TDG

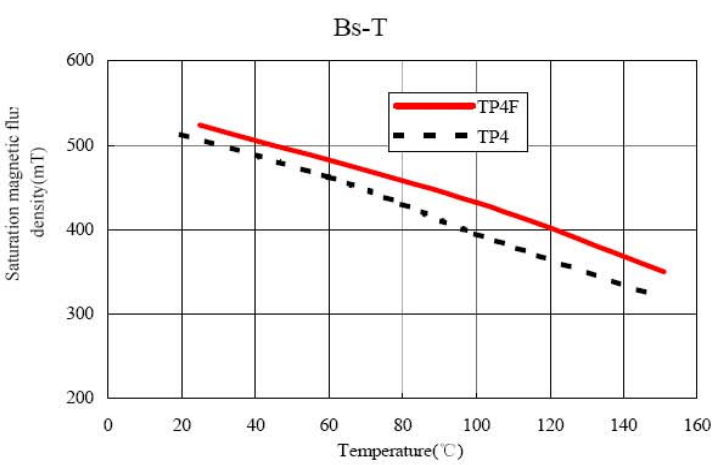
High temperature low core loss MnZn power ferrite material TP4F

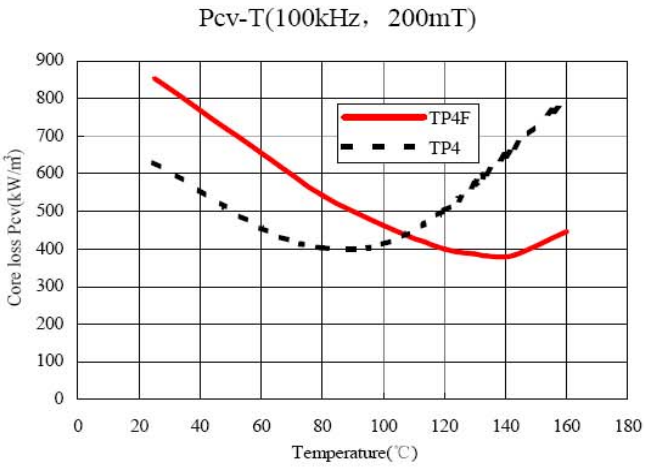
Most soft ferrite for power application have a loss minimum between 80℃ and100℃. And for safety reason their maximum working temperature is not above 100℃.

However,some power devices such as lighting electronics and automotive electronics must work at higher temperature which is far above 100℃(some automotive electronics' working temperature reaches 150 ℃). So ferrites used in these devices are requested to have good high temperature performance(for example high Bs and low core loss at high temperature).

For this area,TDG has introduced high temperaturte low core loss MnZn power material TP4F which has a min loss around 140℃. Its core loss is less than 500kW/m^3 form 120℃ to 150℃. And it also has a high Bs at 140 ℃ (above 360mT).For these feature,TP4F can be used from 120℃ to 150℃ .

TP4F is the most excellent material at high temperature . Compared with the conventional material TP4, its core loss and Bs at high temperature(specially from 120℃ to 150℃) are improved evidently .Cores made with TP4F have successfully used in large-lighting area.





A POWERFUL SOLUTION™

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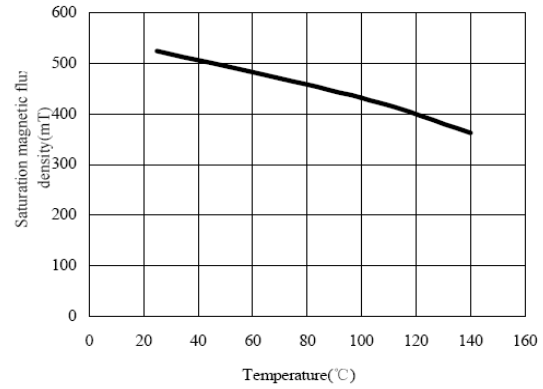
Material: TP4F

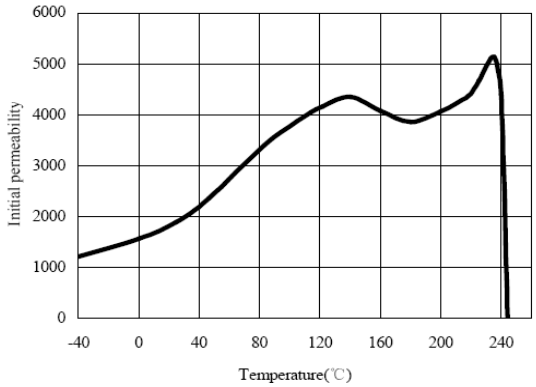
Features:

1. Mostly used at High Temperature.(From 120℃ to 150℃)
2. Used at Middle Frequency. （Less than 500kHz)
3. High Bs at High Temperature（above 360mT at 140℃)
4. Low Core Loss at High Temperature
5.The Minimum Core Loss is around 140℃

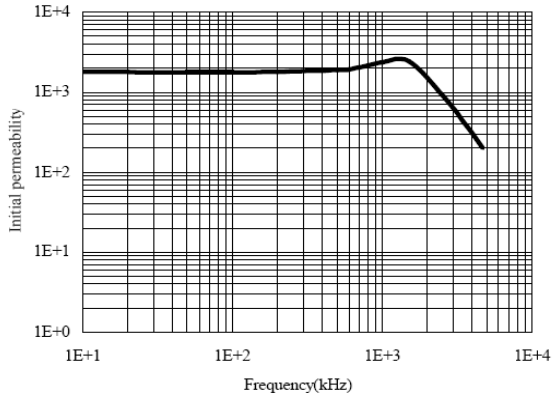
Bs-Temperature



μ_i-Temperature



μ_i-Frequency



Initial permeability	μ_i	25℃	1800±25%
Saturation magnetic flux density	Bs(mT) 1194A/m	25℃	520
		100℃	430
		140℃	360
Core loss Pcv (kW/m^3)	100kHz 200mT	25℃	900
		100℃	500
		140℃	400
Curie temperature	Tc(℃)		240
Electrical resistivity	ρ (Ω·m)		4
Density	d(kg/m^3)		4.8×10^3

*All specifications are subject to change without notice.

Test core: Toroid(mm)

OD:25

ID:15

H:7.5

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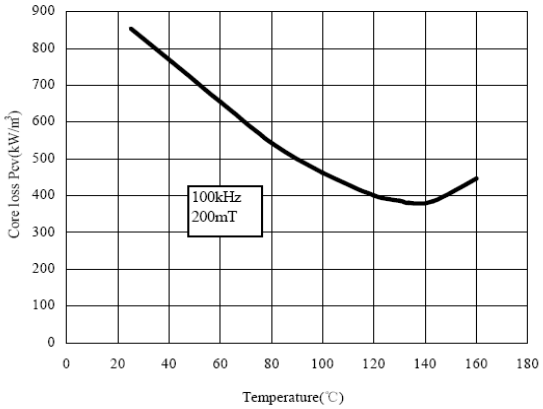
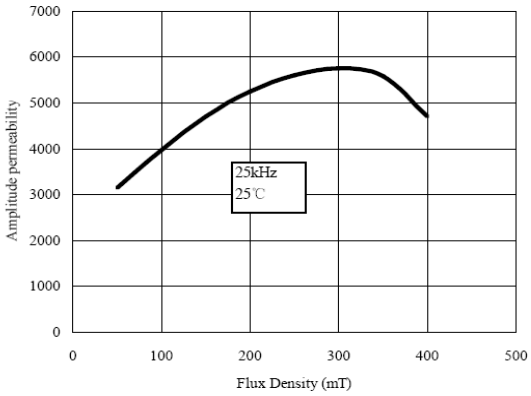
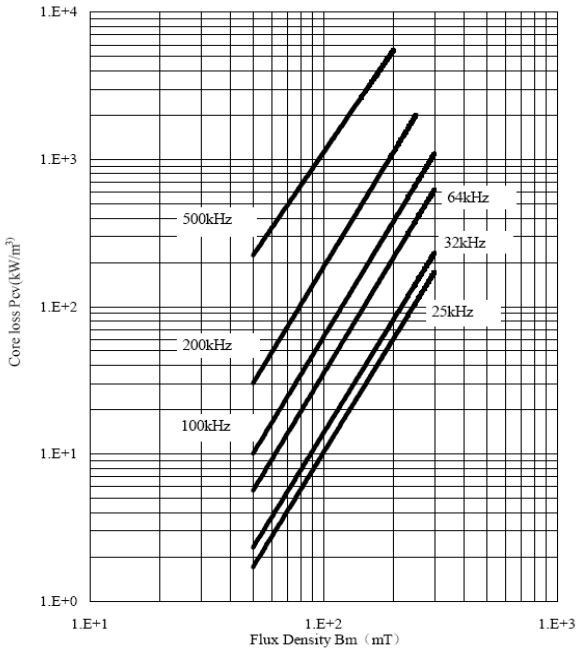
Pcv-Temperature



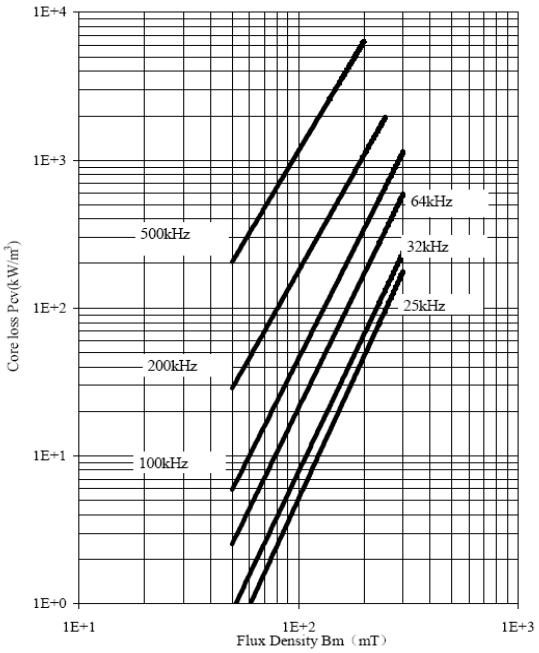
μ_a-Bm



Pcv-Bm(100℃)



Pcv-Bm(140℃)



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