

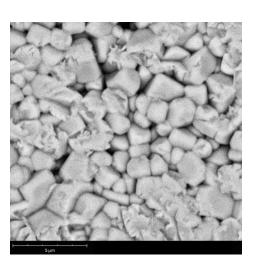
Data Sheet

Pz12 (Lead-Free)

NBT-BT Piezoceramic Material

Description

Pz12 is a lead-free piezoceramic formulation based on the sodium bismuth titanate-barium titanate system (NBT-BT). It has been developed as a lead-free alternative to traditional hard-doped PZT ceramics and is available for customers who are looking to replace the lead-containing piezoceramics in their applications.



Key Features and Benefits

- Lead-Free Product
- Candidate for Replacing Hard-Doped PZT

Ideal Applications

- Underwater Transmitters
- Therapeutic Medical Ultrasound
- Ultrasonic Cleaning, Cutting and Welding

Property	Symbol	Unit	Value
Relative Free Dielectric Constant (1 kHz)	K_{33}^{σ}	-	700
Dielectric Dissipation Factor (1 kHz)	tan δ	-	0.027
Depoling Temperature	$T_{\rm d}$	°C	200
Recommended Operating Range	T<	°C	120
Density	ρ	g/cm³	5.7
Mechanical Quality Factors	Q_{mp}	-	185
	Q_{mt}	-	170
Coupling Coefficients	k_{p}	-	0.17
	$k_{\rm t}$	-	0.41
Piezoelectric Charge Coefficient (Displacement Coefficient)	$d_{_{33}}$	pC/N	110
Frequency Constants	$N_{\rm p}$	Hz·m	2700
	$N_{\rm t}$	Hz·m	2400
Acoustic Impedance	$Z_{\rm a}$	MRayl	30

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