第二部分：软磁铁粉心系列产品简介·

铁粉心是一种软磁材料。是由铁粉和绝缘剂共同组成，铁粉经绝缘处理后，以压制，热处理等工序后制成，铁粉心内部均匀分布的气隙是它的主要特点。

铁粉心优点如下：

高饱和磁感应强度，通常可以达到10000高斯以上。
规格齐全，磁导率可以从6达到100，可以满足不同的使用要求。
使用频率范围宽，可以从几千赫兹到上百兆赫兹。
优异的直流叠加特性。
产品形状的多样性，包括环形，E型，U形，棒形，SMD形等复杂形状的磁心。
铁粉心可以在-55~125℃的范围内正常工作。

基于以上的特点，铁粉心被广泛地用于开关电源输出电感，在线噪声滤波器，PFC电感，扼流圈，EMI/RFI用途。铁粉心作为一种软磁材料被广泛地应用于通信，电子，仪器仪表，家电等领域。
环形铁心以环氧树脂包覆，涂层在工频下最小介电强度为600V。

PART II : SOFT IRON POWDER CORE SERIES INTRODUCTION ·

Iron powder core is a kind of soft magnetic material which is composed of iron powder and insulating material. After insulating treatment, the iron powder is pressed into required shape and size and goes through heating, and coating sometimes. The evenly distributed gap inside the iron powder core is the main feature.

Advantages of iron powder core:

High Bs reach up to10000 Gauss.
Permeability range from 6 to 100
Wide working frequency from thousands Hz to hundreds Mega Hz.
Excellent DC bias performance
In various shapes of toroidal, E shape, U shape, rod shape, SMD and etc.
Working temperature basically can be cfrom -55~125℃

Based on above features, iron powder core are widely used in power switching inductor, online noise filter, PFC inductor, choke, EMI/RFI application and etc.
The toroidal cores are coated with Epoxy coating. The coating has a dielectric strength of 600 voltages

材料特性表 · General Material performance

材料代号 DMEGC MIX NO	参考磁导率 (μe) Reference Permeability	T温度系数(ppm/℃) Temperature Stability	磁环色码 Toroidal Color Code
-2	10	95	Red/Gray
-6	8.5	35	Dark pea green
-8	35	255	Yellow/Red
-18	55	385	Green/Red
-26	75	825	Yellow/White
-28	22	415	Gray/Green
-33	33	635	Gray/Yellow
-34	33	565	Gray/Blue
-35	33	665	Yellow/Gray
-38	85	955	Gray/Black
-40	60	950	Green/Yellow
-52	75	650	Green/Blue
-118	35	560	Black

尺寸公差（含涂层）· Dimensional Tolerance (Includes coating)

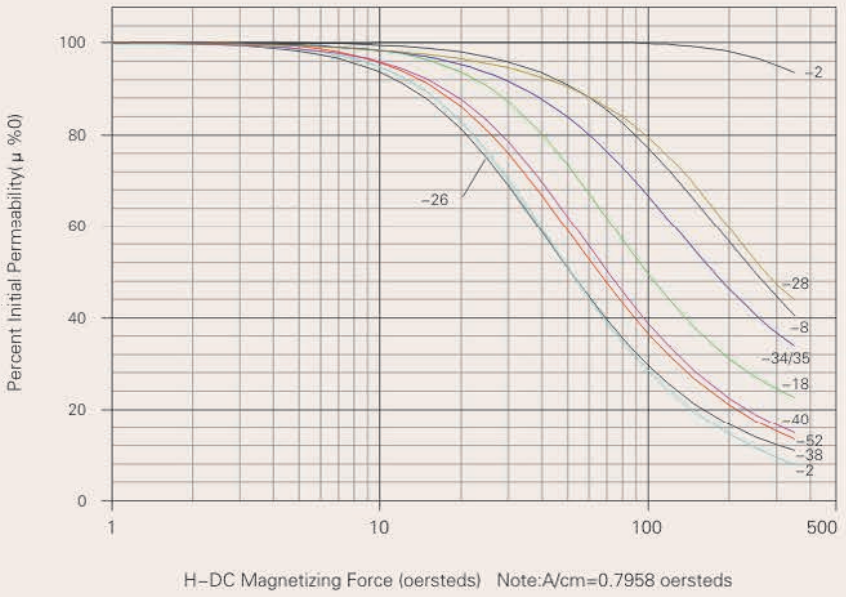
Toroids	OD(mm)	ID(mm)	Ht(mm)
DT14~DT72	±0.50	±0.50	±0.50
DT80~DT141	±0.50	±0.50	±0.50
DT150~DT225	±0.64	±0.64	±0.76
DT249~DT400	±0.76	±0.76	±0.76
DT520~DT650	±1.27	±1.27	±1.27

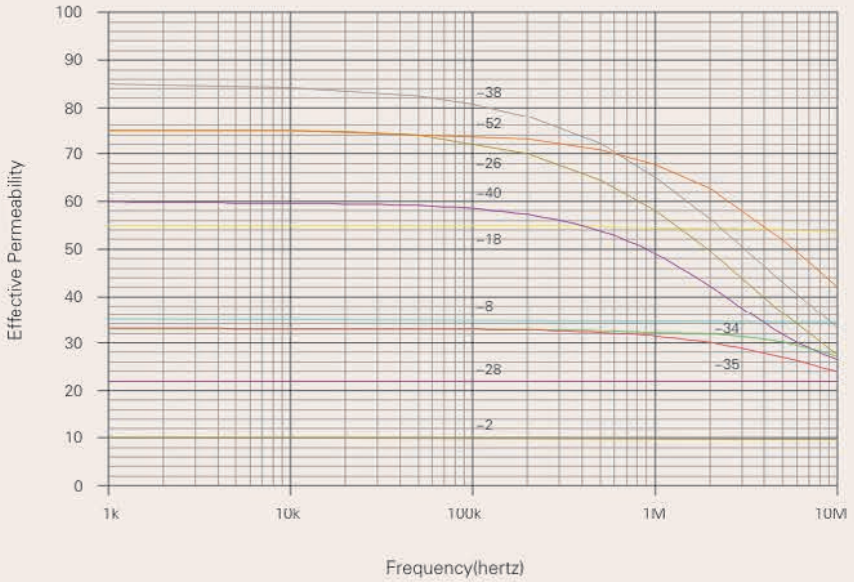
E Core	A(mm)	B(mm)	C(mm)	D(mm)	F(mm)	G(mm)
DE49~DE118	±0.25	±0.25	±0.13	±0.18	±0.13	±0.18
DE125~DE162	±0.38	±0.38	±0.18	±0.25	±0.18	±0.25
DE168~DE225	±0.38	±0.38	±0.25	±0.50	±0.38	±0.50
DE305~DE450	±0.76	±0.76	±0.38	±0.50	±0.38	±0.50

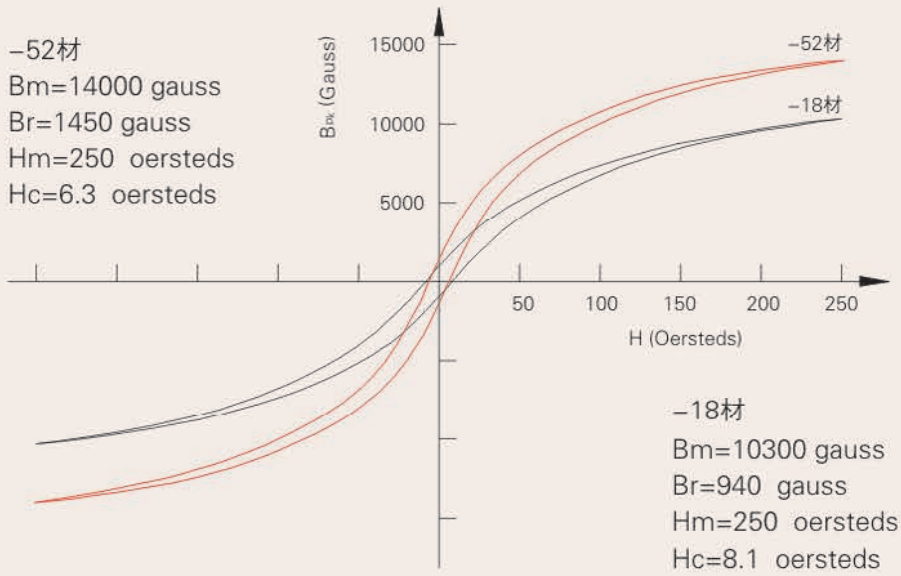
电感公差 · Inductance tolerance

Material	-2、-6、-7、-10、-17	-1、-3、-8、-15、-18、-26、-28、-33、-34、-35、-38、-40、-52
Tolerance	±5%	±10%

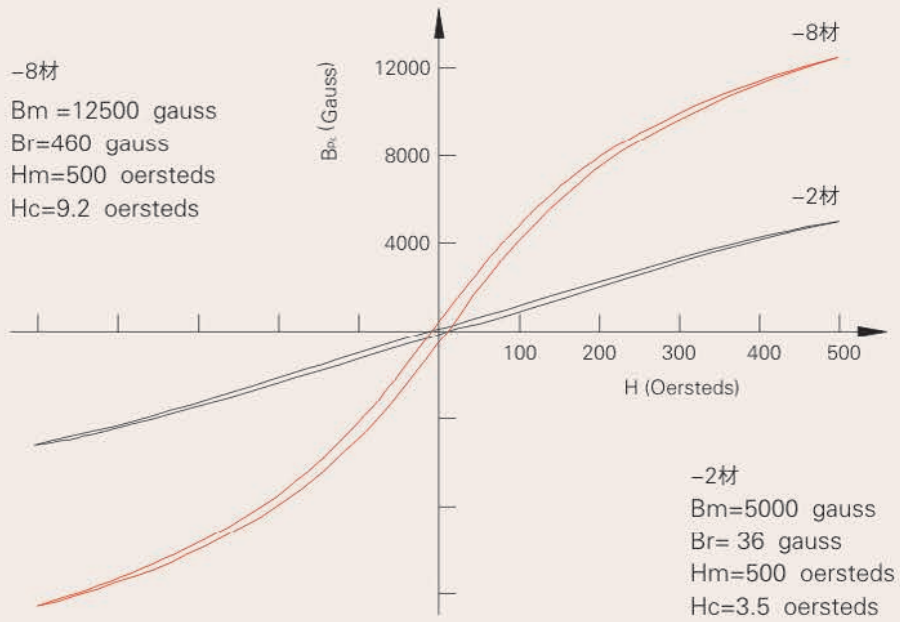
材料特性曲线


Percent Initial Permeability(μ %0)
100
80
60
40
20
0
1
10
100
500
-2
-26
-28
-8
-34/35
-18
-40
-52
-38
-2
H-DC Magnetizing Force (oersteds) Note:A/cm=0.7958 oersteds

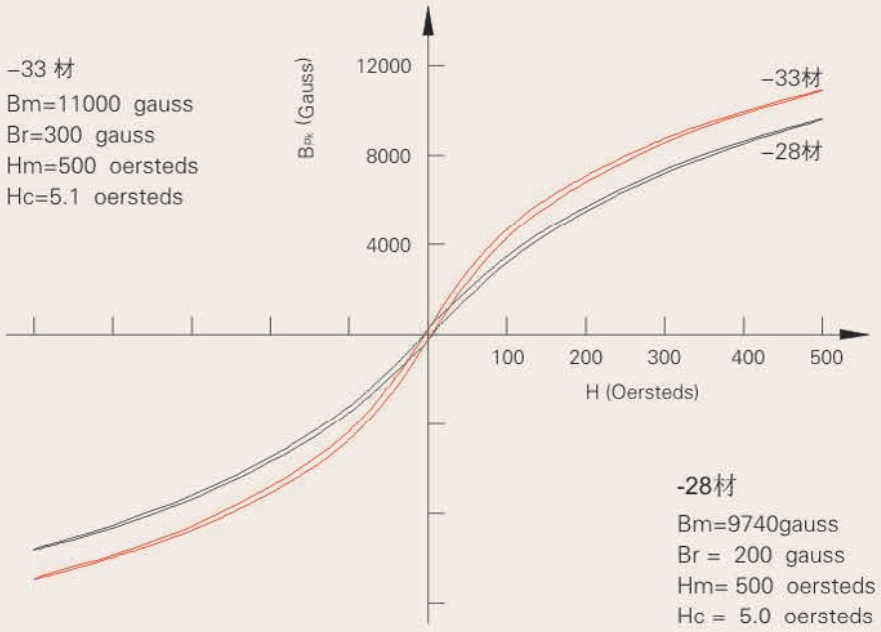

Effective Permeability
100
90
80
70
60
50
40
30
20
10
0
1k
10k
100k
1M
10M
-38
-52
-26
-40
-18
-8
-34
-35
-28
-2
Frequency(hertz)



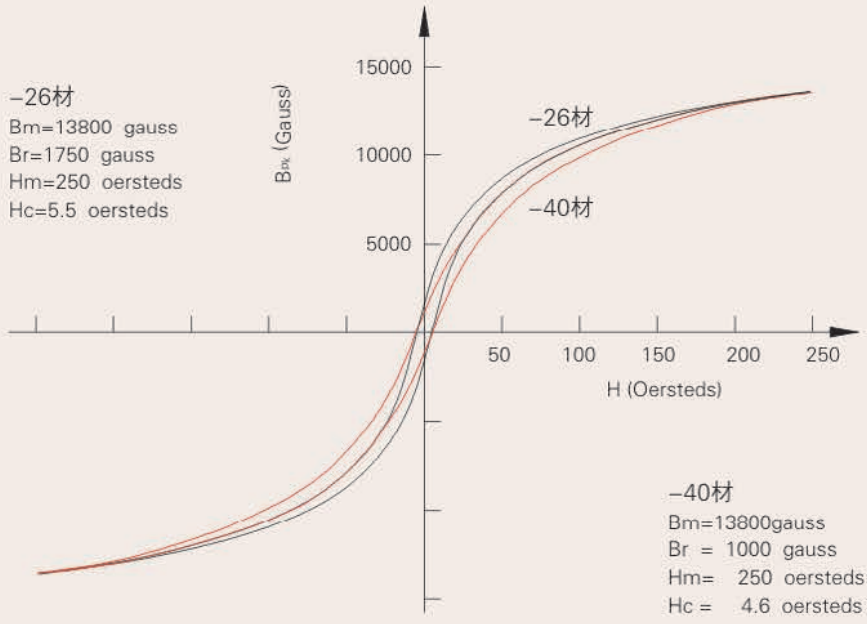
–18材
Bm=10300 gauss
Br=940 gauss
Hm=250 oersteds
Hc=8.1 oersteds



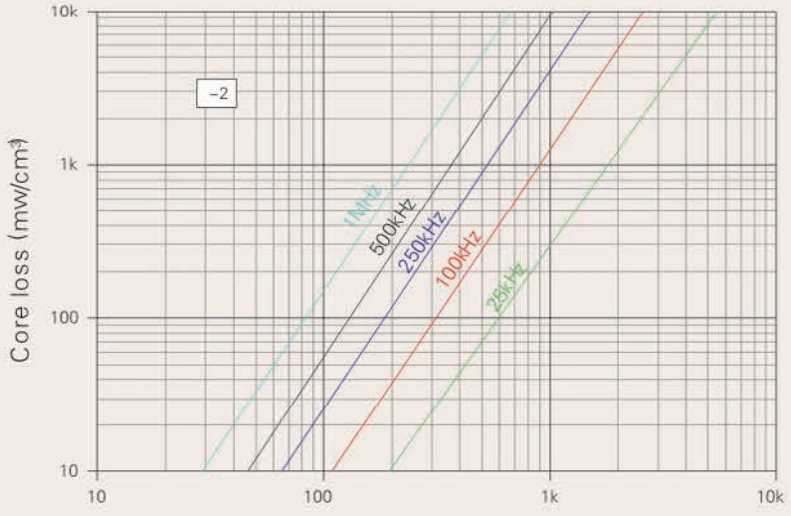
–2材
Bm=5000 gauss
Br= 36 gauss
Hm=500 oersteds
Hc=3.5 oersteds



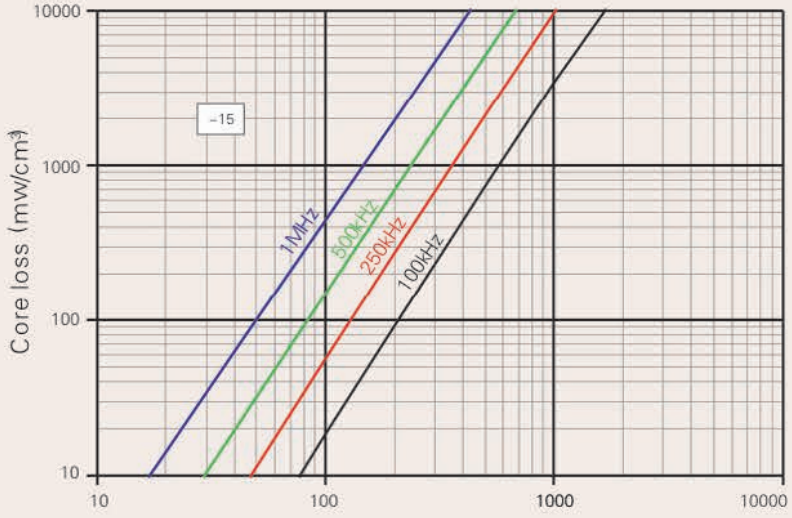
-28材
Bm=9740gauss
Br = 200 gauss
Hm= 500 oersteds
Hc = 5.0 oersteds



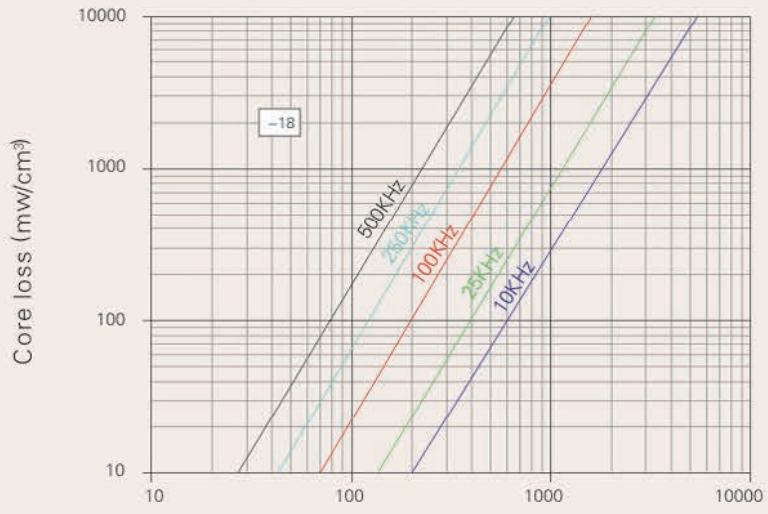
-40材
Bm=13800gauss
Br = 1000 gauss
Hm= 250 oersteds
Hc = 4.6 oersteds

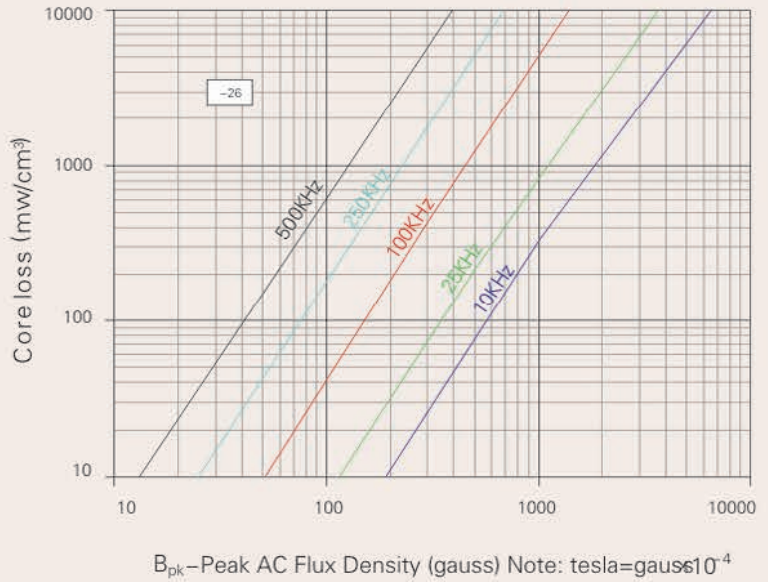


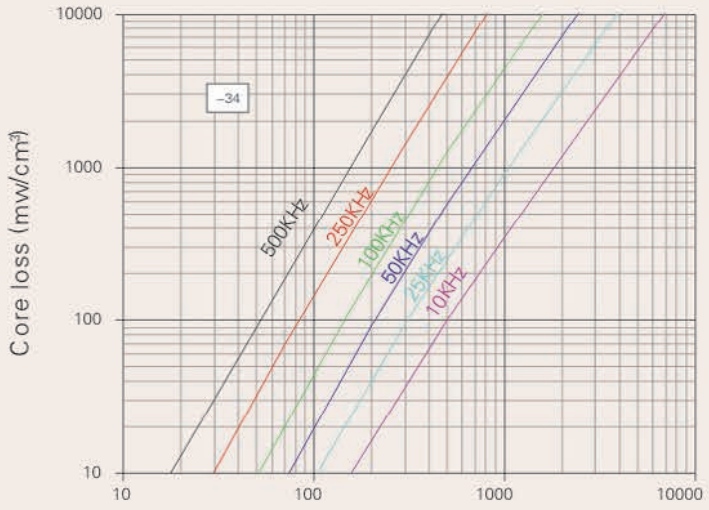
B_{pk}–Peak AC Flux Density (gauss) Note: tesla=gauss×10^{-4}

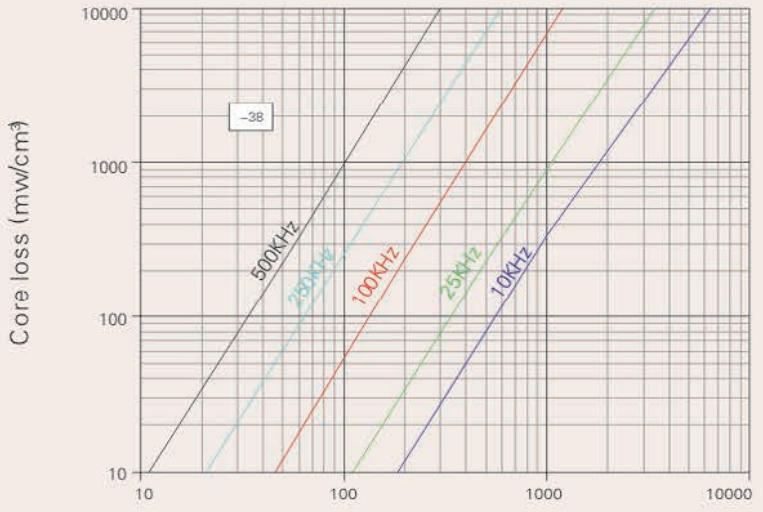


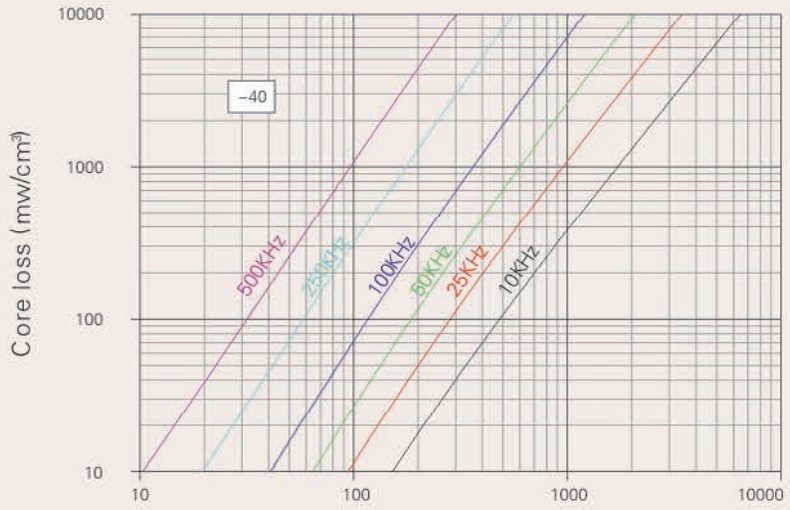
B_{pk}–Peak AC Flux Density (gauss) Note: tesla=gauss×10^{-4}


10000
1000
100
10
Core loss (mw/cm³)
-18
500KHz
250KHz
100KHz
25KHz
10KHz
10
100
1000
10000
Bpk–Peak AC Flux Density (gauss) Note: tesla=gauss×10⁻⁴

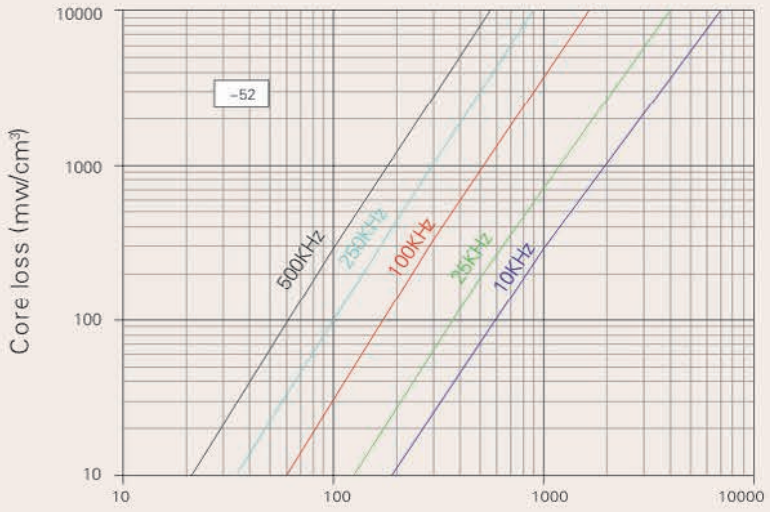

10000
1000
100
10
Core loss (mw/cm³)
-26
500KHz
250KHz
100KHz
25KHz
10KHz
10
100
1000
10000
Bpk–Peak AC Flux Density (gauss) Note: tesla=gauss×10⁻⁴


-34
500KHz
250KHz
100KHz
50KHz
25KHz
10KHz
10000
1000
100
10
10
100
1000
10000
Core loss (mw/cm³)
Bpk–Peak AC Flux Density (gauss) Note: tesla=gauss×10⁻⁴


-38
500KHz
250KHz
100KHz
25KHz
10KHz
10000
1000
100
10
10
100
1000
10000
Core loss (mw/cm³)
Bpk–Peak AC Flux Density (gauss) Note: tesla=gauss×10⁻⁴



B_{pk}–Peak AC Flux Density (gauss) Note: tesla=gauss×10^{-4}



B_{pk}–Peak AC Flux Density (gauss) Note: tesla=gauss×10^{-4}