



Property	Symbol & Unit	High Power Materials			High Sensitivity Materials		
		PZS 40	PZS 41	PZS 80	PZS 53	PZS 51	PZS 55
Dielectrical Data							
Permittivity	$\epsilon_{33}^T/\epsilon_0$	1250	1350	1050	1600	1850	4900
Dielectric Loss Factor	$\text{tg}\delta[10^{-4}]$	30	40	20	130	190	220
Dielectric Loss Factor (at 400 V/mm)	$\text{tg}\delta(4)[10^{-4}]$	150	200	100	-	-	-
Electromechanical Data							
Coupling Factor	K_p	0.58	0.58	0.53	0.53	0.64	0.62
Coupling Factor	K_{31}	0.32	0.34	0.3	0.29	0.37	0.39
Coupling Factor	K_{33}	0.67	0.68	0.65	0.65	0.74	0.7
Piezoelectric Charge Constant	$-d_{31}[10^{-12} \text{ C/N}]$	125	135	95	135	180	325
Piezoelectric Charge Constant	$d_{33}[10^{-12} \text{ C/N}]$	290	315	250	340	405	630
Piezoelectric Voltage Constant	$-g_{31}[10^{-3} \text{ Vm/N}]$	11.3	10.9	10.7	8.4	9.7	7.5
Piezoelectric Voltage Constant	$g_{33}[10^{-3} \text{ Vm/N}]$	26.2	25.4	25.4	21.2	21.9	14.5
Mechanical Data							
Elastic Compliance	$s_{11}^E[10^{-12} \text{ m}^2/\text{N}]$	13.4	14.1	11.5	15.8	16.2	15.8
Elastic Compliance	$s_{33}^E[10^{-12} \text{ m}^2/\text{N}]$	17	17.9	13.5	19.6	18.7	18.7
Radial Frequency Constant	$N_p^E[\text{m/s}]$	2180	2120	2300	2140	1970	1980
Thickness Frequency Constant	$N_t^D[\text{m/s}]$	1980	2000	2080	-	2040	2150
Transverse Frequency Constant	$N_1^E[\text{m/s}]$	1560	1500	1690	-	1420	1780
Longitudinal Frequency Constant	$N_3^D[\text{m/s}]$	1750	1700	1510	-	1400	-
Mechanical Quality Factor	Q^m	600	1400	1000	70	80	70
Density	$\rho[10^3 \text{ kg/m}^3]$	7.65	7.85	7.6	7.7	7.7	8
Thermal Data							
Curie Temperature	$T_c[^\circ\text{C}]$	325	290	315	350	340	170