3E25 SPECIFICATIONS

A medium permeability material mainly for use in current compensated chokes in EMI-suppression filters.

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤10 kHz; 0.25 mT	6000 ± 20%	
B	25 °C; 10 kHz; 1200 A/m	≈ 390	mT
	100 °C; 10 kHz; 1200 A/m	≈ 220	
$\tan\delta/\mu_i$	25 °C; 100 kHz; 0.25 mT	$\leq 25 \times 10^{-6}$	
	25 °C; 300 kHz; 0.25 mT	$\leq 200 \times 10^{-6}$	
ρ	DC; 25 °C	≈ 0.5	Ωm
T_C		≥ 125	°C
density		≈ 4900	kg/m^3

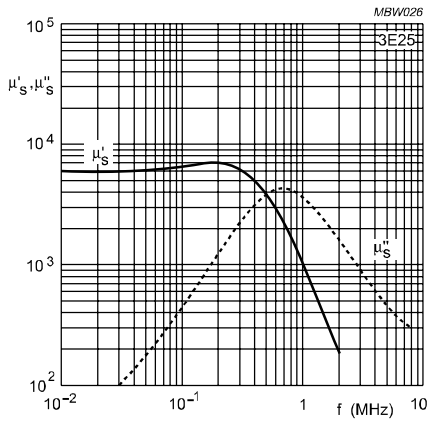


Fig.1 Complex permeability as a function of frequency.

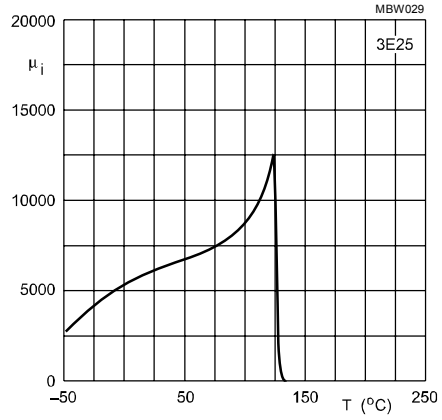


Fig.2 Initial permeability as a function of temperature.

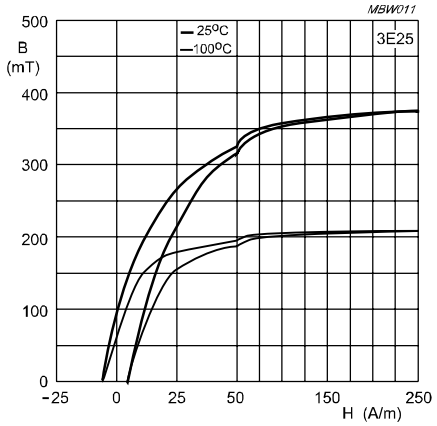


Fig.3 Typical B-H loops.

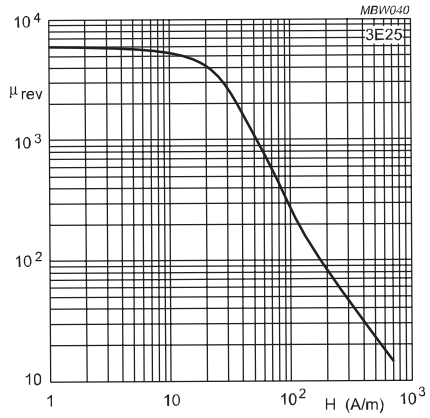


Fig.4 Reversible permeability as a function of magnetic field strength.

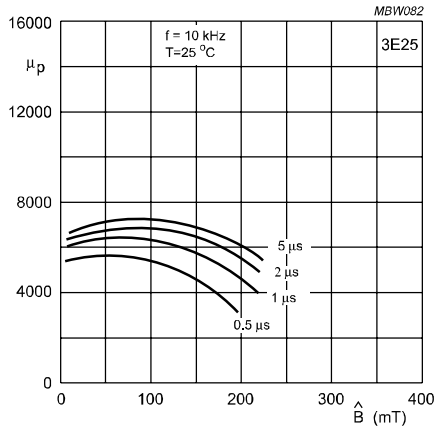


Fig.5 Pulse characteristics (unipolar pulses).

Ferrite toroids TC6/4/2

RING CORES (TOROIDS)

Effective core parameters

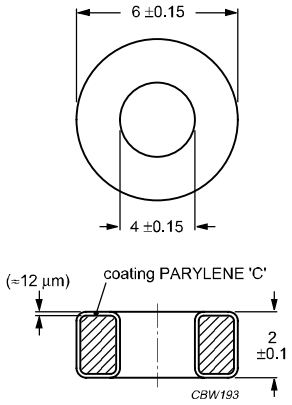
SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	7.75	mm^{-1}
V_e	effective volume	30.2	mm^3
l_e	effective length	15.3	mm
A_e	effective area	1.97	mm^2
m	mass of core	≈ 0.15	g

Coating

The cores are coated with parylene C, flame retardant in accordance with “UL 94V-2”; UL file number E 194397.
The coating is transparent.
Maximum operating temperature is 90 °C.

Isolation voltage

DC isolation voltage: 1000 V.
Contacts are applied on the edge of the ring core, which is also the critical point for the winding operation.



Dimensions (uncoated) in mm.

Fig.1 TC6/4/2 ring core.

Ring core data

GRADE	A_L (nH)	μ_i	TYPE NUMBER
4C65	20 ± 25%	≈ 125	TC6/4/2-4C65
4A11	114 ± 25%	≈ 700(1)	TC6/4/2-4A11
3S4 des	275 ± 25%	≈ 1700	TC6/4/2-3S4
3F3	325 ± 25%	≈ 2000	TC6/4/2-3F3
3E25	890 ± 30%	≈ 5500	TC6/4/2-3E25
3E5	1380 ± 30%	≈ 8500	TC6/4/2-3E5
3E6 des	1620 ± 30%	≈ 10000	TC6/4/2-3E6

1. Old permeability specification maintained.