



Henson Ceramics Limited

Castle Works, Stafford ST16 2ET

HCL30A

HCL3000 SERIES

PROPERTY	SYMBOL	UNITS	MEASURED VALUES*		
			HCL3010 Ref: 896	HCL3020 Ref: 896	HCL3030 Ref: 896
ELECTRICAL					
Relative permittivity	$\epsilon_{33}^T \epsilon_0^{-1}$		1120	1850	1000
Dielectric loss	$\tan \delta$		0.006	0.01	0.01
Resistivity	ρ_{el}	Ωm	10^{10}	10^{10}	10^{10}
ELECTROMECHANICAL					
Coupling Coefficients	k_{33}		0.45	0.49	0.39
	k_{31}		0.15	0.21	0.18
	k_p		0.30	0.38	0.31
Charge Coefficients	d_{33}	$10^{-12} CN^{-1}$	130	190	120
	d_{31}	$10^{-12} CN^{-1}$	-50	-75	-50
Voltage Coefficients	g_{33}	$10^{-3} VmN^{-1}$	13	11.6	14
	g_{31}	$10^{-3} VmN^{-1}$	-5	-4.6	-5.7
Frequency Constants	N_2	Hzm			
	N_1	Hzm	2350	2300	2370
	N_p	Hzm	3150	3100	3100
Mechanical Quality Factor	Q_m		500	500	500
PHYSICAL					
Curie Temperature	T_C	$^{\circ}C$	120	120	110
Density	ρ	$10^3 kgm^{-3}$	5.8	5.8	5.7

*Measurements carried out 10 days after poling and at between 20°C and 25°C
Nominal values quoted to $\pm 10\%$, to account for raw material and process variations

Telephone: (01785) 241000 Facsimile: (01785) 214073 E-mail: mail@hensonceramics.com
Registered Office, Castle Works, Stafford. Registered in England No. 2491374.