

Fe-Based Amorphous E-Cores

UMCEC-Cores are manufactured with iron based amorphous alloy.

Their unique combination of low loss and high saturation flux density take advanced power conditioning applications to higher performance levels than previously possible with conventional ferromagnetic materials.



E-Core

APPLICATIONS

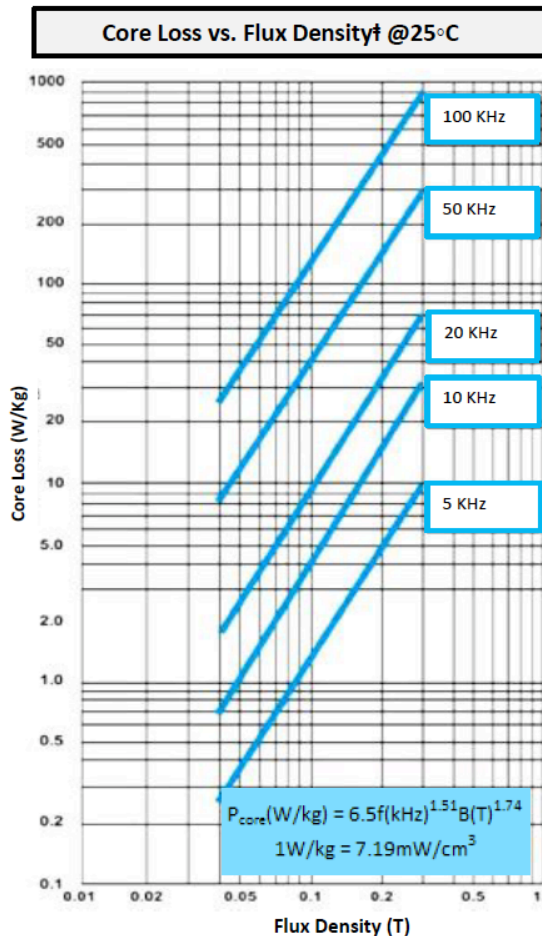
- Transformer cores in SMPS
- Output filter cores in HF large power supplies
- Solar & Wind Power Supplies.
- UPS Harmonic filter Inductor.

BENEFITS

- High saturating flux density (1.56 T)
- Low profile enables weight and volume reduction upto 50%.
- Low loss resulting from micro thin ribbon (25 micron).
- Low temperature rise
- enabling compact design.
- Excellent temperature stability

PHYSICAL & MAGNETIC PROPERTIES

Ribbon Thickness (µm)	25
Density (g/cm ³)	7.19
Thermal Expansion (ppm/°C)	7.6
Crystallization Temperature (°C)	550
Curie Temperature (°C)	415
Continuous Service Temperature (°C)	155
Tensile strength (MN/m ²)	1k-1.7k
Elastic Modulus (GN/m ²)	100-110
Vicker's Hardness (50g load)	860
Saturation Flux Density (Tesla)	1.56T
Permeability (depending on gap size)	variable
Saturation Magnetostriction (ppm)	27
Electrical Resistivity (µ-ohm-cm)	130



STANDARD CORE SIZE TABLE & ORDERING INFORMATION

CORE SIZE	a (mm)	b (mm)	c (mm)	d(mm)	e(mm)	f(mm)	Ac(cm2)	Wt. (gm) ± 3%	Window Area(cm2)
UMCEC-7	14.5±0.5	15.75±0.5	11.5±1.0	15.0±0.5	75.1±1.5	40.5±1.5	1.8	227	3.6
UMCEC-9	14.5±0.5	15.75±0.5	11.5±1.0	20.0±0.5	75.1±1.5	40.5±1.5	2.4	303	3.6
UMCEC-11	12.5±0.5	13.0±0.5	41.5±1.0	20.0±0.5	63.5±1.5	66.5±1.5	2.1	365	5.4
UMCEC-11A	12.5±0.5	10.5±0.5	33.0±1.0	15.0±0.5	58.5±1.5	58.0±1.5	1.6	235	6.9
UMCEC-25	14.5±0.5	15.75±0.5	30.0±1.0	20.0±0.5	69.0±1.5	59.0±1.5	2.38	387	9.45
UMCEC-42	15.0±0.5	13.5±0.5	41.0±1.0	30.0±0.5	72.0±1.5	71.0±1.5	3.8	700	11.1
UMCEC-58	15.0±0.5	20.0±0.5	56.0±1.0	20.0±0.5	85.0±2.0	86.0±2.0	2.6	605	22.4
UMCEC-115	14.5±0.5	15.8±0.5	30.0±1.0	100.0±1.0	75.0±2.5	59.0±2.0	12.2	2022	9.5
UMCEC-410	29±1.0	29.5±0.5	95.0±1.5	30.0±0.5	146.0±2.5	153.0±2.5	7.3	2950	56.1
UMCEC-453	38±1.0	25.0±0.5	83.0±1.5	35.0±0.5	164.0±2.5	159.0±2.5	10.91	4367	41.5
UMCEC-640	40±1.0	30.0±1.0	155.0±2.0	20.0±0.5	180.0±2.5	235.0±3.0	6.9	3979	93
UMCEC-1103	38±1.0	37.0±1.0	114.0±2.0	40.0±1.0	188.0±2.5	190.0±3.0	13	6468	84.4
UMCEC-1645	30±1.0	48.0±0.5	170.0±2.0	40.0±1.0	186.0±2.5	230.0±3.5	10.1	6276	163.2
UMCEC-1904	44±1.5	43.0±1.0	130.0±2.0	45.0±1.0	218.0±2.5	218.0±3.5	17.0	9714	111.8
UMCEC-2961	44±1.5	43.0±1.0	130.0±2.0	70.0±1.5	218.0±2.5	218.0±3.5	26.5	15224	111.8
UMCEC-3032	48.0±1.5	51.0±1.5	144.0±1.0	50.0±1.5	246.0±3.5	240.0±3.5	20.64	13405	146.88
UMCEC-4548	48.0±1.5	51.0±1.5	144.0±1.0	75.0±1.5	246.0±3.5	240.0±3.5	30.96	20105	146.88
UMCEC-4926	48.0±1.5	51.0±1.5	156.0±2.0	75.0±1.5	246.0±3.5	252.0±3.5	31.0	20719	159.1
UMCEC-6063	48.0±1.5	51.0±1.5	144.0±1.5	100.0±1.5	246.0±3.5	240.0±3.5	41.28	26806	146.88
UMCEC-6224	16.5±1.0	33.0±1.0	60.0±1.0	85.0±1.0	186.0±3.0	249.7±3.5	24.12	11200	258
UMCEC-6913	55.0±1.5	56.0±1.5	145.0±1.5	90.0±1.5	277.0±3.5	255.0±3.5	42.57	29509	162.4
UMCEC-12200	55.0±1.5	56.0±1.5	277.0±2.0	85.0±1.5	277.0±3.5	387.0±4.0	39.3	38335	310.2

* CUSTOM SIZES ALSO AVAILABLE

PRODUCT IDENTIFICATION

Example:

