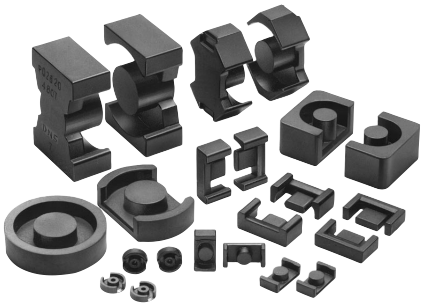
Ferrite Cores

C, EP, P, EPC, EEM, PQ, RM, ER, EE Series

High Flux Density, High Permeability Material
DN50 Material

It has become an important issue to support global method of ISDN interfaces associated with the widespread use of ISDN networks worldwide. TDK DN50 ferrite material, a high μ and high B with μi=5500 and Bs ≧ 500mT, has been developed to provide stable magnetic characteristics to the global method(echo canceller method) of the ultra-small gap specification for superposition direct current. Beside its high μ and high B characteristics, its core loss value at high B level is controlled to provide optimal use for back light transformers driven at high B level of ultra-small gap specifications.



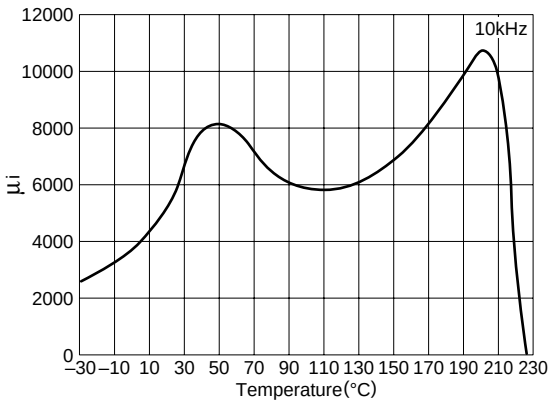
MATERIAL CHARACTERISTICS

Material				DN50
Initial permeability	μi			5500±20%
Relative loss factor[10kHz]	tanδ/μi	×10⁻⁶		≦15
Power loss [100kHz, 200mT]	Pcv	kW/m³	[25°C]	550
			[40°C]	450
			[100°C]	1000
Saturation magnetic flux density	Bs	mT	[25°C]	550
			[100°C]	380
Remanent flux density	Br	mT	[25°C]	95
			[100°C]	55
Coercive force [1194A/m]	Hc	A/m	[25°C]	7
			[100°C]	5.8
Disaccommodation factor [1 to 10min, 10kHz]	D_F	×10⁻⁶		≦10
Curie temperature	Tc	°C		≧210

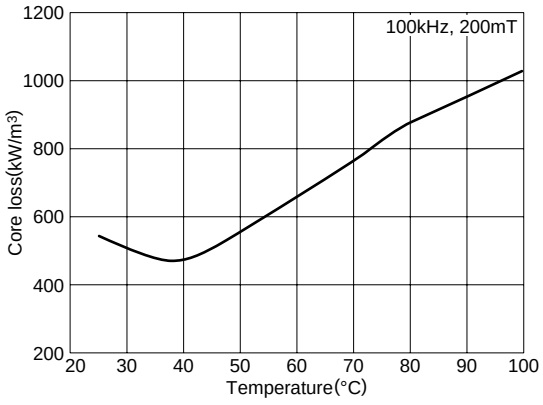
STANDARD SHAPES

C CORE: C23/11, C23/18
EP CORE: EP17, EP20
P CORE: P4.6/3.1, P5.8/3.3, P7/4
EPC CORE: EPC10, EPC13
EEM CORE: EEM8/8, EEM10/10, EEM12.7/13.7, EEM13/13
PQ CORE: PQ26/20, PQ26/25
RM CORE: RM8, RM10
ER CORE: ER9.5/5, ER11/3.9, ER11/5, ER14.5/6
EE CORE: EE5, EE8.9/9

INITIAL PERMEABILITY vs. TEMPERATURE CHARACTERISTICS



CORE LOSS vs. TEMPERATURE CHARACTERISTICS



CHARACTERISTICS
FOR INTERFACE
C CORE

Part No.	AL-value(nH/N²)	Bobbin	Flange
DN50C23/11Z-52	6830±25%	BC23/11-5110NP	—
DN50C23/11A250-52	250±3%		
DN50C23/11A400-52	400±3%		
DN50C23/18Z-52	5890±25%	BC23/18-5110NP	—
DN50C23/18A250-52	250±3%		
DN50C23/18A400-52	400±3%		

• Measuring conditions:1kHz, 0.5mT, ø0.35mm, 100ts.

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CHARACTERISTICS

FOR INTERFACE

PQ CORE

Part No.	AL-value(nH/N^2)	Bobbin	Flange
DN50PQ26/20Z-12	10500±25%	BPQ26/20-1112CP	FPQ26/20-A
DN50PQ26/20A315-22	315±5%		
DN50PQ26/20A630-22	630±10%		
DN50PQ26/25Z-12	9250±25%	BPQ26/25-1112CP	FPQ26/25-A
DN50PQ26/25A315-22	315±5%		
DN50PQ26/25A630-22	630±10%		

• Measuring conditions:1kHz, 0.5mT, ø0.35mm, 100ts.

EP CORE

Part No.	AL-value(nH/N^2)	Bobbin	Flange
DN50EP17-Z	3300min.	BEP-17-318D	FEP-17-C
DN50EP20-Z	5900min.	BEP-20-3110D	FEP-20-C

• Measuring conditions
EP17:1kHz, 0.5mT, ø0.2mm, 100ts./EP20:1kHz, 0.5mT, ø0.35mm, 100ts.

RM CORE

Part No.	AL-value(nH/N^2)	Bobbin	Flange
DN50RM8Z-12	8860±25%	BRM-8-718CP	FRM-8-A
DN50RM8A400-22	400±3%		
DN50RM8A630-22	630±3%		
DN50RM10Z-22	12200±25%	BRM-10-7112SD	FRM-10-A
DN50RM10A400-22	400±3%		
DN50RM10A630-12	630±3%		

• Measuring conditions:1kHz, 0.5mT, ø0.4mm, 100ts.

FOR BACK LIGHT TRANSFORMER

P CORE

Part No.	AL-value(nH/N^2)	Bobbin	Flange
DN50P4.6/3.1Z-12S	670±30%	—	—
DN50P5.8/3.3Z-52S	900±25%	BP5.8/3.3-612	—
DN50P7/4Z-52S	1230±25%	BP7/4-612	—

• Measuring conditions
P4.6/3.1:1kHz, 0.5mT, ø0.05mm, 100ts.
P5.3/3.3:1kHz, 0.5mT, ø0.08mm, 100ts.
P7/4:1kHz, 0.5mT, ø0.1mm, 100ts.

ER CORE

Part No.	AL-value(nH/N^2)	Bobbin	Flange
DN50ER9.5/5-Z	900min.	BER9.5/5-118GA	FER9.5/5-A
DN50ER9.5/5A63	63±5%		
DN50ER9.5/5A100	100±7%		
DN50ER11/3.9-Z	1400min.	BER11/3.9-1110G	FER11/3.9-A
DN50ER11/3.9A63	63±5%		
DN50ER11/3.9A100	100±7%		
DN50ER11/5-Z	1300min.	BER11/5-1110GA	FER11/5-A
DN50ER11/5A63	63±5%		
DN50ER11/5A100	100±7%		
DN50ER14.5/6-Z	1700min.	BER14.5/6-1110GA	FER14.5/6-A
DN50ER14.5/6A100	100±5%		
DN50ER14.5/6A160	160±7%		

• Measuring conditions
ER9.5/5, ER11/3.9, ER11/5:1kHz, 0.5mT, ø0.1mm, 100ts.
ER14.5/6:1kHz, 0.5mT, ø0.18mm, 100ts.

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FOR BACK LIGHT TRANSFORMER

EPC CORE

Part No.	AL-value(nH/N^2)	Bobbin	Flange
DN50EPC10-Z	1450±25%	BEPC-10-118GA	FEPC-10-A
DN50EPC10A40	40±7%		
DN50EPC10A63	63±10%		
DN50EPC13-Z	1400±25%	BEPC-13-1110GA	FEPC-13-A
DN50EPC13A40	40±4%		
DN50EPC13A63	63±5%		

- Measuring conditions
  EPC10:1kHz, 0.5mT, ø0.1mm, 100ts./EPC13:1kHz, 0.5mT, ø0.2mm, 100ts.

EEM CORE

Part No.	AL-value(nH/N^2)	Bobbin	Flange
DN50EEM12.7/13.7-Z	1300±25%	BEM12.7/13.7-118GA	FEM12.7/13.7-A
DN50EEM12.7/13.7A40	40±5%		
DN50EEM12.7/13.7A63	63±7%		
DN50EEM8/8-Z	320min.	BEM-8/8-018G	—
DN50EEM8/8A25	25±10%		
DN50EEM8/8A40	40±15%		
DN50EEM10/10-Z	400min.	BEM-10/10-0110G	—
DN50EEM10/10A25	25±7%		
DN50EEM10/10A40	40±10%		
DN50EEM13/13-Z	550min.	BEM-13/13-0110G	—
DN50EEM13/13A40	40±8%		
DN50EEM13/13A63	63±12%		

- Measuring conditions:1kHz, 0.5mT, ø0.1mm, 100ts.

EE CORE

Part No.	AL-value(nH/N^2)	Bobbin	Flange
DN50EE5-Z	300min.	BE-5-916F	FE-5-A
DN50EE5A25	25±15%		
DN50EE8.9/8Z	690±25%	BE-8.9/8-118G	—
DN50EE8.9/8A25	25±8%		
DN50EE8.9/8A40	40±13%		

- Measuring conditions
  EE5:1kHz, 0.5mT, ø0.1mm, 100ts.
  EE8.9/8:1kHz, 0.5mT, ø0.2mm, 100ts.

MOUNTING DIMENSIONS

FOR ISDN INTERFACE

Part No.	Mounting dimensions(mm)			Number of terminals	Mounting type
	Depth	Width	Height		
DN50C23/11	23.3	26	11.2	10	Lead-through
DN50C23/18	23.3	26	18.2	10	
DN50PQ26/20	26.5	29.3	25	12	
DN50PQ26/25	26.5	29.3	29.6	12	
DN50EP17	13.55	16.8	5	8	
DN50EP20	11.7	14	3.5	10	
DN50RM8	20	20	16.5	8	
DN50RM10	24.7	24.7	18.7	12	

FOR BACK LIGHT TRANSFORMERS

Part No.	Mounting dimensions(mm)			Number of terminals	Mounting type
	Depth	Width	Height		
DN50P4.6/3.5	4.6	4.6	3.1	—	—
DN50P5.8/3.3	5.8	5.8	3.3	—	
DN50P7/4	7.35	7.35	4.2	—	
DN50ER9.5/5	9.9	11.7	5.9	8	SMD
DN50ER11/3.9	11	12.6	4.7	10	
DN50ER11/5	11.5	12.3	6.4	10	
DN50ER14.5/6	15.1	16.2	7.3	10	
DN50EPC10	11	11.7	5.2	8	
DN50EPC13	14.2	20.6	7.8	10	
DN50EEM12.7/13.7	13.55	16.8	5	8	
DN50EEM8.8	9.2	11.2	3.5	8	
DN50EEM10/10	11.7	14	3.5	10	
DN50EEM13/13	14.2	16.6	3.5	10	
DN50EE5	5.7	7.8	4.75	6	
DN50EE8.9/8	9.3	11.3	4.8	8	