

NANOCRYSTALLINE HIGH FREQUENCY CORES

- Series/Type: VIKANO SUPER 300-1618
- Ordering Code/Part No: VS31618-R139505
- Date: 10.08.2026
- Version: 01

NANOCRYSTALLINE HIGH FREQUENCY CORE

VS31618-178135

FEATURES

- Excellent Thermal Stability
- Wide Working Temperature Range
- High Magnetic Permeability >200000 at 50Hz
- High Saturation Flux Density
- Low Coercivity
- Low Power Loss
- High Electrical Resistivity



MATERIAL SPECIFICATIONS

- Material: Fe-Based High Frequency Nano-crystalline Ribbon Strip
- Nominal Permeability μ (10KHz): 100,000
- Curie Temperature: 560°C
- Density: 7.25g/cm³
- Resistivity ($\mu\Omega\cdot\text{cm}$): 130
- Ribbon Thickness: 17 μm (+/-2 μm)
- Crystallization Temperature: 515°C
- Saturation Induction: 1.2Tesla at 50Hz



CASE/INSULATION MATERIAL SPECIFICATIONS

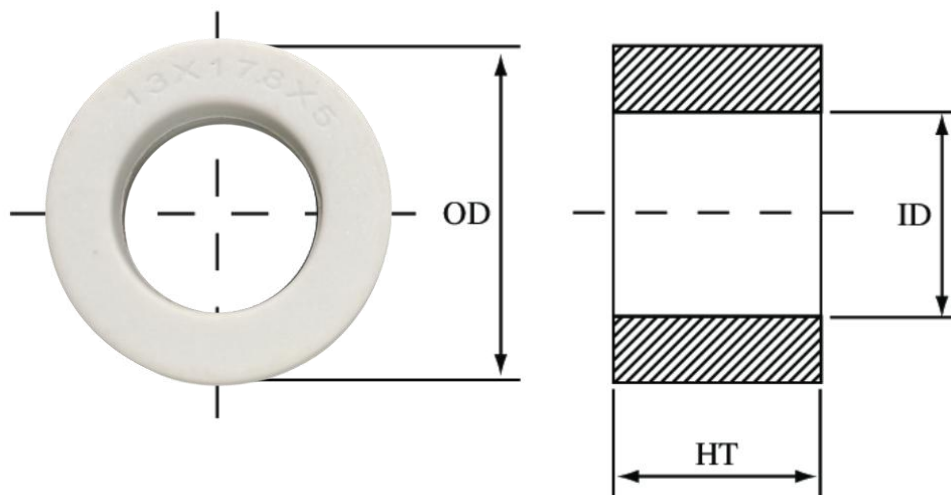
- Raw Material: PBT-GF30, Arnite® TV4260S-FR(17)
- Make: Envalior (Formerly, DSM Engineering Plastics)
- Colour: Black or White (As per Raw Material Availability)
- UL File No: E47960
- ISO:1043
- Compliances:



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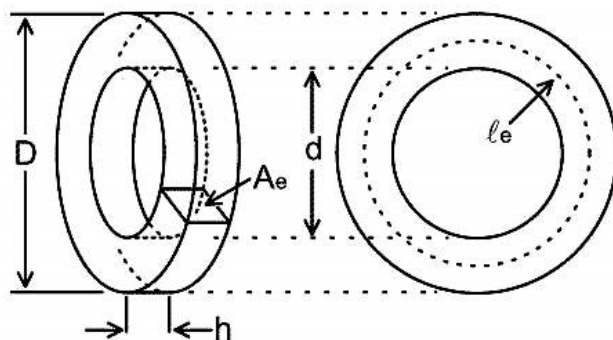


CORE AND CASE DIMENSIONS

CORE OD MM	CORE ID MM	CORE HT MM	CASE OD MM	CASE ID MM	CASE HT MM
17.80	13.00	5.00	19.60	11.40	6.40

CORE SPECIFICATIONS

- Outer Diameter D: 17.8mm (+0.5/-0)mm
- Inner Diameter d: 13.0mm (-0.5/+0)mm
- Height h: 5mm (+0.2/-0)mm
- Cross-Sectional Area A_e : 0.10cm²
- Mean Magnetic Path Length l_e : 4.84cm
- Stacking Factor: 83%
- Average Core Weight: 2.0grams
- Operating Temperature: -25°C~+110°C
- Max Temperature:- 130°C
- Als (10kHz/1.0V): 19μH (+30%/-25%)
- $\mu_{a_{typ.}}$ (10kHz/1.0V): 45000 (+15%/-35%) (H_{peak} :7.50 A/m)
- Als (100kHz/1.0V): 5.0μH (+40%/-30%)
- $\mu_{a_{typ.}}$ (100kHz/1.0V): 15000 (+30%/-20%) (H_{peak} :3.50 A/m)
- Finish: Plastic Case/Silicone Rubber



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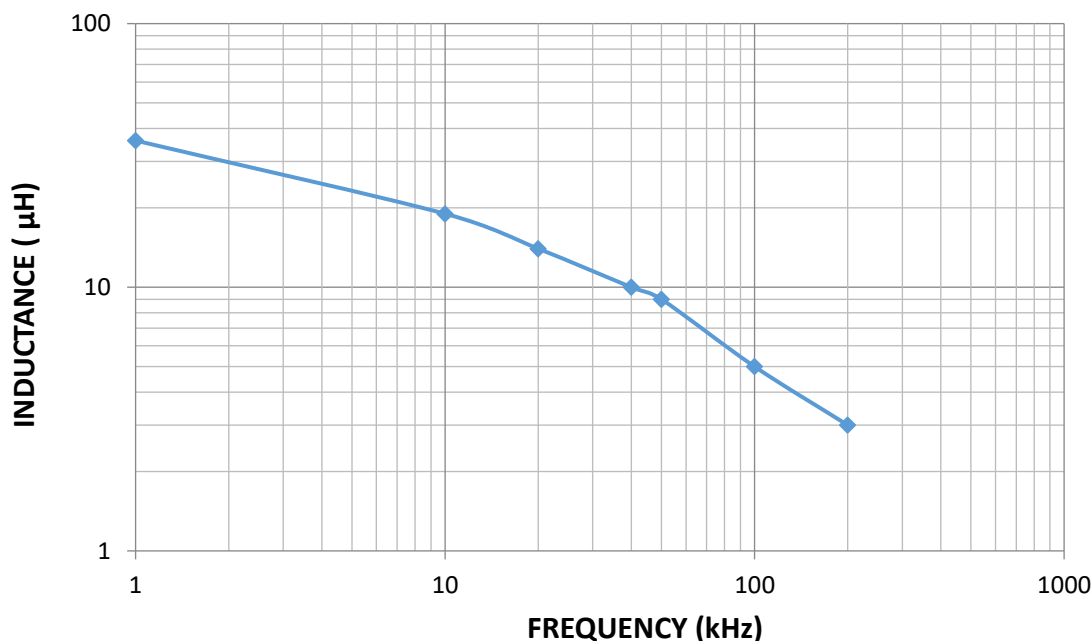
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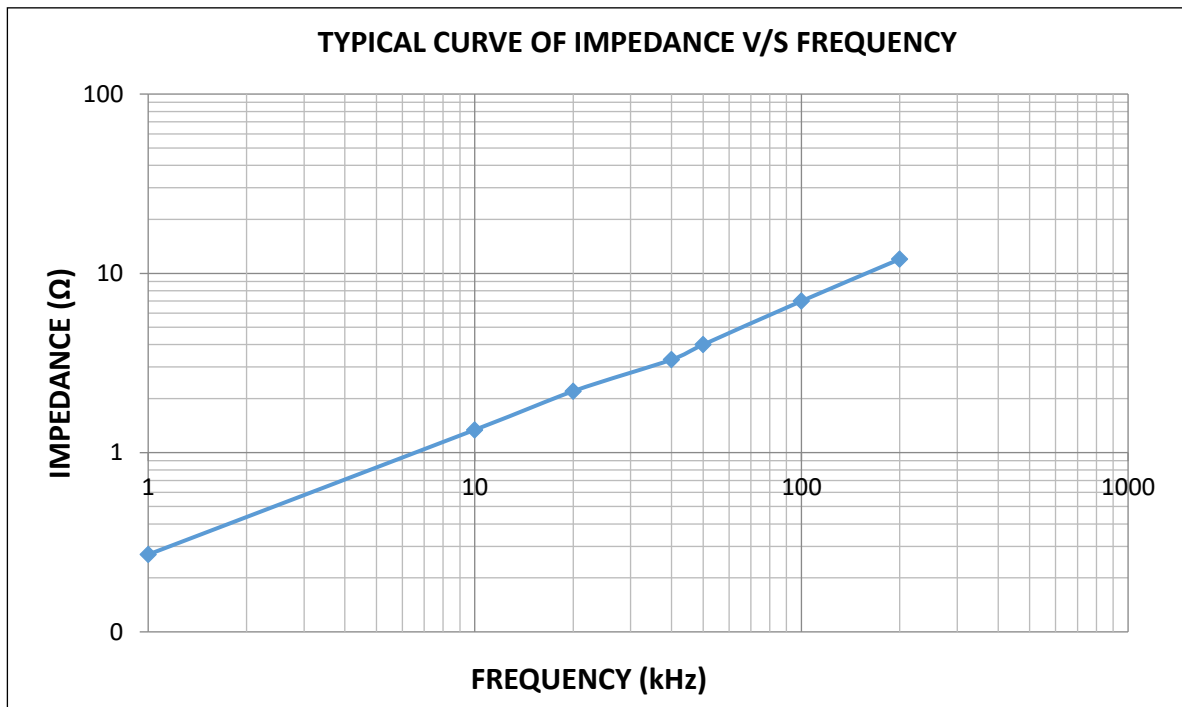
CASE/INSULATION SPECIFICATIONS

- Outer Diameter D: 14.40mm (Max)
- Inner Diameter d: 8.30mm (Min)
- Height h: 6.30mm (Max)
- Nominal Thickness: 1mm
- Min Glass Content: 30.1%
- Flammability at 1.6mm: UL-94, V-0 Pass
- Density: 1690 kg/m³
- Electrical Strength: 28kV/mm
- Insulation Class: B (130°C)



TYPICAL CURVE OF INDUCTANCE VS FREQUENCY





MOUNTING, INSTALLATION & OPERATING INSTRUCTIONS:

- Can be used for both-Horizontal, Tilted and Vertical Type Mounting
- Suitable for enclosed mounting applications only
- Suitable Mounting Stand and Support Plate to be made for all kinds of mounting
- Copper Wire for winding to be of suitable gauge and flexible.
- Wire Wound Core must be well-fastened on Mounting Apparatus/Fixture
- Area of application must be Dust-Free for optimum performance.
- For Oil-immersed application, use only IEC-60296/ASTM D 3455-02 compatible oil

TYPICAL APPLICATIONS

- Common Mode Noise Suppression
- Motor-bearing current limitation in inverter-motor systems
- Cores for Inductors
- AC-DC Converters, Bi-directional DC-DC Converters
- DC Fast Chargers, DC Power Suppliers

ENVIRONMENTAL CONDITIONS AND STORAGE/HANDLING INSTRUCTIONS

- Non-Hazardous Material.
- Item must be stored in a Cool and Well-Ventilated Area.
- Keep Away from Direct Sunlight or Exposure to Moisture.
- Item must be stored in its Original Packaging only.
- Storage Temperature: 20°C~45°C.
- Humidity: Average < 95%
- Delicate/Fragile Material. To be Handled with utmost Care.
- Do not mishandle/drop the Material. It can result in Core Failures..
- Use Standard P-U/Rubber/ or Suitable Gloves having reasonably good grip while Handling the material/unpacking/etc.
- Material is sealed inside Protective Insulated Housing for optimum performance. Never attempt to open the Housing.

MEAN LIFE EXPECTANCY

- Upto 130,000 Hours or 15 years, whichever is lesser.
- At the end of Service Life, product is to be de-energized and disconnected from its application and separately returned to Vikarsh in appropriately-packed condition for re-processing within established standards.
- Dispose in accordance with local environmental regulations / WEEE directives.
- For Oil-immersed applications, product must be well-dried before being packed for return

SAFETY

- Disconnect the Nano-crystalline Core from the Electrical Circuit before Handling and Inspection
- Insulated Hand-gloves and necessary Protective Equipment must be worn for Inspection

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