

TDK Announcement – PC47 Power Ferrite

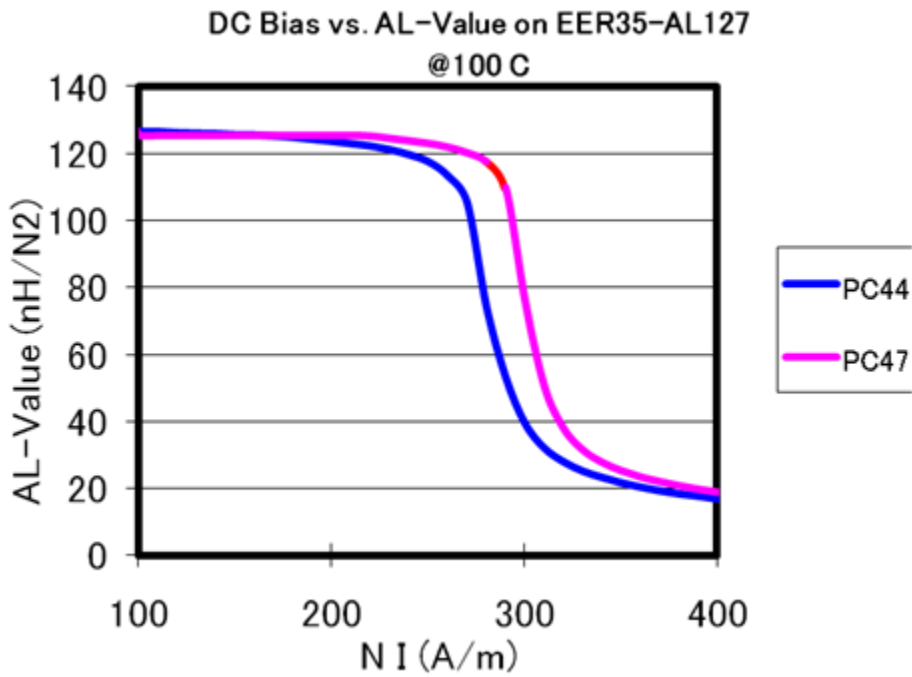
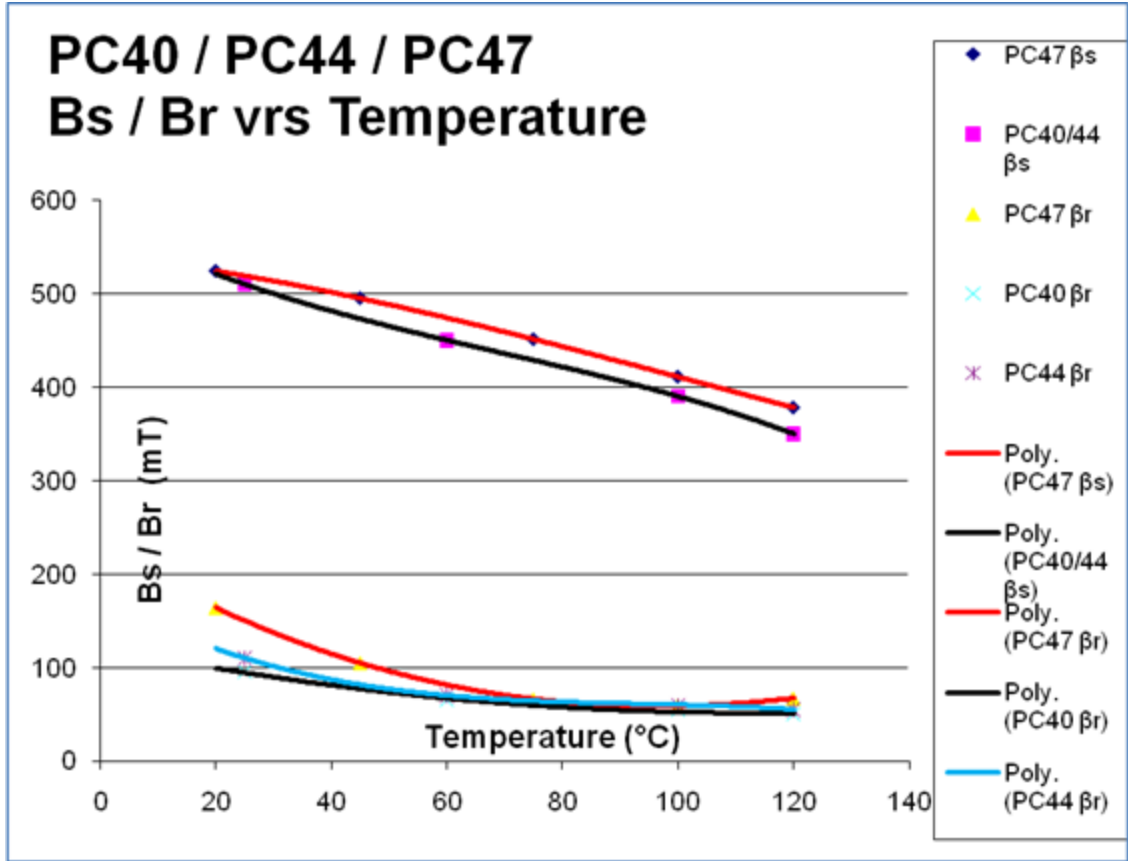
Over the past 40 years, ferrite materials have evolved to meet the challenges put forth by designers in the power supply and power distribution industry. TDK's ferrite technology continues to improve and keep pace with these demands with new high performance/high efficiency materials. PC47 power ferrite material exhibits the lowest core losses of any ferrite material made when tested at 100KHz, 100°C and 200mT.

Now, TDK introduces the PC47 as the next generation material to replace PC40 and PC44. PC47 offers a solution to designers looking to reduce power consumption and create more space-saving designs. PC40 and PC44 will continue to be supported by TDK. As PC47 becomes the dominant material in production the usage of PC40 and PC44 is expected to decrease significantly. Eventually PC40 and PC44 will be discontinued however no time frame for a phase out of the material has been established.

To see some of the specifics of how PC47 can prove beneficial to you, please review the characteristics that follow:

Material			PC47	PC44	PC40
Initial permeability	μ_i	25 °C	2500±25%	2400±25%	2300±25%
Core loss volume density at 100kHz, 200mT		25 °C	600	600	600
		60 °C	400	400	450
Typical Values	$P_{cv}(kW/m^3)$	80 °C	300	320	400
		100 °C	250	300	410
		120 °C	360	380	500
Saturation magnetic flux density at 1000A/m	$\beta_s(mT)$	25 °C	530	510	510
		60 °C	480	450	450
Typical Values		100 °C	420	390	390
		120 °C	390	350	350
Remanent flux density Typical Values	$\beta_r(mT)$	25 °C	180	110	95
		60 °C	100	70	65
		100 °C	60	60	55
		120 °C	60	55	50
Curie temperature	$T_c(^{\circ}C)$	min.	230	215	215
Density	$\rho_b(kg/m^3)$		4.9X10 ³	4.8X10 ³	4.8X10 ³

Unless otherwise specify the tolerance, the values are shown as a typical.



While PC40 and 44 materials will continue to be available for some time, we strongly suggest that you consider PC47 as the material of choice for all of your new designs.