

### Material Characteristics (5)

	Symbol	Unit	Measuring Conditions			Conventional High $\mu$ For CM Chokes Materials			
			Freq.	Flux den.	Temp.	A10	A121	A13	A151
Initial Permeability	$\mu_i$		$\leq 10\text{kHz}$	0.25mT	25°C	10000 $\pm$ 30%	12000 $\pm$ 30%	12000 $\pm$ 30%	15000 $\pm$ 30%
Relative Loss Factor	$\tan\delta/\mu_i$	10 <sup>-6</sup>	10kHz	$< 0.25\text{mT}$	25°C	$< 10$	$< 10$	$< 8$	$< 10$
			100kHz		25°C	$< 60$	$< 60$	$< 40$	$< 110$
Saturation Flux Density	Bs	mT	10kHz	H = 1200A/m	25°C	410	380	400	400
					100°C	210	180	200	170
Remanence	Br	mT	10kHz	H = 1200A/m	25°C	140	130	120	220
					100°C	110	110	65	100
Temperature Factor of Permeability	$\alpha_F$	10 <sup>-6</sup> /°C	10kHz	$< 0.25\text{ mT}$	0 ~ 20°C	0 ~ 1.5	0 ~ 1.5	1 ~ 3	-1 ~ 1
					20 ~ 70°C	-0.5 ~ 1	-0.5 ~ 1	-1 ~ 1	-1 ~ 1
Hysteresis Material Constant	$\eta_B$	10 <sup>-6</sup> /mT	10kHz	1.5-3.0mT	25°C	$< 0.5$	$< 0.5$	$< 0.5$	$< 0.5$
Disaccommodation Factor	D <sub>F</sub>	10 <sup>-6</sup>	10kHz	$< 0.25\text{ mT}$	25°C	$< 2$	$< 2$	$< 2$	$< 2$
Curie Temperature	T <sub>c</sub>	°C				$\geq 130$	$\geq 110$	$\geq 125$	$\geq 110$
Resistivity	$\rho$	$\Omega\text{m}$				0.15	0.12	0.15	0.10
Density	d	g/cm <sup>3</sup>				4.90	4.90	4.90	5.00

Remark: Best impedance, and permeability v. s. frequency performance for 10,000 $\mu_z$  materials.

Note: Material characteristics are typical for a toroid core.

Product specification will differ from these data due to the influence of geometry and size.

### Material Characteristics (6)

	Symbol	Unit	Measuring Conditions			Wide Band Filter Materials				
			Freq.	Flux den.	Temp.	A05	A06 <b>NEW</b>	A07	A071	A102
Initial Permeability	$\mu_z$		$\leq 10\text{kHz}$	0.25mT	25°C	5000 $\pm$ 25%	6000 $\pm$ 25%	7000 $\pm$ 25%	7000 $\pm$ 25%	10000 $\pm$ 30%
Relative Loss Factor	$\tan\delta/\mu_z$	10 <sup>-6</sup>	10kHz	$< 0.25\text{mT}$	25°C	$< 4$	$< 4$	$< 8$	$< 8$	$< 10$
			100kHz		25°C	$< 15$	$< 15$	$< 30$	$< 30$	$< 60$
Saturation Flux Density	Bs	mT	10kHz	H = 1200A/m	25°C	440	420	400	440	380
					100°C	300	280	200	280	180
Remanence	Br	mT	10kHz	H = 1200A/m	25°C	80	70	150	80	95
					100°C	90	80	110	60	75
Temperature Factor of Permeability	$\alpha_F$	10 <sup>-6</sup> /°C	10kHz	$< 0.25\text{ mT}$	0 ~ 20°C	0 ~ 2	0 ~ 2.5	-1~1	-1~1	-1 ~ 1
					20 ~ 70°C	0 ~ 2	0 ~ 2.5	-1~1	-1~1	-1 ~ 1
Hysteresis Material Constant	$\eta_B$	10 <sup>-6</sup> /mT	10kHz	1.5-3.0mT	25°C	$< 0.8$	$< 0.8$	$< 1.2$	$< 1.2$	$< 1$
Disaccommodation Factor	D <sub>F</sub>	10 <sup>-6</sup>	10kHz	$< 0.25\text{ mT}$	25°C	$< 3$	$< 3$	$< 2$	$< 2$	$< 2$
Curie Temperature	T <sub>c</sub>	°C				$\geq 140$	$\geq 140$	$\geq 130$	$\geq 145$	$\geq 120$
Resistivity	$\rho$	$\Omega\text{m}$				0.20	0.20	0.35	0.35	0.15
Density	d	g/cm <sup>3</sup>				4.85	4.85	4.90	4.90	4.90

Note: Material characteristics are typical for a toroid core.

Product specification will differ from these data due to the influence of geometry and size.

	Symbol	Unit	Measuring Conditions			Conventional High $\mu$ For CM Chokes Material
			Freq.	Flux den.	Temp.	A10
Initial Permeability	$\mu_i$		$\leq 10\text{kHz}$	0.25mT	25°C	10000 $\pm$ 30%
Relative Loss Factor	$\tan\delta/\mu_i$	$10^{-6}$	10kHz	$< 0.25\text{mT}$	25°C	$< 10$
			100kHz		25°C	$< 60$
Saturation Flux Density	Bs	mT	10kHz	H = 1200A/m	25°C	410
					100°C	210
Remanence	Br	mT	10kHz	H = 1200A/m	25°C	140
					100°C	110
Temperature Factor of Permeability	$\alpha_r$	$10^{-6}/^\circ\text{C}$	10kHz	$< 0.25\text{ mT}$	0 ~ 20°C	0 ~ 1.5
					20 ~ 70°C	-0.5 ~ 1
Hysteresis Material Constant	$\eta_B$	$10^{-6}/\text{mT}$	10kHz	1.5-3.0mT	25°C	$< 0.5$
Disaccommodation Factor	$D_F$	$10^{-6}$	10kHz	$< 0.25\text{ mT}$	25°C	$< 2$
Curie Temperature	$T_c$	°C				$\geq 130$
Resistivity	$\rho$	$\Omega\text{m}$				0.15
Density	d	$\text{g}/\text{cm}^3$				4.90

Note: Material characteristics are typical for a toroid core.  
Product specification will differ from these data due to the influence of geometry and size.

