Ferroperm Piezoceramics
Your Partner in Smart Solutions

DATA SHEET

Very hard PZT

Type Pz89 (Navy III)

01 Description

Pz89 is an dedicated high-power hard PZT material with good coupling factors, high Curie temperature, high mechanical quality factor, low dielectric loss. Because of the crystallographic structure in Pz89, it is able to withstand higher mechanical stresses than Pz26. This makes it suitable for applications where output power must be maximised.

Repeatable performance

The main focus through our entire production process is to provide materials and components with the highest possible reproducibility of properties and parameters and to obtain the lowest aging rates in the industry.

Our materials have a variation of ±5% for all parameters. This reduces the requirements for impedance matching, frequency tuning and dimensioning of the housing meaning fewer rejects and lower costs.

Customised solutions

We have more than 60 years of experience in the production of advanced piezoelectric ceramics. Our team has extensive expertise in customising designs to match the customer's needs.

Please contact us to discuss your requirements in further detail.

02 Key features and benefits

- Lowest batch to batch variation in the industry
- Stable material with consistent performance
- Customised or standard designs

- High Curie temperature
- High mechanical quality factor
- Low dielectric loss

03 Applications

- High-power underwater transducers
- HIFU medical

04 Contact

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Hard relaxor type PZT, Type Pz89

05 Material properties

Electrical	Symbol	Pz89
Relative dielectric permittivity at 1 kHz	K_{33T}	1180
Dielectric dissipation factor at 1 kHz	tanδ	3×10^{-3}
Curie temperature	$T_C >$	320 °C
Recommended working range	<	220 °C
Electromechanical		
Coupling factors	k_p	0.53
	k_t	0.47
Piezoelectric charge coefficient	d_{33}	280 pC/N
Mechanical		
Mechanical Quality Factor	$Q_{m,p}$	>1000
Density	ρ	7.65 g/cm3

Note: Due to continuous process improvement, specifications are subject to change without notice.
Please be aware that extreme dimensions and geometries can lead to exaggeration in tolerances in all materials.