pressure.
- Accurate dimensions for automatic surface mounting.

### ■ Common Mode Choke & SMD Power Choke

Used for prevention of common mode noise on signals and power lines for computer-related products.

- High impedance for common mode noise and low impedance for differential mode signal.
- Large rated current available.
- Wide-band or sharp-type impedance curve available.
- SMD or DIP types available.

# Ferrites

## Multilayer Chip Beads (FBM Type)

Ordering Code, Shape & Dimensions  
Electrical Characteristics  
Features, FBM-11 Type Vs FMB-10 Type  
FBM-11-1608 Type, Typical Electrical Characteristics Curve  
FBM-10-1608 Type, Typical Electrical Characteristics Curve  
FBM-11-2012 Type, Typical Electrical Characteristics Curve  
FBM-10-2012 Type, Typical Electrical Characteristics Curve  
FBM-11-3216 Type, Typical Electrical Characteristics Curve  
FBM-10-3216 Type, Typical Electrical Characteristics Curve  
-3225  
FBM-11-4516 Type, Typical Electrical Characteristics Curve  
-4532  
High Current Type, Typical Electrical Characteristics Curve  
FBM-11-1005 Type, Typical Electrical Characteristics Curve  
Packaging  
Reliability Test

## Multilayer Chip Inductors (FLM Type)

Ordering Code, Shape & Dimensions  
FLM-1608 Type, Electrical Characteristics  
FLM-2012 Type, Electrical Characteristics  
FLM-3216 Type, Electrical Characteristics  
Packaging  
Reliability Test

## Ultra High Frequency Multilayer Chip Inductors (HLM Type)

Features, Ordering Code, Shape & Dimensions  
HLM-1608 Type, Electrical Characteristics  
Characteristics Curve  
HLM-2012 Type, Electrical Characteristics  
Characteristics Curve

## Wound Chip Beads (MBC Type)

Features, Applications  
Ordering Code, Shape & Dimensions  
Typical Electrical Characteristics Curve  
Packaging

## Wound Chip Inductors (FLC Type)

Features, Applications  
Ordering Code, Shape & Dimensions  
FLC-322522 Type, Electrical Characteristics  
FLC-453232 Type, Electrical Characteristics  
Packaging  
Reliability Test

## Ultra High Frequency Wound Chip Inductor (HLC Type)

Features, Applications, Ordering Code, Shape & Dimensions  
Electrical Characteristics—> HLC-0805  
Electrical Characteristics—> HLC-1008  
Packaging

## Chip Bead Array

Features, Applications, Ordering Code, Shape & Dimensions  
Electrical Characteristics, Typical Electrical Characteristics Curve  
Reliability Test

## Common Mode Choke

Features, Applications, Ordering Code, Ts1206 Series  
Xs1208, Xd0708 Series  
Xc1060, Xc1270 Series

## Smd Power Choke

Features, Applications, Ordering Code, Shape & Dimensions  
Electrical Characteristics —> Bs43, Bs54  
Electrical Characteristics —> Bs73, Bs75  
Electrical Characteristics —> Bs105  
Packaging

## Wide Band Choke (SH Type)

Ordering Code, Shape, Dimensions & Characteristics

## Bead Cores (Radial Taping & Bulk Type)

Ordering Code, Shape, Dimensions & Characteristics

## Bead Cores (Axial Taping Type)

Ordering Code, Shape, Dimensions & Characteristics

**Table 1 - FERRITE STANDARD CHARACTERISTICS MATERIALS**

Property	Initial Permeability	Curie Temperature	Specific Gravity	Loss Factor @ FREQUENCY	Temp. Coef. of Initial Permiability 20-70°C
Unit		°C	g/cm <sup>3</sup>	10 <sup>-6</sup> MHz	10 <sup>-6</sup> °C
Symbol	μi	T <sub>c</sub>	d	1/μiQ	αμir
A6	1800±25%	>100	4.7	75 (0.5)	0-3
A5	1000±25%	>130	4.8	280 (1.0)	2-5
K5	850±25%	>130	4.8	260 (1.0)	3-6
K5B	700±25%	>140	4.8	250 (1.0)	0-7
K2A	350±25%	>150	4.7	60 (2.0)	15-40
K3A	300±25%	>150	4.7	100 (2.0)	4-12
A17	300±25%	>300	4.6	90 (5.0)	0-7
A78	300±25%	>150	4.7	60 (2.0)	15-40
K1C	250±25%	>200	4.7	110 (2.0)	3-10
A8	200±25%	>250	4.7	35 (7.0)	19-32
A3	100±25%	>300	4.4	160 (2.0)	55-130
K8B	55±25%	>300	4.7	400 (2.0)	5.15