

# Fe-based Nanocrystalline EMC Common Mode Choke Core

## Application

- Automotive application
- Uninterrupted Power Supply (UPS)
- EMC filters
- Frequency converter
- Switched-mode power supplies
- Solar inverters
- Wind generators
- Welding equipment



## Performance Index

Material	Thickness ( $\mu\text{m}$ )	Saturate Induction $B_s$ (T)	Density ( $\times 10^3 \text{ kg/m}^3$ )	Resisitivity ( $\mu\Omega \cdot \text{m}$ )	Saturate magnetostriction ( $10^{-6}$ )	Curie temperature ( $^{\circ}\text{C}$ )
1K107	23 $\pm$ 2	1.20	7.2	1.3	$2 \times 10^{-6}$	570

## Specification

Part number		nominal core dimensions	Limiting dimensions (incl. case)			Iron cross section $A_e$	Mean path length $L_e$	weight $W_g$	Permeability 10kHz	AL *N=1Ts Inductance	
			da x di x h	OD	ID					H	10kHz
1K107	VAC	mm x mm x mm	mm	mm	mm	$\text{cm}^2$	cm	gr	Nominal $\mu\text{H}$		
OG-0100-02	W620	16 x 12.5 x 6	17.8	10.7	8.0	0.08	4.5	2.6	67,000	15.0	4.8
OG-0100-01	W619	16 x 12.5 x 6	17.8	10.7	8.0	0.08	4.5	2.6	26,800	6.0	3.9
OG-0035-C	W867	22 x 17 x 16	24.0	15.2	8.0	0.12	6.1	5.4	67,000	16.4	4.3
OG-0088-01	W622	25 x 20 x 10	27.3	17.5	12.3	0.19	7.1	9.9	67,000	22.5	7.2
OG-0088-02	W621	25 x 20 x 10	27.3	17.5	12.3	0.19	7.1	9.9	26,700	9.0	5.8
OG-0018-03	W676	30 x 25 x 15	32.3	22.7	17.5	0.27	8.6	17.4	66,000	26.5	8.5
OG-0008-C	W911	30 x 20 x 10	32.5	17.8	12.5	0.40	7.9	23.1	87,000	56.0	13.4
OG-0015-C	W624	40 x 32 x 15	42.3	29.1	17.8	0.44	11.3	36.0	67,000	32.5	10.3
OG-0015-01	W623	40 x 32 x 15	42.3	29.1	17.8	0.44	11.3	36.0	26,700	13.0	8.4
OG-0015-02	W886	45 x 32 x 15	47.3	29.8	17.8	0.71	12.1	63.3	26,600	19.7	12.8
OG-0016-01	W626	50 x 40 x 20	52.3	37.1	22.8	0.73	14.1	76.0	66,000	43.0	13.8
OG-0016-02	W625	50 x 40 x 20	52.3	37.1	22.8	0.73	14.1	76.0	26,100	17.0	11.2
OG-0299-C	W627	63 x 50 x 20	65.5	46.6	27.8	0.95	17.8	124.0	26,700	18.0	11.6
OG-0029-01	W721	63 x 50 x 20	65.5	46.6	27.8	0.95	17.8	124.0	20,000	11.5	10.4
OG-0300-C	W628	80 x 63 x 20	83.0	59.5	22.8	1.24	22.5	205.0	26,700	18.5	12.0
OG-0300-01	W722	80 x 63 x 20	83.0	59.5	22.8	1.24	22.5	205.0	17,300	11.9	10.7
OG-0230-C	W629	100 x 80 x 20	104.0	75.0	23.0	1.46	28.3	303.0	26,700	17.3	11.2
OG-0230-01	W723	100 x 80 x 20	104.0	75.0	23.0	1.46	28.3	303.0	17,300	11.2	10.0
OG-0186-01	W567	130 x 100 x 25	134.5	95.0	28.5	2.85	36.1	757.0	50,000	50.0	19.4
OG-0186-C	W630	130 x 100 x 25	134.5	95.0	28.5	2.74	36.1	727.0	26,600	25.4	16.5
OG-0186-02	W587	130 x 100 x 25	134.5	95.0	28.5	2.74	36.1	727.0	17,200	16.4	14.7
OG-0032-C	W631	160 x 130 x 25	165.0	125.0	28.5	2.74	45.6	917.0	26,700	20.1	13.1
OG-0032-01	W720	160 x 130 x 25	165.0	125.0	28.5	2.74	45.6	917.0	17,200	13.0	11.7
OG-0209-01	V105	194 x 155 x 25	200.0	149.0	28.5	3.71	54.8	1490.0	53,000	45.3	14.7
OG-0209-C	W908	194 x 155 x 25	200.0	149.0	28.5	3.71	54.8	1490.0	17,600	14.7	13.2

# Specification

Part number		nominal core dimensions	Limiting dimensions (incl. case)			Iron cross section	Mean path length	weight	Permeability	AL *N=1Ts Inductance	
										10kHz	100kHz
		da x di x h	OD	ID	H	Ae	Le	Wg	10kHz	Nominal	
		mm x mm x mm	mm	mm	mm	cm <sup>2</sup>	cm			gr	μH
OG-0178-W	W914	9.8 x 6.5 x 4.5	11.2	5.1	5.8	0.06	2.6	1.1	87,000	25.5	6.4
OG-0010-W	W902	12 x 8 x 4.5	14.1	6.6	6.3	0.07	3.1	1.7	97,000	28.0	6.8
OG-0226-W	W498	12.5 x 10 x 5	14.3	8.5	7.0	0.05	3.5	1.3	56,000	10.0	3.6
OG-0039-W	W865	15 x 20 x 4.5	17.1	7.9	6.5	0.09	3.9	2.6	94,000	27.0	6.7
OG-0217-W	W403	16 x 10 x 6	17.9	8.1	8.1	0.14	4.1	4.0	97,000	43.0	10.1
OG-0217-01	W308	16 x 10 x 6	17.9	8.1	8.1	0.14	4.1	4.0	23,700	11.7	6.5
OG-0179-W	W515	17.5 x 12.6 x 6	19.0	11.0	8.0	0.12	4.7	4.1	96,000	30.0	6.9
OG-0044-01	W838	19 x 15 x 10	21.2	13.0	12.3	0.16	5.3	6.3	96,000	36.1	8.8
OG-0038-W	W409	20 x 12.5 x 8	22.6	10.3	10.2	0.24	5.1	9.0	97,000	55.2	13.6
OG-0038-01	W450	20 x 12.5 x 8	22.6	10.3	10.2	0.24	5.1	9.0	23,700	14.3	9.1
OG-0088-03	W523	25 x 20 x 10	27.6	17.4	12.8	0.20	7.1	10.4	80,000	28.4	7.3
OG-0141-01	W380	25 x 16 x 10	27.9	13.6	12.5	0.36	6.4	17.0	95,000	65.6	15.5
OG-0141-02	W451	25 x 16 x 10	27.9	13.6	12.5	0.36	6.4	17.0	24,300	17.0	11.5
OG-0141-04	W980	25 x 16 x 10	27.9	13.6	12.5	0.36	6.4	17.0	4,400	3.2	3.1
OG-0008-01	W423	30 x 20 x 10	32.8	17.6	12.5	0.40	7.9	23.0	103,000	59.3	14.0
OG-0141-14	W358	30 x 20 x 10	32.8	17.6	12.5	0.40	7.9	23.0	25,500	15.5	11.1
OG-0141-11	W981	30 x 20 x 10	32.8	17.6	12.5	0.40	7.9	23.0	4,400	2.9	2.8
OG-0058-B	W514	30 x 20 x 15	32.8	17.5	17.8	0.57	7.9	33.0	96,000	88.0	20.0
OG-0015-03	W422	40 x 32 x 15	43.1	28.7	18.5	0.46	11.3	38.0	95,000	47.2	11.1
OG-0015-04	W452	40 x 32 x 15	43.1	28.7	18.5	0.46	11.3	38.0	20,000	12.2	7.9
OG-0015-10	W964	40 x 32 x 15	43.1	28.7	18.5	0.46	11.3	38.0	4,300	2.3	2.2
OG-0023-02	W424	40 x 25 x 15	43.1	22.5	18.5	0.86	10.2	64.0	94,000	101.0	23.1
OG-0023-06	W453	40 x 25 x 15	43.1	22.5	18.5	0.86	10.2	64.0	23,700	25.4	17.2
OG-0177-B	V102	45 x 30 x 15	48.3	26.4	18.2	0.86	11.8	74.0	96,000	87.5	0.3
OG-0177-01	V118	45 x 30 x 15	48.3	26.4	18.2	0.86	11.8	74.0	26,700	24.3	15.9
OG-0177-02	V101	45 x 30 x 15	48.3	26.4	18.2	0.86	11.8	74.0	17,200	15.7	14.3
OG-0016-02	W516	50 x 40 x 20	53.5	36.3	23.4	0.76	14.1	79.0	66,000	45.3	14.0
OG-0016-03	W565	50 x 40 x 20	53.5	36.3	23.4	0.76	14.1	79.0	26,600	18.0	10.0
OG-0017-B	W517	63 x 50 x 25	67.3	46.5	28.6	1.24	17.8	161.0	67,000	58.6	18.0
OG-0017-01	V110	63 x 50 x 25	67.3	46.5	28.6	1.24	17.8	161.0	26,500	23.3	13.5
OG-0017-02	W985	63 x 50 x 25	67.3	46.5	28.6	1.24	17.8	163.0	3,700	3.3	3.2
OG-0147-B	V140	80 x 50 x 20	86.0	44.7	25.7	2.28	20.4	342.0	95,000	94.0	28.0
OG-0147-02	W531	80 x 50 x 20	86.0	44.7	25.7	2.28	20.4	342.0	24,900	35.0	24.0
OG-0147-04	V091	80 x 50 x 20	86.0	44.7	25.7	2.28	20.4	347.0	5,170	9.6	9.2
OG-0096-01	W518	90 x 60 x 20	95.4	54.7	24.7	2.28	23.6	395.0	67,000	81.0	25.1
OG-0096-02	W984	90 x 60 x 20	95.4	54.7	24.7	2.28	23.6	400.0	3,700	4.6	4.5
OG-0188-W	V082	100 x 80 x 25	105.5	75.0	29.6	1.90	28.3	379.0	67,000	56.3	16.9
OG-0188-01	V081	100 x 80 x 25	105.5	75.0	29.6	1.90	28.3	379.0	17,200	14.5	13.1
OG-0144-B	W468	102 x 76 x 25	108.1	70.0	30.3	2.47	28.0	507.0	67,000	68.8	21.6
OG-0144-02	V080	102 x 76 x 25	108.1	70.0	30.3	2.47	28.0	508.0	17,200	19.1	17.2
OG-0144-01	W947	102 x 76 x 25	108.1	70.0	30.3	2.47	28.0	515.0	3,800	4.3	4.2
OG-0032-03	V074	160 x 130 x 25	166.9	123.9	30.5	2.74	45.6	917.0	36,000	26.8	13.7
OG-0032-02	V088	160 x 130 x 25	166.9	123.9	30.5	2.74	45.6	917.0	26,500	20.1	13.1
OG-0032-B	V066	160 x 130 x 25	166.9	123.9	30.5	2.74	45.6	917.0	17,200	12.9	11.7
OG-0032-04	W982	160 x 130 x 25	166.9	123.9	30.5	2.85	45.6	967.0	3,700	3.0	2.9