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HPZ™ Piezoelectric Ceramic Datasheet

Supplier: Ionix Advanced Technologies

Material: HPZ580

Dielectric Properties			
Property	**Symbol**	**Units**	**20 °C**
Relative Permittivity	ε_r	-	670
Loss	tanδ	-	0.016
Curie Temperature	TC	°C	680

Table 1 – Dielectric Properties of HPZ580

Physical Properties			
Property	**Symbol**	**Units**	**20 °C**
Density	ρ	kg/m^3	7700
Compliance	s^E_{11}	m^2/N	$1.24E^{-11}$
	s^E_{33}	m^2/N	$1.32E^{-11}$
Acoustic Impedance	Z	MRayl	23.4
Speed of Sound	c	m/s	3000
Thermal Expansion Coefficient	TCE	K^{-1}	$8E^{-6}$

Table 2 – Physical Properties of HPZ580

Electromechanical Properties			
Property	**Symbol**	**Units**	**20 °C**
Coupling coefficients:			
Planar	k_p	-	0.22
Length thickness extensional	k_{31}	-	0.20
Length extensional	k_{33}	-	0.37
Thickness extensional	k_t	-	0.34
Charge coefficients	d_{33}	pC/N	100
	d_{31}	pC/N	-40
Voltage coefficients	g_{33}	Vm/N	0.017
	g_{31}	Vm/N	-0.007
Frequency constants	N_p	m/s	2250
	N_1	m/s	1600
	N_3	m/s	1600
	N_t	m/s	1800

Table 3 – Electromechanical Properties of HPZ580

- 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 580 °C for 16 hrs after poling