

# LOW LOSS FERRITE MATERIAL FOR POWER SUPPLY PC47

PC47 has the best properties for transformers of power supplies, adapters and chargers.

The core loss and saturation magnetic flux density of PC47 are far better than PC44 and PC40 which are currently in use.

## FEATURES

- Core loss: 250kW/m<sup>3</sup> at 100kHz, 200mT, 100°C.
- Low core loss at wide frequency range 100kHz to 300kHz.
- Higher saturation flux density than PC44.

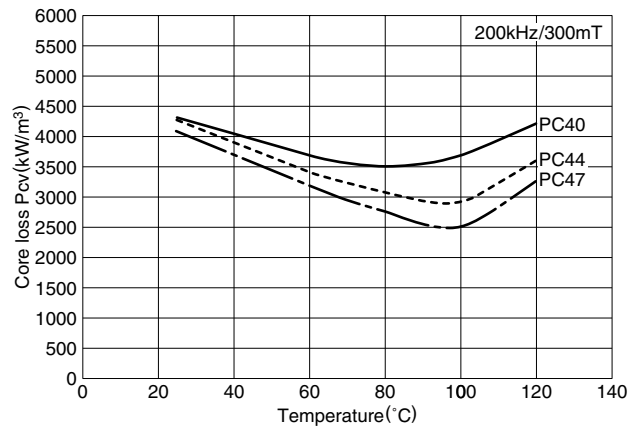
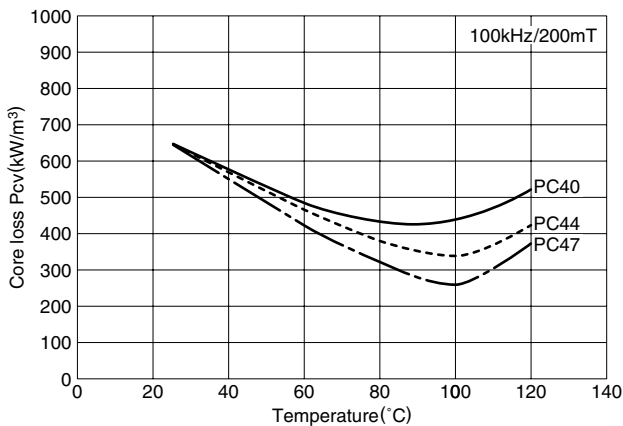
## APPLICATIONS

- Switching power supplies
- Adapters and chargers for notebook type pc
- CCFL LCD backlight

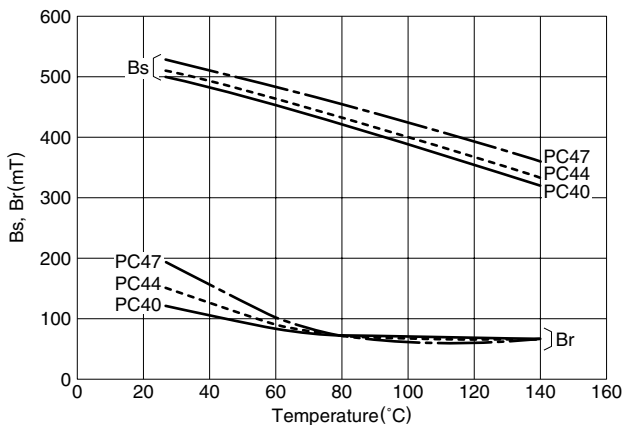
## MATERIAL CHARACTERISTICS

Material			PC47	PC44	PC40	
Initial permeability	$\mu$	25°C	2500±25%	2400±25%	2300±25%	
		25°C	600	600	600	
Core loss volume density [100kHz, 200mT]	P <sub>cv</sub>	kW/m <sup>3</sup>	400	400	450	
		100°C	250	300	410	
Saturation magnetic flux density [1000A/m]	B <sub>s</sub>	mT	25°C	530	510	510
		100°C	420	390	390	
Remanent flux density	B <sub>r</sub>	mT	25°C	180	110	95
		100°C	60	60	55	
Curie temperature	T <sub>c</sub>	°C	min.	230	215	215
Density	db	kg/m <sup>3</sup>		4.9×10 <sup>3</sup>	4.8×10 <sup>3</sup>	4.8×10 <sup>3</sup>

## P<sub>cv</sub> TEMPERATURE DEPENDENCE CHARACTERISTICS (Typical)

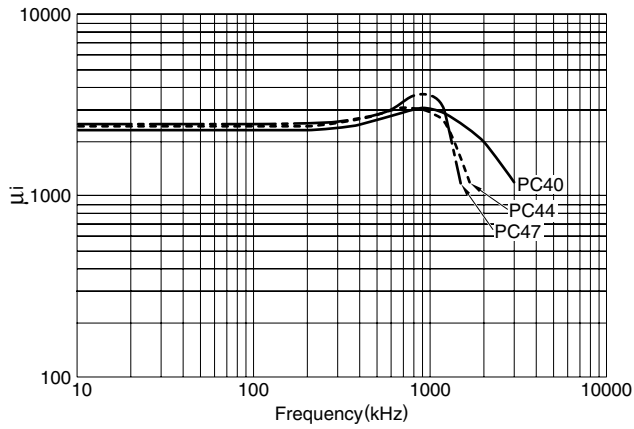


## B<sub>s</sub> and B<sub>r</sub> TEMPERATURE DEPENDENCE CHARACTERISTICS (Typical)

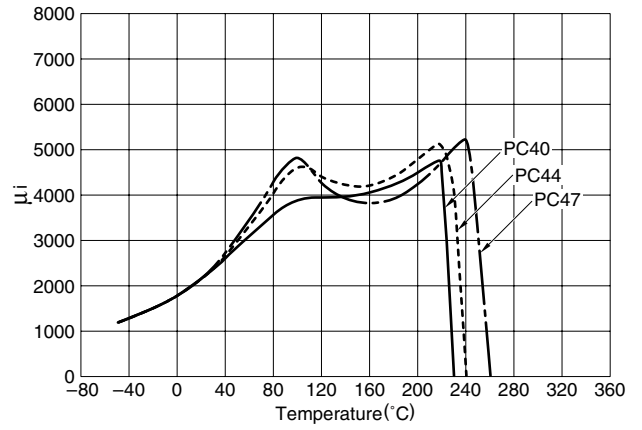


• All specifications are subject to change without notice.

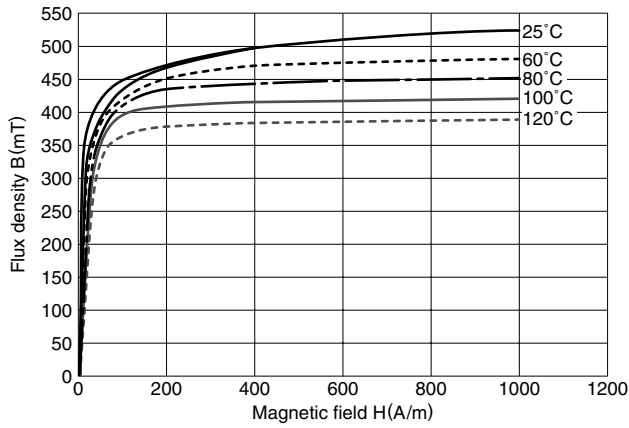
**$\mu_i$  vs. FREQUENCY CHARACTERISTICS (Typical)**



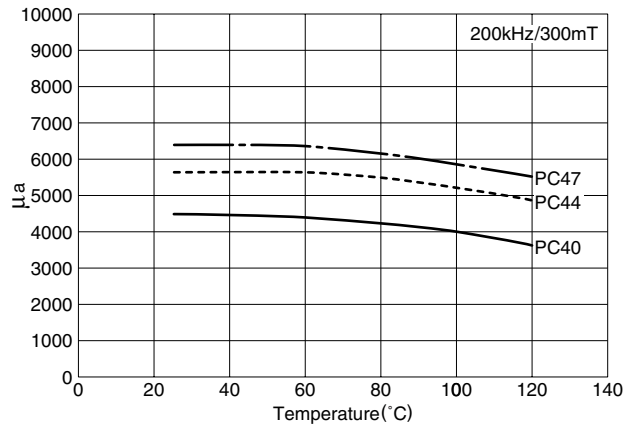
**$\mu_i$  vs. TEMPERATURE CHARACTERISTICS (Typical)**



**MAGNETIZATION CURVES (Typical)**  
**MATERIAL: PC47**



**$\mu_a$  TEMPERATURE DEPENDENCE CHARACTERISTICS (Typical)**



# LOW LOSS FERRITE MATERIALS FOR POWER SUPPLY PC45 AND PC46

In recent years, with the advent of notebook type pc, VCR's, digital camera's and mobile communication devices, technological demands have risen for higher performance CCFL LCD backlight units that have smaller sizes, lower profiles and higher efficiency.

The PC45 and PC46 are materials developed to achieve higher efficiency in designing minimize core loss at practical temperature ranges (PC45: 60 to 80°C and PC46: 40 to 50°C) and high saturation flux density.

They are also suitable for the transformers of DC to DC converters and adapters of notebook type pc.

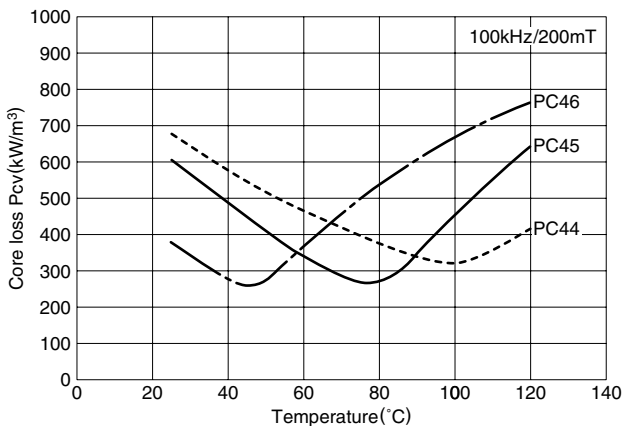
## APPLICATIONS

- Switching power supplies
- Adapters and chargers for notebook type pc
- CCFL LCD backlight

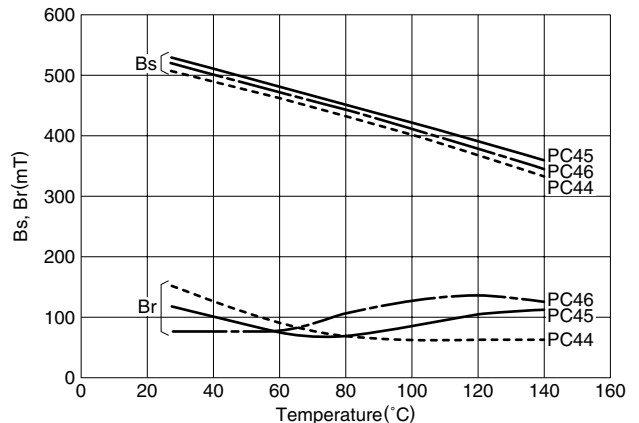
## MATERIAL CHARACTERISTICS

Material			PC45	PC46	PC44	
Initial permeability	$\mu_i$	25°C	2500±25%	3200±25%	2400±25%	
Core loss volume density [100kHz, 200mT]	Pcv	kW/m <sup>3</sup>	25°C	570	350	600
			60°C	250(75°C)	250(45°C)	400
			100°C	460	660	300
Saturation magnetic flux density [1000A/m]	Bs	mT	25°C	530	530	510
			100°C	420	410	390
Remanent flux density	Br	mT	25°C	120	80	110
			100°C	80	115	60
Curie temperature	Tc	°C	min. 230	230	215	
Density	db	kg/m <sup>3</sup>	4.8×10 <sup>3</sup>	4.8×10 <sup>3</sup>	4.8×10 <sup>3</sup>	

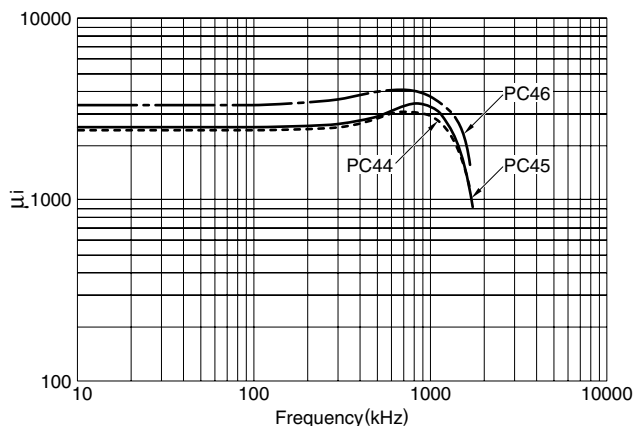
## Pcv TEMPERATURE DEPENDENCE CHARACTERISTICS (Typical)



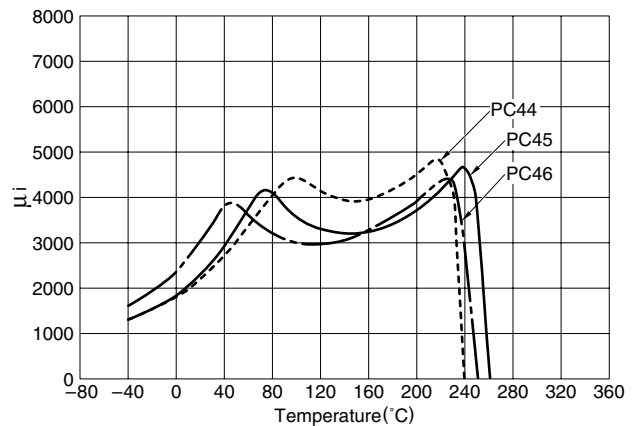
## Bs and Br TEMPERATURE DEPENDENCE CHARACTERISTICS (Typical)



## $\mu_i$ vs. FREQUENCY CHARACTERISTICS (Typical)

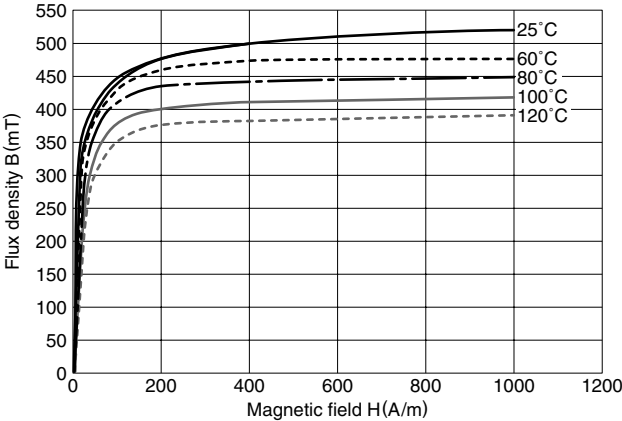


## $\mu_i$ vs. TEMPERATURE CHARACTERISTICS (Typical)



**MAGNETIZATION CURVES**

**MATERIAL:PC45**



**MATERIAL:PC46**

