RM INDUCTOR CORE
for printed wiring applications

RM7
LA4245
A_L400

Frequency range for which the Q-factor is normally greater than 100 .. .. 2 to 500kHz

Material .. .. Ferroxcube grade A13

Standard adjuster LA1400

ELECTRICAL AND MAGNETIC DESIGN DATA
FOR CORE ASSEMBLY

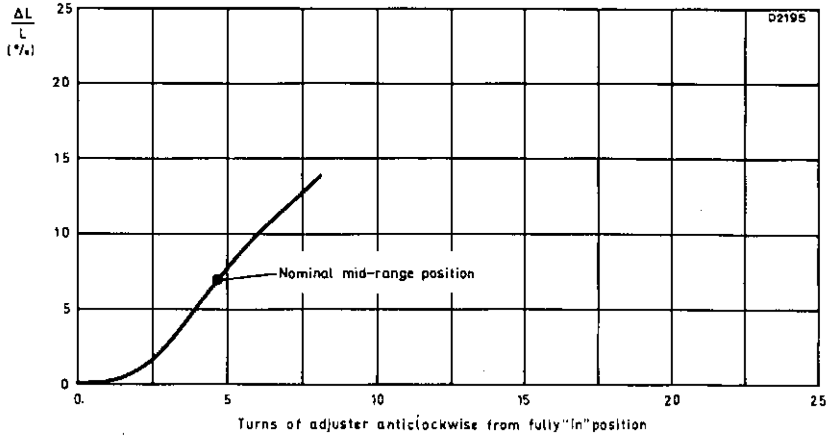
Parameter		Symbol	Measuring frequency (kHz)	Value without adjuster	Derived value with standard adjuster (note 1)
Inductance factor (nH for 1 turn)		A_L	<10	400 ± 2%	427.5
Turns factor (turns for 1mH)		α	<10	50.00 ± 1%	48.36
Effective permeability		μ_e	<10	233.6	249.7
Residual plus eddy current core loss tangent		$\tan\delta_{r+F}$	30	$<0.77\times10^{-3}$	$<0.80\times10^{-3}$
			100	$<1.31\times10^{-3}$	$<1.38\times10^{-3}$
Hysteresis loss tangent at $\hat{B}_e$ = 1mT (note 5)		$\tan\delta_h$	4	$<0.27\times10^{-3}$	$<0.28\times10^{-3}$
Temperature coefficient (ppm per deg C)	5 to 25°C	α_L	<100	114 to 358	124 to 375 ←
	25 to 55°C				

NOTES:

1. These derived values, which are not guaranteed, apply to the core assembly with the standard adjuster in the nominal mid-range position.
2. Except for hysteresis loss tangent, the above parameters are measured at an effective flux density of $\hat{B}_e$ <0.1mT.
3. Except for temperature coefficient, the above parameters apply at a temperature of 25°C.
4. Hysteresis factor $F_h = \frac{2\pi \tan\delta_h}{I\sqrt{L}}$

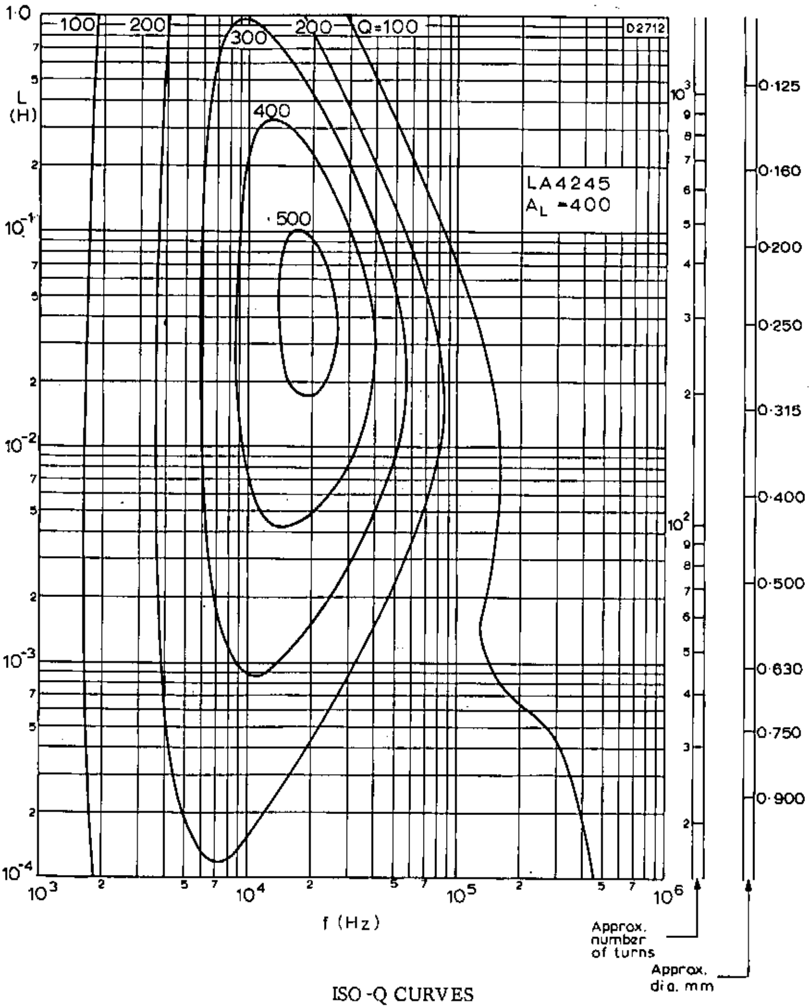
   where I = r.m.s. current in amperes, and L = inductance in henrys.
5. Tan δ_h is determined from measurements at $\hat{B}_e$ = 0.1 and 1mT.
6. For material properties see data sheet LINEAR FERRITE MATERIALS.

TYPICAL ADJUSTMENT CURVE



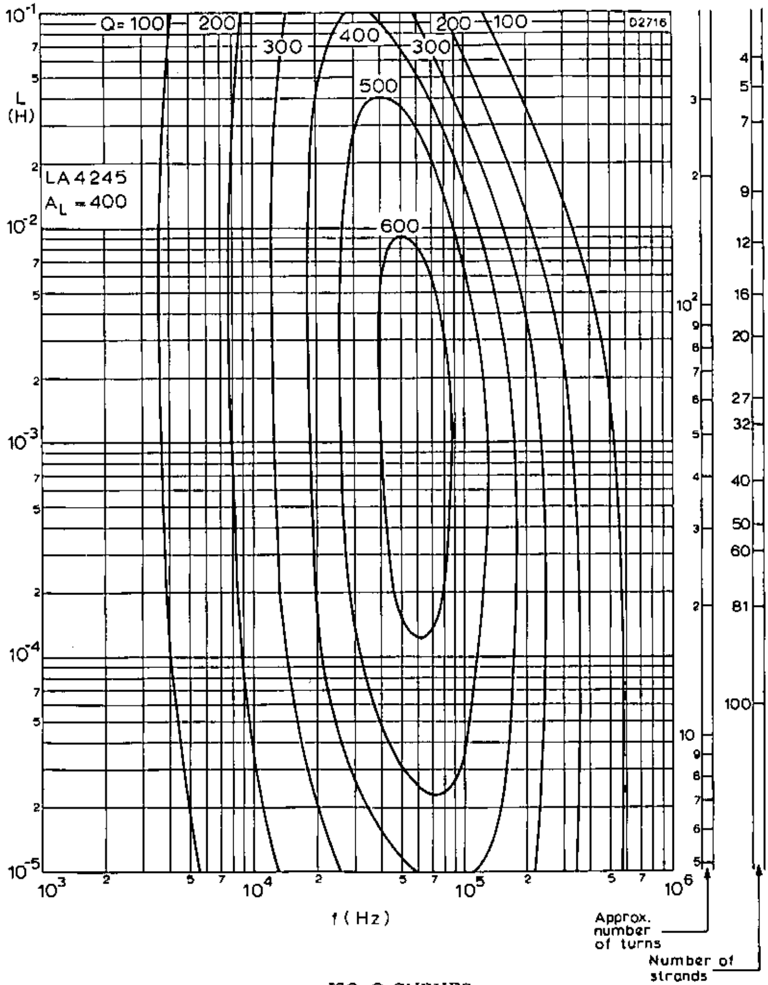
STANDARD ADJUSTER LA1400

L is the inductance of the assembly without adjuster



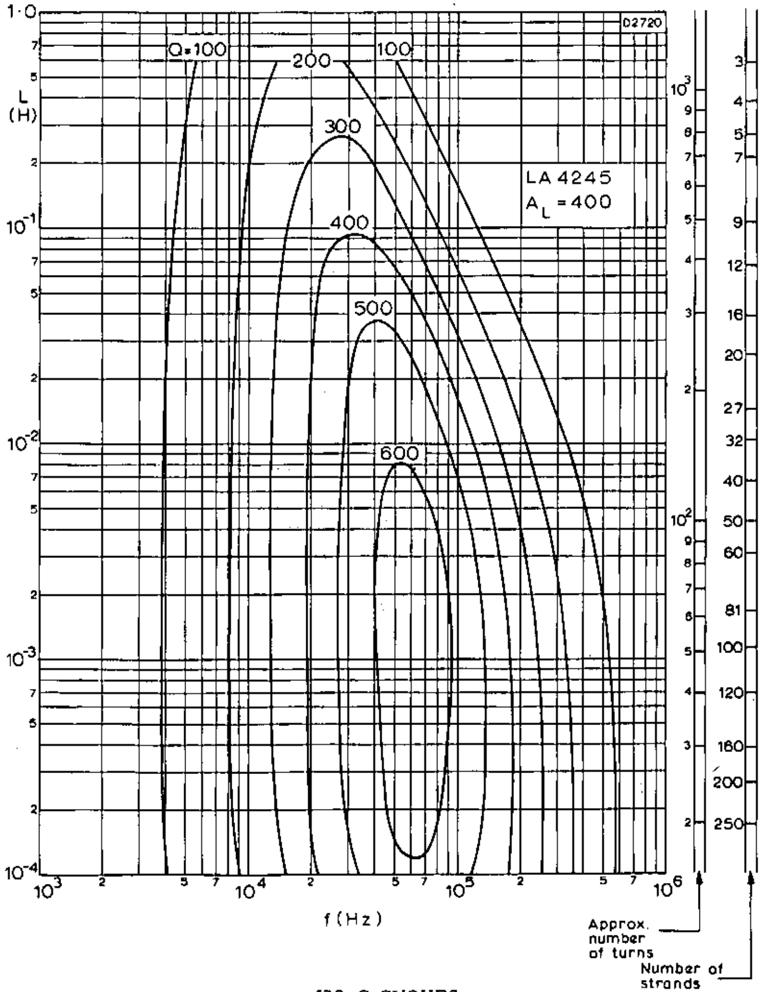
ISO -Q CURVES

These curves show typical Q-factors obtainable with full windings of enamelled copper wire on coil formers type DT2391, DT2392, DT2468 (see winding tables in LA4200 Series sheets)



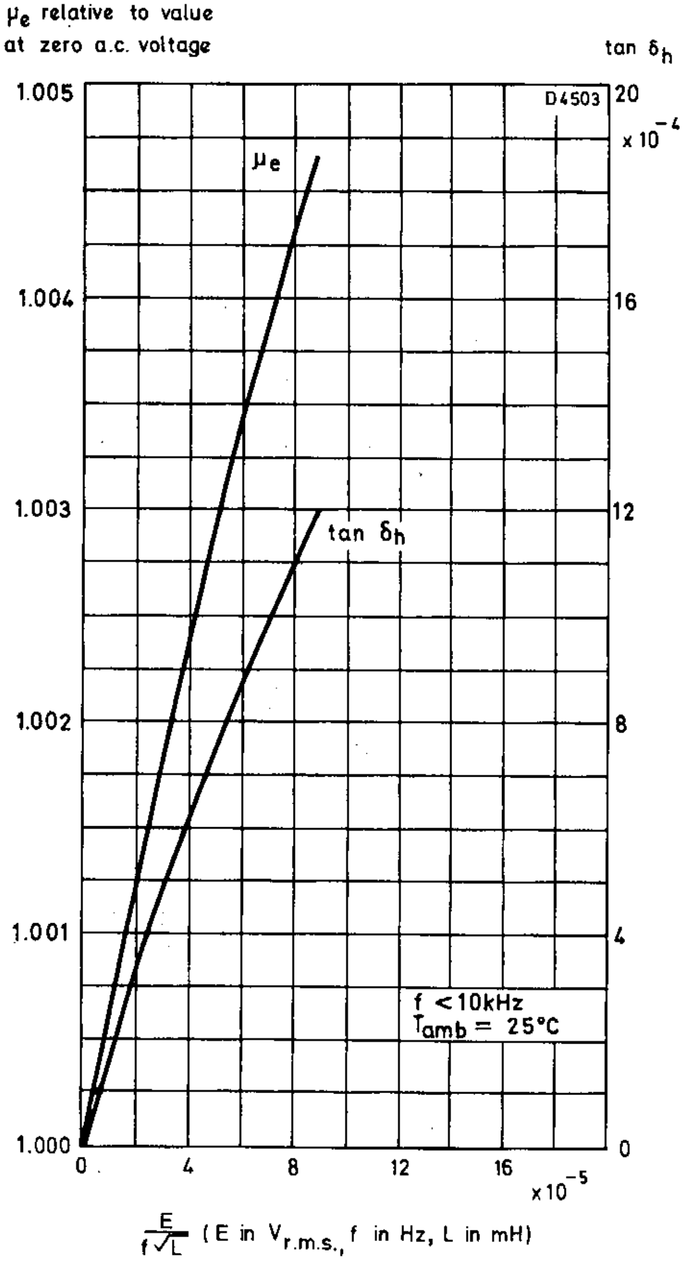
ISO-Q CURVES

These curves show typical Q-factors obtainable with full windings of 0.071mm diameter bunched conductors on coil formers type DT2391, DT2392, DT2468 (see winding tables in LA4200 Series sheets)



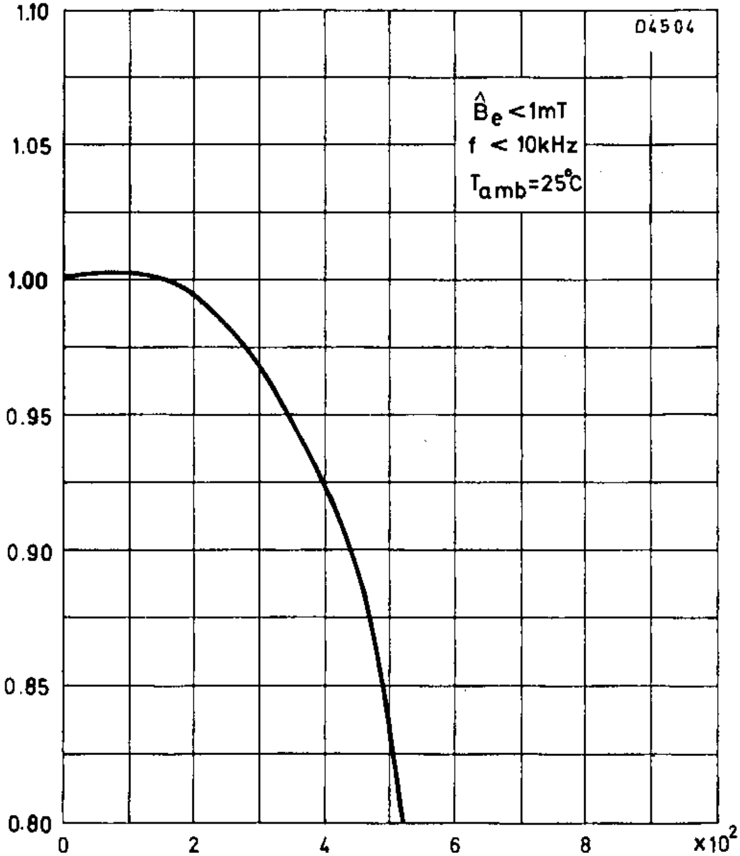
ISO-Q CURVES

These curves show typical Q-factors obtainable with full windings of 0.040mm diameter bunched conductors on coil formers type DT2391, DT2392, DT2468 (see winding tables in LA4200 Series sheets)



TYPICAL VARIATION OF μ_e AND
tan δ_h WITH A.C. SIGNAL LEVEL

Inductance relative to value at zero d.c. polarisation



$I_{d.c.}\sqrt{L}$ ($I_{d.c.}$ in mA, L in mH)

TYPICAL D.C. POLARISATION CURVE