



HPZ™ Piezoelectric Ceramic Datasheet

Supplier: Ionix Advanced Technologies

Material: HPZ380

Dielectric Properties			
Property	Symbol	Units	20 °C
Relative Permittivity	ϵ_r	-	690
Loss	$\tan\delta$	-	0.026
Curie Temperature	T_c	°C	520

Table 1 – Dielectric Properties of HPZ380

Physical Properties			
Property	Symbol	Units	20 °C
Density	ρ	kg/m ³	7700
Compliance	s_{11}^E	m ² /N	1.27E ⁻¹¹
	s_{33}^E	m ² /N	1.38E ⁻¹¹
Acoustic Impedance	Z	MRayl	23.4
Speed of Sound	c	m/s	3036
Thermal Expansion Coefficient	TCE	K ⁻¹	8E ⁻⁶

Table 2 – Physical Properties of HPZ380

Electromechanical Properties			
Property	Symbol	Units	20 °C
<i>Coupling coefficients:</i>			
Planar	k_p	-	0.24
Length thickness extensional	k_{31}	-	0.21
Length extensional	k_{33}	-	0.47
Thickness extensional	k_t	-	0.38
<i>Charge coefficients:</i>			
Charge coefficients	d_{33}	pC/N	120
	d_{31}	pC/N	-50
<i>Voltage coefficients:</i>			
Voltage coefficients	g_{33}	Vm/N	0.020
	g_{31}	Vm/N	-0.008
<i>Frequency constants:</i>			
Frequency constants	N_p	m/s	2200
	N_1	m/s	1600
	N_3	m/s	1550
	N_t	m/s	1750

Table 3 – Electromechanical Properties of HPZ380

- Data presented was collected according to BS EN 50324 using the geometries and dimensions dictated by the standard.
- The values listed above are typical values for reference purposes only and cannot be applied to all geometries and dimensions.
- All data collected was determined after aging the parts at 380 °C for 16 hrs after poling