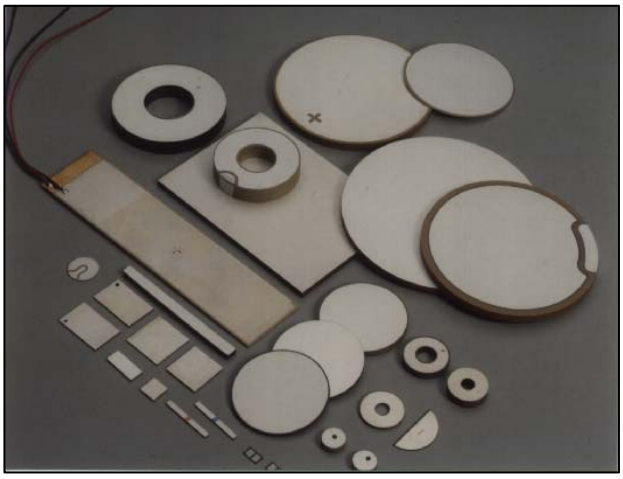
Piezoelectric Ceramic Elements

Pro-Wave's new piezoelectric ceramic elements are designed for sensor and actuator uses. A series of standard elements covering a wide range of geometric shapes and sizes are provided. The in-house R&D expertise and machining facilities enable quick delivery of custom designed devices and elements. Piezoelectric films of polyvinylidene difluoride ($PVDF_2$) and PZT thick films are also available for special applications.

In addition to ceramic elements, piezoelectric ceramic powders ready for press and forming are also available. Typical piezoelectric values are listed below for design purpose.



Standard tolerances are 20%. These ceramics feature wide firing range and are optimized for ease in poling and low ageing characteristics.

Specification

Property	Unit	S5A	S5B	S4	S8
Coupling Coefficient, Kp(%)	%	66	65	59	58
Frequency Constant	Hz·m	2000	1950	2100	2200
Relative Dielectric Constant	$\varepsilon/\varepsilon_0$	2000	2500	1100	1400
Dissipation Factor	%	1.8	2.0	1.0	0.5
Piezoelectric Coefficient, d31	10^{-12}m/V	-195	-190	-120	-120
Piezoelectric Coefficient, d33	10^{-12}m/V	360	360	240	220
Piezoelectric Coefficient, g31	10^{-12}V-m/N	-12	-10	-10	-9
Piezoelectric Coefficient, g33	10^{-12}V-m/N	22	18	24	16
Mechanical Q		60	70	500	1000
Curie Temperature	°C	310	290	280	280
Density	g/cc	7.8	7.6	7.8	7.8

S. Square Enterprise Company, Limited
Pro-Wave Electronics Corporation

P.O. Box 1-70 Chung Ho, Taiwan, ROC;E-mail: sales@pro-wave.com.tw;Tel: 886-2-22465101(5 lines), 22459774;Fax: 886-2-22465105
http://www.s2.com.tw ; http://www.prowave.com.tw