CLAMP TYPE FERRITE CORE

Specifications

1 BASIC

Explanation of Part Numbers

- Digits 1 & 2 = Product Class
- Digits 3 & 4 = Material Grade

Round cable snap-its can easily accommodate round cables or bundled wires with diameters from 2.5 mm (0.100) to 25.4 mm (1.000). These assemblies are available in four ferrite material classes to suppress differential or common-mode conducted EMI from 1 MHz into the GHz region. The polypropylene cases are meeting the RoHS restrictions of hazardous substances and have a flammability rating of UL 94 V-0.

Many of the snap-it parts have round core equivalents. See Round Cable EMI Suppression Cores.

Round Cable Snap-It Kits are available for each of the four suppression materials. 31 Snap-It Kit (0199000030), 43 Snap-It Kit (0199000031), 46 Core and Snap-It Kit (0199000032) and 61 Snap-It Kit (0199000033).

2 STORAGE & OPERATING CONDITIONS

Ferrites cores are very robust when it comes to temperature, they cannot "physically" be changed unless the temperature goes above 1000ºC, they however can crack with fast temperature changes (> 1ºC/sec.) : "Thermal Shock". Curie temperature is a material specific characteristic, above which the ferrite loses its magnetic properties, once the temperature returns to below Curie the magnetic properties return.

1.) For Suppression components that do not have plastic cases, coatings or conductors :
Storage Temperature: -55º to +125ºC

Operating Temperature: -55º to +125ºC. performance typically derates per the material specific Impedance vs. Temperature curves.

2.) For Suppression components associated with plastic cases
Storage Temperature: 0º to +85ºC

Operating Temperature: 0º to +85ºC performance typically derates per the material specific Impedance vs. Temperature curves. The constraint is the plastic cases, above +85ºC the plastic softens and can deform, below 0ºC. the plastic can become brittle and crack when opened and closed.

3.) For Suppression components with conformal coatings
Storage Temperature: -55º to +90ºC

Operating Temperature: -55º to +90ºC performance typically derates per the material specific Impedance vs. Temperature curves. For thermo-set plastic coating (green or white) above +105ºC the coating softens and can becomes tacky. For Parylene coating (transparent) the suggested operating temperature range is -55º to +90ºC

4.) For Suppression components with conductors :
Storage Temperature: -55º to +125ºC, RH < 55%, suggested shelf life is one year, solderability should be evaluated for longer periods.

Operating Temperature: -55º to +125ºC. performance typically derates per the material specific Impedance vs. Temperature curves. For the unisulated conductors as supplied by Fair-Rite there is no further constraint, for customer supplied conductors the operating constraint is dependent on the wire insulation temperature rating.

5.) For Multi Layer Chip Beads:
Storage Temperature: -55º to +125ºC, RH < 55%, shelf life is one year, solderability should be evaluated for longer periods. (-10º to +40ºC is recommended for maximizing shelf life)

Operating Temperature: -55º to +125ºC.

6.) For Flexible Ferrite Sheets :
Storage Temperature: -40º to +85ºC, suggested shelf life is one year; however shelf life may be extended by storage at 22 – 25ºC and 45-55% RH avoiding light and dust.

Operating Temperature: -40º to +85ºC performance typically derates per the material specific Permeability vs. Temperature curves. The constraint is the PET film and Adhesive Tape layers

7.) For Inductive and Power components that do not have coatings or conductors :
Storage Temperature: -55º to +125ºC

Operating Temperature: -55º to +125ºC. performance typically derates per the material specific Permeabilty vs. Temperature or Power Loss vs. Temperature curves.

8.) For Inductive and Power components with conformal coatings
Storage Temperature: -55º to +90ºC

Operating Temperature: -55º to +90ºCperformance typically derates per the material specific Permeabilty vs. Temperature or Power Loss vs. Temperature curves. For thermo-set plastic coating (green or white) above +105ºC the coating softens and can becomes tacky. For parylene coating (transparent) the suggested operating temperature range is -55º to +90ºC.

9.) For Inductive and Power components with conductors :
Storage Temperature: -55º to +125ºC, RH < 55%, suggested shelf life is one year, solderability should be evaluated for longer periods.

Operating Temperature: -55º to +125ºC. performance typically derates per the material specific Permeabilty vs. Temperature or Power Loss vs. Temperature curves. For customer supplied conductors the operating constraint is dependent on the wire insulation temperature rating.

3 MECHANICAL

43 Round Cable Core Assembly
Broadband Frequencies 25-300 MHz (43 & 44 materials)
Suppression Components
Cable Component

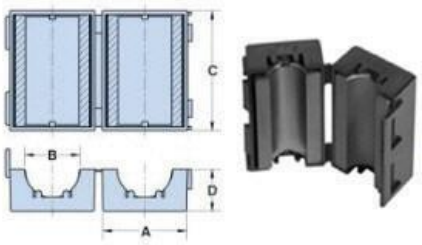
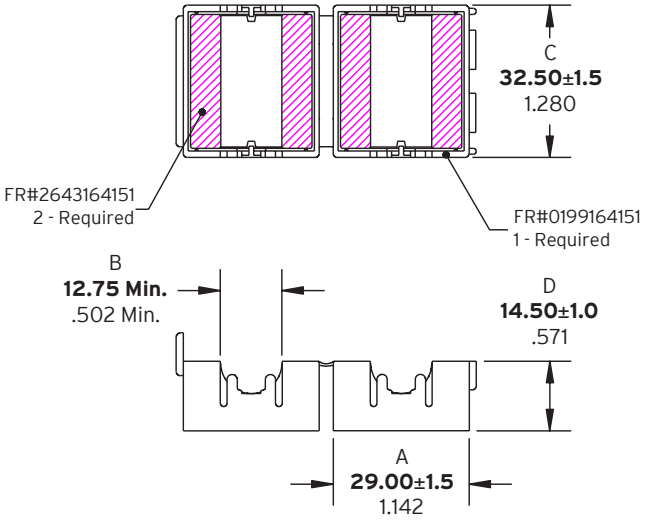


Figure 2

Dimensions				
DIM	mm	mm Tol	Nominal Inch	Inch Misc.
A	29	+/- 1.5	1.142	--
B	12.75	--	0.502	--
C	32.50	+/- 1.5	1.28	--
D	14.5	+/- 1.0	0.571	--

Chart Legend
+ Test frequency
• For solid cable cores, see Round Cable EMI Suppression Cores

Catalog Drawing



Dimensions
Bold Numbers are in Millimeters
Light Numbers are in Inches

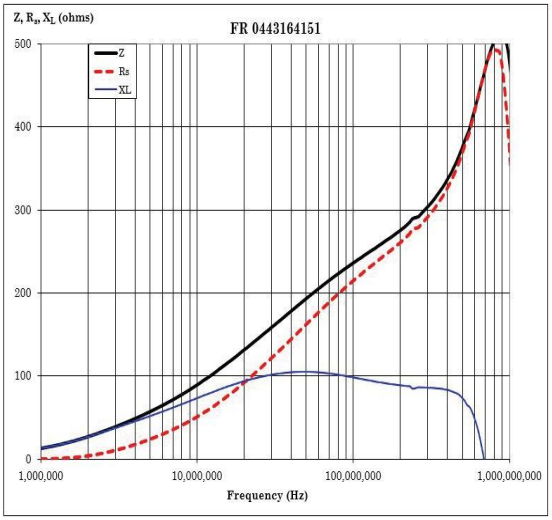
4 ELECTRICAL

Cable Information			
Max Diameter	Max Dimension	Solid Equivalent	Flat Cable Cores
12.7	--	2643102002	--
0.5			

Typical Impedance Ω	
10 MHz	88
25 MHz+	145
100 MHz+	236
250 MHz	290

Round cable snap-it assemblies are controlled for impedances only.
Minimum impedance values are specified for the + marked frequencies.
The minimum impedance is listed on our catalog drawing.

Single turn impedance tests for 31, 43 and 46 material cores are performed on the E4991A/HP4291B Impedance Analyzer. The 61 material parts are tested on the E4991A / HP4291B Impedance Analyzer and 75 material parts are tested on the E4990A Impedance Analyzer. Cores are tested with the shortest practical wire length.



5 GLOBAL PART NUMBER

Part number is HE-FBD001

6 TECHNICAL SUPPORT

For assistance and manual updates, contact Technical Support at the following locations:

North America
(317) 916-4274
www.hornerautomation.com
techsppt@heapg.com

Europe
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