CeramTec Sonox® P505 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® P505 is designed specifically for actuators.

Order this product through the following link:
http://www.lookpolymers.com/polymer_CeramTec-Sonox-P505-Piezoceramic.php

Physical Properties	Metric	English	Comments
Density	7.70 g/cc	0.278 lb/in³	

Electrical Properties	Metric	English	Comments
Curie Temperature	335 °C	635 °F	Tc
Dielectric Constant	780	780	e33 S/e?
	900	900	e11 S/e?
	1850	1850	e11 T/e?
	1880	1880	e33 T/e?
Dissipation Factor	0.015	0.015	tand
Piezoelectric Longitudinal Coupling Factor, k33	0.73	0.73	
Piezoelectric Transverse Voltage Coefficient, d31, 10^-12 m/V	-180	-180	
Piezoelectric Shear Charge Coefficient, d15, 10^-12 m/V	670	670	
Piezoelectric Longitudinal Voltage Coefficient, g33, 10^-3 V-m/N	28.5	28.5	
Piezoelectric Planar Coupling Factor, kp	0.65	0.65	
Piezoelectric Mechanical Q	80	80	
Piezoelectric Shear Coupling Factor, k15	0.71	0.71	
Piezoelectric Longitudinal Charge Coefficient, d33, 10^-12 m/V	475	475	
Piezoelectric Transverse Coupling Factor, k31	0.33	0.33	

Descriptive Properties	Value	Comments
Aging Rates (%/decade)	0.5	Cf
	0.6	Ck
	-1.6	Ce
Elastic Compliance (10^-12 m²/N)	17.9	s11^E
	24	s33^E
Elastic Rigidity (10^10 N/m²)	14.7	c33^D
	4	c55^D
Frequency Constants (kHz·mm)	1300	N3
	1360	N1
	1880	Nt
	2010	Np
Piezoelectric Coupling Coefficient, kt	0.53	

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