ADJUSTABLE POT CORE
for high quality inductors
to BS4061—range 1—ref 1

10mm VINKOR
LA1421
μ_e 100

Frequency range for which the Q-factor is normally greater than 100 .. .. 20 to 800kHz

Material .. .. Ferroxcube grade A13

Standard adjuster LA1383

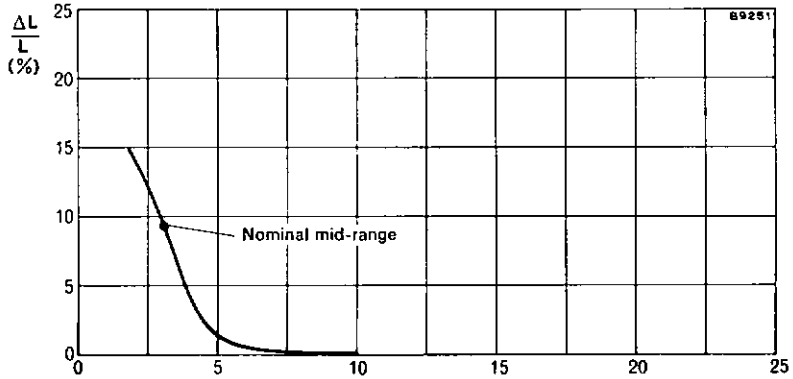
ELECTRICAL AND MAGNETIC DESIGN DATA FOR CORE ASSEMBLY

Parameter		Symbol	Measuring frequency (kHz)	Value without adjuster	Derived value with standard adjuster (note 1)
Effective permeability		μ_e	<10	91.47	100
Turns factor (turns for 1mH)		α	<10	94.20 ±1.5%	90.09
Inductance factor (nH for 1 turn)		A_L	<10	112.7 ±3%	123.2
Residual plus eddy current core loss tangent		$\tan\delta_{r+F}$	30	$<0.31\times10^{-3}$	$<0.32\times10^{-3}$
			100	$<0.57\times10^{-3}$	$<0.60\times10^{-3}$
Hysteresis loss tangent at $\hat{B}_e$ = 1mT (note 5)		$\tan\delta_h$	4	$<0.11\times10^{-3}$	$<0.12\times10^{-3}$
Temperature coefficient (ppm per deg C)	5 to 25°C	α_L	<100	0 to 142	0 to 150
	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 $F_h = \dfrac{2\pi \tan\delta_h}{I\sqrt{L}}$
   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



Turns of adjuster anticlockwise from fully 'in' position.

STANDARD ADJUSTER LA1383

L is the inductance of the assembly without adjuster

Adjusters are not included in the LA1421 core type number, and they must therefore be ordered separately.

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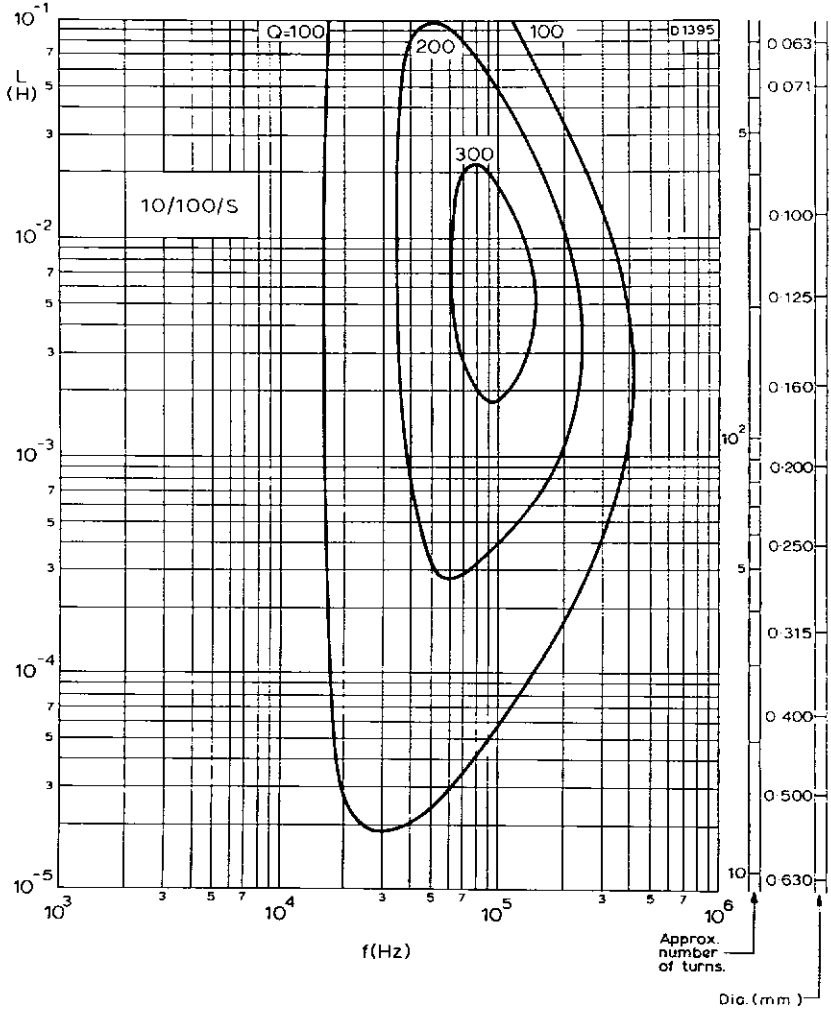
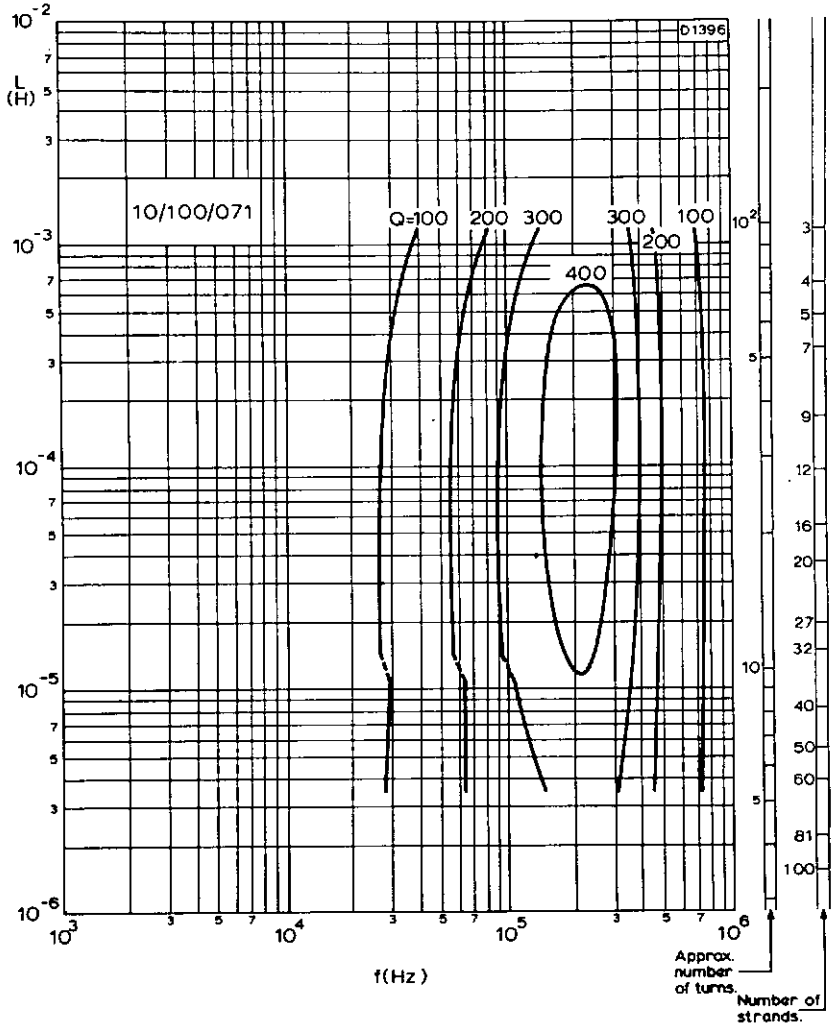


ISO-Q CURVES

These curves show typical Q-factors obtainable with full windings of enamelled copper wire on coil former type DT2169 (see winding tables in 'white' 10mm Vinkor Series sheets).



ISO-Q CURVES

These curves show typical Q-factors obtainable with full windings of 0.071mm diameter bunched conductors on coil former type DT2169 (see winding tables in 'white' 10mm Vinkor Series sheets).

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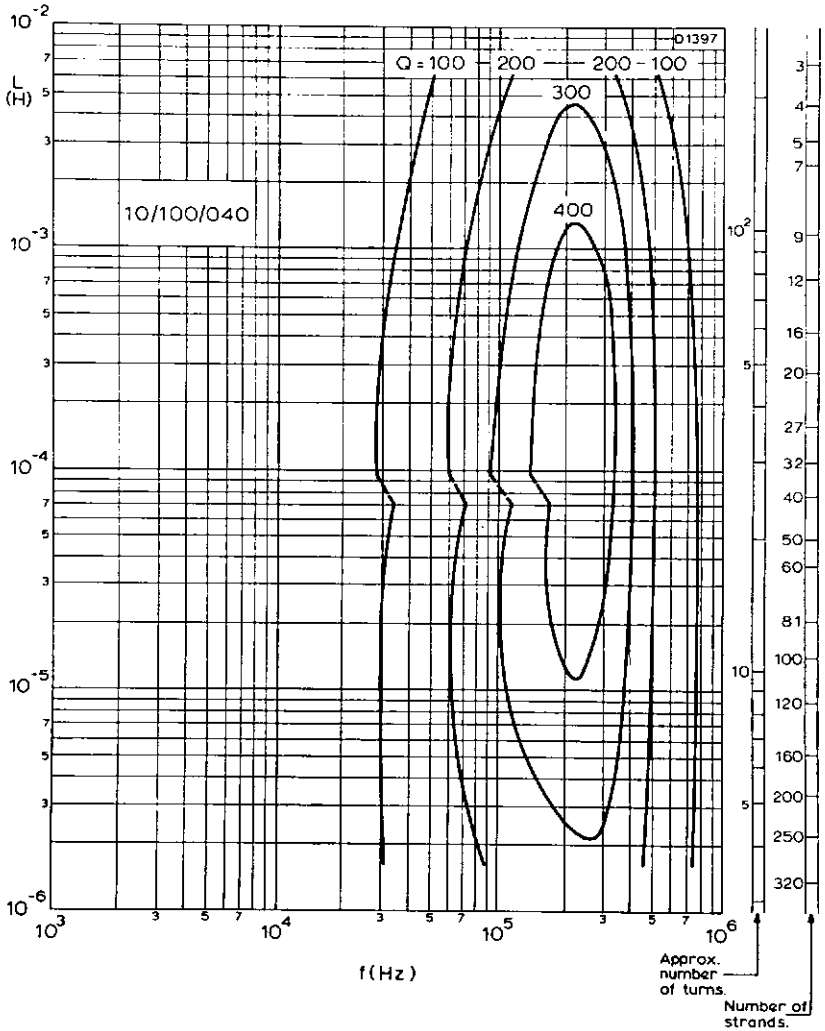
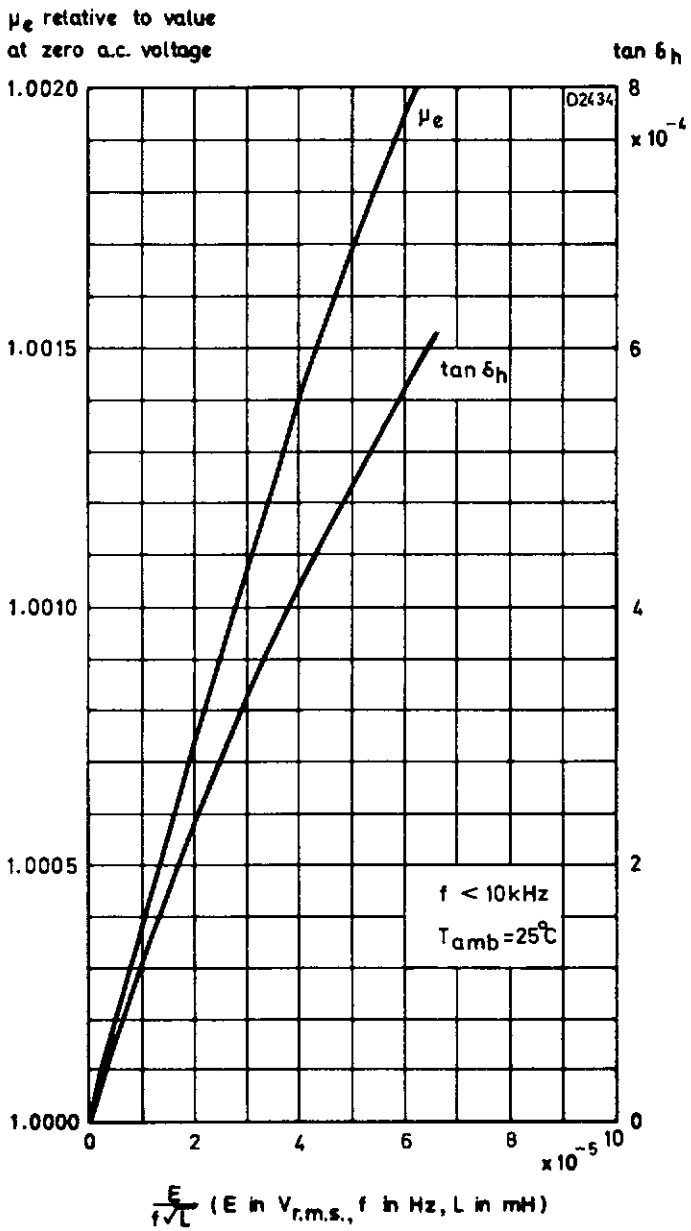
LA1421
μ_e 100



ISO-Q CURVES

These curves show typical Q-factors obtainable with full windings of 0.040mm diameter bunched conductors on coil former type DT2169 (see winding tables in 'white' 10mm Vinkor Series sheets).



TYPICAL VARIATION
OF μ_e AND $\tan \delta_h$ WITH A.C. SIGNAL LEVEL

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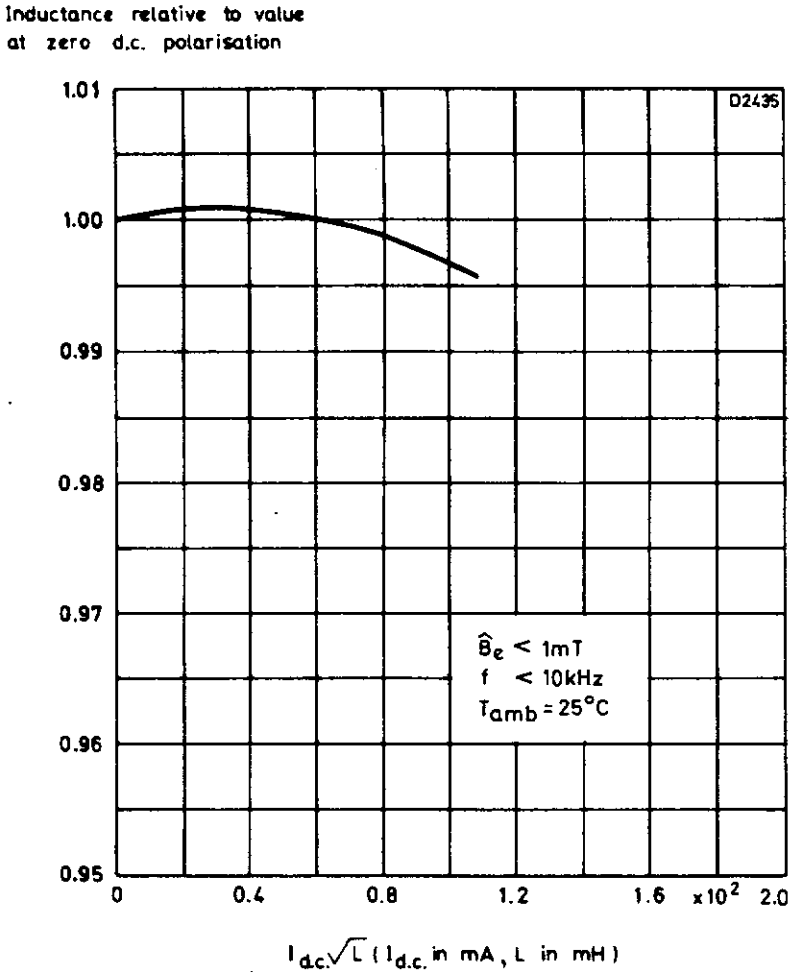

TYPICAL D.C. POLARISATION CURVE