

NCE40



Noliac piezoceramic material NCE40 is a hard doped material with low loss for high power applications.

SPECIFICATIONS

Properties	Symbol & unit	NCE40
DIELECTRIC PROPERTIES (tolerances +/- 10%)		
Relative Dielectric Constant	$\epsilon_{T_{33}}^T / \epsilon_0$	1250
Dielectric Loss Factor	$\text{tg}\delta [10^{-4}]$	25
Dielectric Loss Factor at 400V/mm	$\text{tg}\delta [10^{-4}]$	140
ELECTROMECHANICAL PROPERTIES (tolerances +/- 5%)		
Electromech. Coupling Factors**	k_p	0.58
	k_{31}	0.34
	k_{33}	0.70
	k_t	0.50
Piezoelectric Charge Constants	$-d_{31} [10^{-12} \text{ C/N}]$	140
	$d_{33} [10^{-12} \text{ C/N}]$	320
Piezoelectric Voltage Constants	$-g_{31} [10^{-3} \text{ Vm/N}]$	11
	$g_{33} [10^{-3} \text{ Vm/N}]$	27
Frequency Constants	$N_p^E [\text{m/s}]$	2160
	$N_t^D [\text{m/s}]$	1980
	$N_1^E [\text{m/s}]$	1470
	$N_3^D [\text{m/s}]$	1340
PHYSICAL PROPERTIES (tolerances +/- 5%)		
Mechanical Quality Factor	Q_m	700
Density	$\rho [10^3 \text{ kg/m}^3]$	7.75
Elastic Compliances	$s_{11}^E [10^{-12} \text{ m}^2/\text{N}]$	13
	$s_{33}^E [10^{-12} \text{ m}^2/\text{N}]$	17
Curie Temperature	$T_c [^\circ\text{C}]$	318

** 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



