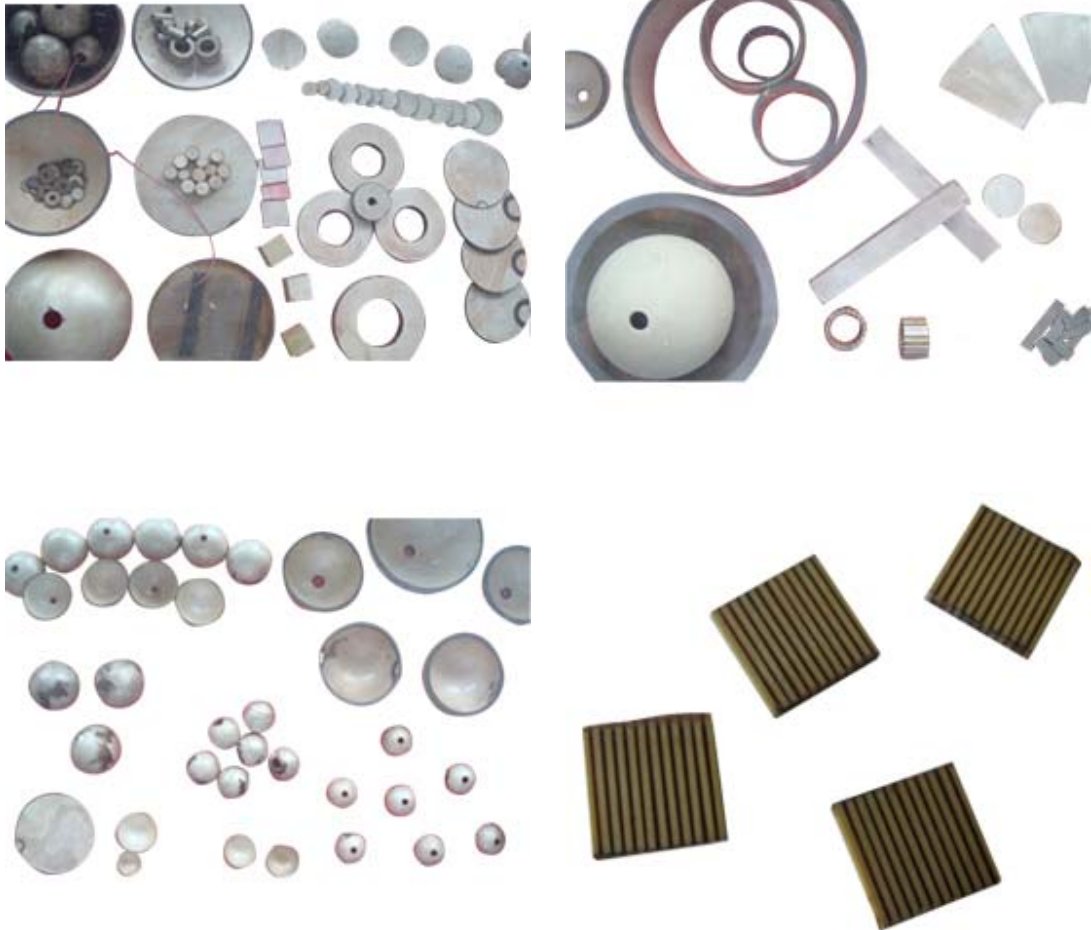


Piezoelectric Ceramic



Piezoelectric Ceramic Specification:

The material performance of piezoelectric ceramic												
Num	Name of Performance parameter	symbol	index									Allow the public errand
			P-33	P-41	P-42	P-44	P-51	P-52	P-53	P-61	P-81	
1	Electromechanical coupling coefficient	Kp	0.60	0.56	0.58	0.60	0.65	0.64	0.68	0.53	0.53	±6.0%
		K31	0.36	0.33	0.34	0.36	0.38	0.37	0.33	0.30	0.31	
		K33	0.70	0.66	0.67	0.70	0.74	0.76	0.76		0.63	
		K15	0.70	0.66	0.67	0.70	0.72	0.75	0.76	0.61	0.66	
		Kt	0.47	0.48	0.48	0.48	0.50	0.49	0.55	0.47	0.47	
2	The relative electric capacity rate of freedom	ϵ_r^T	1725	1050	1275	1350	2100	3250	3000	1100	1025	±12.5%
		ϵ_r^T	1725	1450	1700	1900	2400	3500	4100	1100	1400	
3	The medium losses	tgδ	0.020	0.005	0.006	0.005	0.020	0.020	0.020	0.008	0.004	≤
4	The gentle and agreeable constant of elasticity (x10 ⁻¹² m ² /N)	S ₁₁ ^E	15	12.0	11.5	13	15	15.5	15		11.0	±10%
		S ₃₃ ^D	9.0	8.5	8.0	8.5	9.0	9.0	8.8		8.5	
		S ₅₅ ^D	25	21.0	21.0	21.5	22.0	23.0	22.0		21.0	
5	Piezoelectricity meet an emergency the constant (x10 ⁻¹² m/v 或 C/N)	d31	160	-110	-130	-150	-210	-260	-270		-100	±12.5%
		d33	390	250	290	320	450	575	590		225	
		d15	480	460	500	530	710	950	1050		450	
6	Mechanical cue	Qm	75	500	500	400	70	65	65	800	800	≥
7	Frequency constant (Hz•m)	Nd	1950	2250	2200	2200	2000	1940	1950	2350	2300	±5%
		N1	1470	1650	1700	1600	1450	1450	1480	1700	1700	
		N3	1880	1950	2050	2000	1900	1900	1900		1960	
		N5	1130	1230	1230	1230	1200	1200	1200	1300	1230	
		Nt	2250	2270	2300	2300	2250	2300	2300		2280	
8	The velocity of sound (m/s)	Vd	3000	3460	3500	3300	3000	3010	3040		3500	±5%
		V1	2940	3300	3400	3200	2900	2900	2900		3400	
		V3	3760	3900	4100	4000	3800	3800	3800		3920	
		V5	2260	2460	2460	2460	2400	2400	2400		2460	
		Vt	4500	4540	4600	4600	4500	4600	4700		4560	
9	Density (x103kg/m3)	ρ	7.6	7.45	7.45	7.5	7.45	7.4	7.5	7.55	7.45	≥
10	Curie's temperature (°C)	Tc	335	310	300	300	260	180	200	320	300	≥
11	Rate of change of time of ten times (%)	ANd	0.20	1.3	1.3	1.2	0.35	0.35	1.3	0.1	1.3	
		AKp	-0.25	-2.5	-2.0	-1.8	-0.4	-0.25	-1.7	0.5	-2.0	
		Aε	-1.5	-4.5	-4.5	-4.0	-1.5	-2.0	-3.8	0.8	-4.0	
12	The relative rate of change of temperature (%)-10°C~50°C The datum 25°C	ΔNd/N	1.0	1.0	1.5	1.0	1.5	2.0	2.0	0.35	1.5	
		Δε/ε	15	9.5	9.5	9.0	20	40	40		9.0	
13	The strong field lies between electric performance T=25°C E=400V	tgδ		0.04	0.04	0.04					0.01	≤
		Δε/ε		0.18	0.20	0.17					0.06	≤

note: 1: Index besides Curie's temperature, is the measurement value for ten days after polarising for the performance parameter index in the form .