

NCE81



Noliac piezoceramic material NCE81 has extremely high mechanical quality and extremely low signal loss factor for ultimate power handling capability.

SPECIFICATIONS

Properties	Symbol & unit	NCE81
DIELECTRIC PROPERTIES (tolerances +/- 10%)		
Relative Dielectric Constant	$\epsilon_{33}^T / \epsilon_0$	1020
Dielectric Loss Factor	$\text{tg}\delta [10^{-4}]$	17
Dielectric Loss Factor at 400V/mm	$\text{tg}\delta [10^{-4}]$	60
ELECTROMECHANICAL PROPERTIES (tolerances +/- 5%)		
Electromech. Coupling Factors**	k_p	0.55
	k_{31}	0.30
	k_{33}	0.69
	k_t	0.47
Piezoelectric Charge Constants	$-d_{31} [10^{-12} \text{ C/N}]$	100
	$d_{33} [10^{-12} \text{ C/N}]$	255
Piezoelectric Voltage Constants	$-g_{31} [10^{-3} \text{ Vm/N}]$	11
	$g_{33} [10^{-3} \text{ Vm/N}]$	28
Frequency Constants	$N_p^E [\text{m/s}]$	2320
	$N_t^{D_1} [\text{m/s}]$	2130
	$N_1^E [\text{m/s}]$	1630
	$N_3^{D_3} [\text{m/s}]$	1500
PHYSICAL PROPERTIES (tolerances +/- 5%)		
Mechanical Quality Factor	Q_m	1400
Density	$\rho [10^3 \text{ kg/m}^3]$	7.73
Elastic Compliances	$s_{11}^E [10^{-12} \text{ m}^2/\text{N}]$	16
	$s_{33}^E [10^{-12} \text{ m}^2/\text{N}]$	17
Curie Temperature	$T_c [^\circ\text{C}]$	307

** Measured in accordance with standard EN 50324

The values listed are for reference purposes only and cannot be applied unconditionally to all shapes and

dimensions. Values vary depending on the actual shape, surface finish, shaping process and post-processing of the product.

TEMPERATURE DEPENDENCIES



