

CeramTec Sonox® P508 Piezoceramic

Category : Ceramic , Oxide , Piezoelectric

Material Notes:

Piezoceramic devices are used to convert mechanical features such as pressure or acceleration into voltages, or conversely, to convert a voltage into mechanical motion or oscillation. Piezoceramics require very little energy and their shape potential is almost unlimited. Such properties allow this material to be used in wide-ranging apparatus and mechanical engineering applications. Sonox® P508 is designed specifically for sensors.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CeramTec-Sonox-P508-Piezoceramic.php

Physical Properties	Metric	English	Comments
Density	7.80 g/cc	0.282 lb/in ³	

Electrical Properties	Metric	English	Comments
Curie Temperature	340 °C	644 °F	T _c
Dielectric Constant	625	625	e33 S/e?
	900	900	e11 S/e?
	1500	1500	e33 T/e?
	1700	1700	e11 T/e?
Dissipation Factor	0.018	0.018	tand
Piezoelectric Longitudinal Coupling Factor, k ₃₃	0.72	0.72	
Piezoelectric Transverse Voltage Coefficient, d ₃₁ , 10 ⁻¹² m/V	-165	-165	
Piezoelectric Shear Charge Coefficient, d ₁₅ , 10 ⁻¹² m/V	550	550	
Piezoelectric Longitudinal Voltage Coefficient, g ₃₃ , 10 ⁻³ V-m/N	33.1	33.1	
Piezoelectric Planar Coupling Factor, k _p	0.61	0.61	
Piezoelectric Mechanical Q	60	60	
Piezoelectric Shear Coupling Factor, k ₁₅	0.71	0.71	
Piezoelectric Longitudinal Charge Coefficient, d ₃₃ , 10 ⁻¹² m/V	440	440	
Piezoelectric Transverse Coupling Factor, k ₃₁	0.35	0.35	

Descriptive Properties	Value	Comments
Aging Rates (%/decade)	-0.1	Ck
	0.2	Cf
	-0.3	Ce
Elastic Compliance (10^{-12} m ² /N)	17	s11 ^E
	19	s33 ^E
Elastic Rigidity (10^{10} N/m ²)	15.8	c33 ^D
	6	c55 ^D
Frequency Constants (kHz·mm)	1300	N3
	1340	N1
	2050	Np
	2090	Nt
Piezoelectric Coupling Coefficient, kt	0.58	

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