

TABLE 5

ELECTRICAL CHARACTERISTICS OF THE COIL TC728.

ACTUAL COIL INDUCTANCE	LCR meter (measured)	37.66mH @ 1 KHz
ACTUAL COIL INDUCTANCE (Calc.)	$L_{2^{\circ}act} = (C_{2^{\circ}} F_C^2)^{-1} = (W_{V2^{\circ}} F_B)^{-1}$	$3.03 * 10^{-17} \text{ sec}^2 \text{ m}^{-1} = \int = 38.5 \text{ mH}$
CLASSIC COIL INDUCTANCE	$L_{2^{\circ}} = (4\pi^2 C_{2^{\circ}} F_C^2)^{-1} = (4\pi^2 W_{V2^{\circ}} F_B)^{-1}$	$7.68 * 10^{-19} \text{ sec}^2 \text{ m}^{-1}$
INDUCTIVE ACCELERATION (MF)	$L_{2^{\circ}act}^{-1} = W_{V2^{\circ}} F_B = A_L$	$3.34 * 10^{16} \text{ m sec}^{-2}$
COIL RESISTANCE	$R_{2^{\circ}} = X_C/k = X_L/k$	$5.04 * 10^{-14} \text{ sec m}^{-1} = \int = 64\Omega$
COIL INDUCTIVE REACTANCE	$X_L = 2\pi F_C L_{2^{\circ}} = k R_{2^{\circ}}$	$9.71 * 10^{-13} \text{ sec m}^{-1} = \int = 1,225.3\Omega$
COIL CAPACITATIVE REACTANCE	$X_C = (2\pi F_C C_{2^{\circ}})^{-1} = k R_{2^{\circ}}$	$9.71 * 10^{-13} \text{ sec m}^{-1} = \int = 1,225.3\Omega$
COIL IMPEDANCE @ RESONANCE	$Z = [(R_{2^{\circ}})^2 + (X_L^2) + (-X_C^2)]^{0.5} = R_{2^{\circ}}$	$5.04 * 10^{-14} \text{ sec}^{-1} = \int = 64\Omega$
FIGURE OF MERIT (Resonance loaded)	$k = 2\pi F_C L_{2^{\circ}}/R_{2^{\circ}} = (2\pi F_C C_{2^{\circ}})^{-1}/R_{2^{\circ}} = V_{2^{\circ}}/V_{1^{\circ}}$	19.145
VOLTAGE OF PRIMARY (actual)	$V_{1^{\circ}} = V_{2^{\circ}}/k = \int = W_{2^{\circ}}/k$	$1.80 * 10^8 \text{ m sec}^{-1} = \int = 2,611.65 \text{ volts}$