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- Passive Components, SAN JOSE, CA,  
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Printed in The Netherlands 9398 238 39011 Date of release: April 1998

MAGNETIC PRODUCTS

# Introducing the new Power Ferrite



PHILIPS

Let's make things better.



PHILIPS

Let's make things better.

# Introducing the new power ferrite 3C94

In response to the demands of our customers for ever-lower power losses in the medium frequency ranges, we are proud to introduce 3C94.

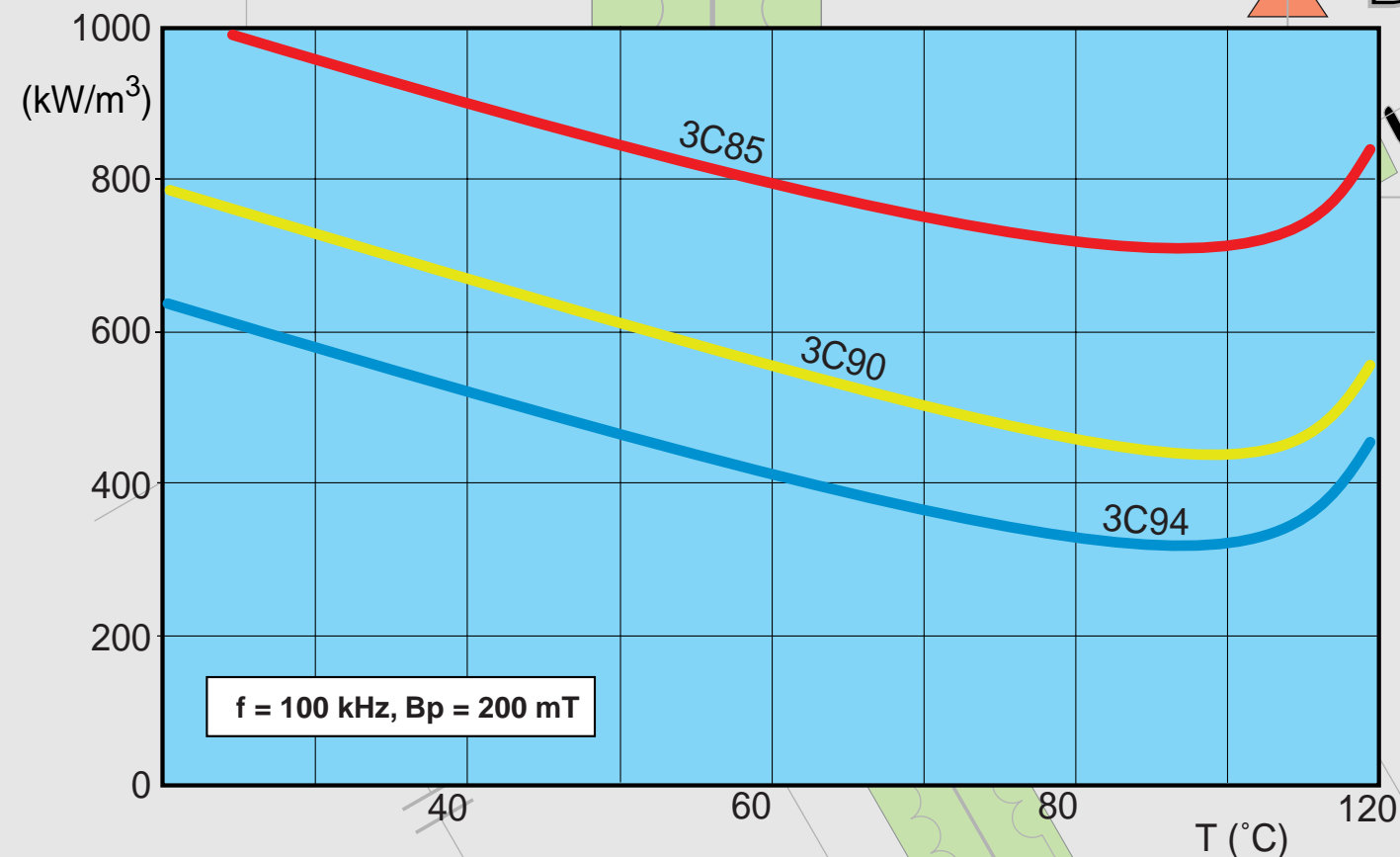
Our continuous material research has enabled us to bring power losses in ferrites down to unprecedented levels. This is clearly shown in the graph and the table.

This advanced power material offers you the opportunity to design cooler running or even more compact power converters.

Lower power losses, especially at high magnetic flux levels, require that hysteresis losses are minimized.

By nature, this causes an increase in the permeability level of such a material. In power applications, this will usually have only positive effects.

For instance, when there is no airgap, the magnetizing currents will be lower (for gapped cores the effects will be negligible).



By applying new techniques we are able to offer you these positive features in our current materials. The permeability specification of 3C90 will change (see table).

The permeability of 3C85 will also change. For gapped cores, specified on AL-value, the magnetic function remains the same. We will make the necessary adaptations to the length of the airgap during manufacturing.

For ungapped products or products specified on airgap

length, it may be necessary for you to check the effect on your designs. If required, design support is of course available.

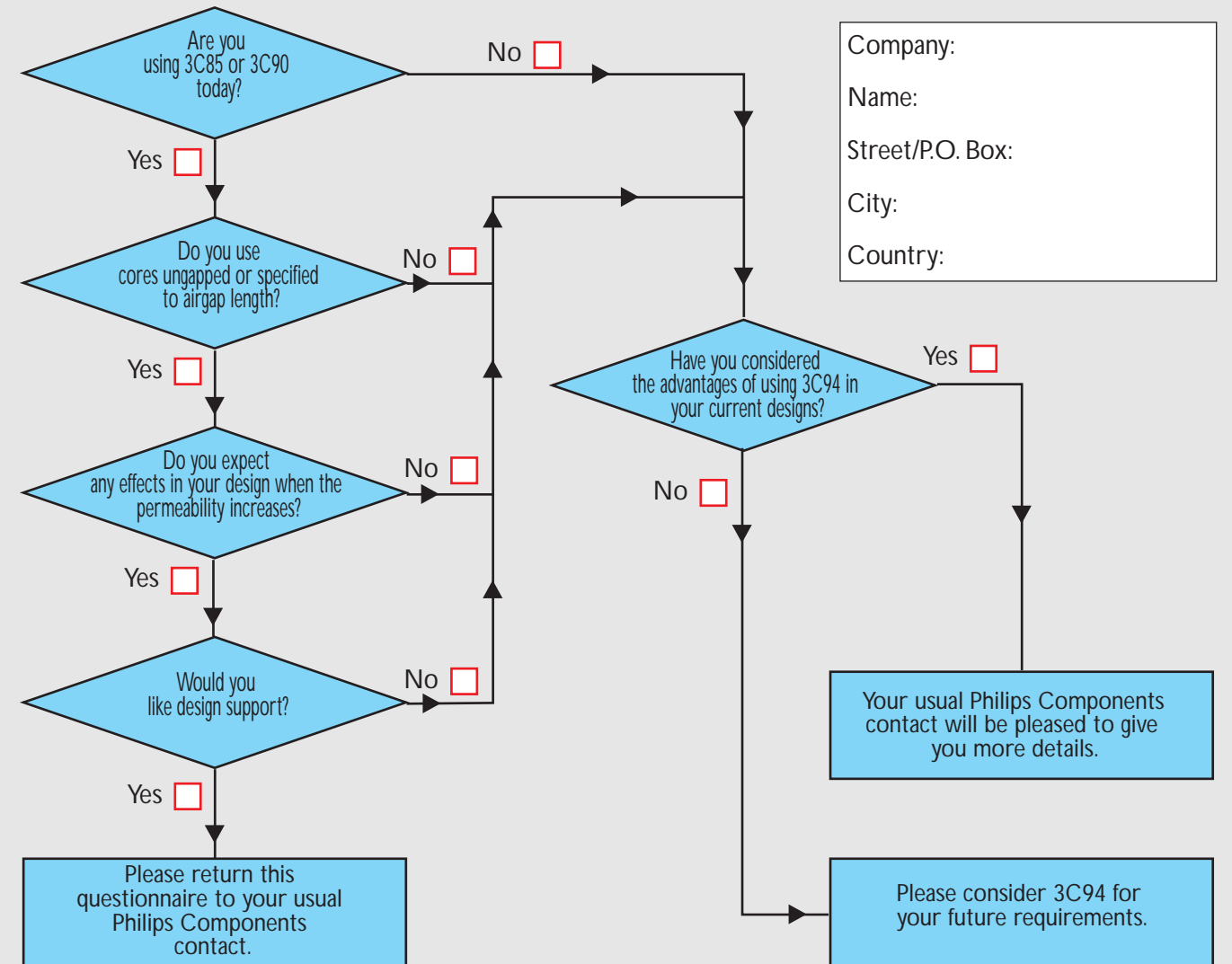
The specification of 3C85 will change as from 1/9/98. You will be informed on the basis of date codes.

For further information or for more details of products in 3C94, please call your usual Philips Components contact.

property	test conditions				specifications			
	symbol	f (kHz)	$\hat{B}$ or H	T (°C)	unit	3C85	3C90	3C94
$\mu_i (\pm 20\%)$	B	$\leq 10$	$\leq 0.1\text{mT}$	25		2300	2300	2300
		10	250A/m	100	mT	$\geq 330$	$\geq 340$	$\geq 340$
			3000A/m	25		$\approx 450$	$\approx 450$	$\approx 450$
	$H_c$	10		25	A/m	$\approx 15$	$\approx 15$	$\approx 15$
	$B_r$	10		25	mT	$\approx 160$	$\approx 160$	$\approx 150$
	$P_v$	25	200 mT	100	kW/m <sup>3</sup>	$\leq 140$	$\leq 80$	60*
		100	100 mT			$\leq 165$	$\leq 80$	60*
		100	200 mT				$\approx 450$	350*
	$T_c$				°C	$\geq 200$	$\geq 220$	$\geq 220$
	$\rho$	DC			$\Omega \cdot \text{m}$	$\approx 2$	$\approx 5$	$\approx 5$
	density				kg/m <sup>3</sup>	$\approx 4800$	$\approx 4800$	$\approx 4800$
	ferrite type					MnZn	MnZn	MnZn

Properties measured on sintered, unground ring cores of dimensions  $\varnothing 25 \times \varnothing 15 \times 10$  which are not subjected to external stresses. \*) average values

To help you benefit from this improvement, please take a few moments to complete these questions and return this questionnaire to your usual Philips Components contact or fax it to Philips Magnetic Products, Marketing Communications in The Netherlands, ++31-40-2723135



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