

This materials matrix is under construction...  
keep checking back!

Cell Structure  
P - Perovskite

Crystal System  
M - Monoclinic  
O - Orthorhombic  
T - Trigonal

Crystal Class  
D - Dipyramidal  
TR - Trapezoidal

matrix under construction  
keep checking back!

abbrev

ferroelectric?

relaxor?

pyroelectric?

cell structure

crystal system

crystal class

max useful temp °C

Curie Temperature °C

compression pC/N

shear pC/N

transverse (bender) pC/N

dielectric constant

DISCLAIMER: Most ceramic materials can be designed with variations impacting temperature range and performance.  
Values below should only be taken as typical. For specifics, please refer to supplier's documentation.

single crystal														ceramic											
berlinite	catangasite	gallium orthophosphate	langasite	langatate	lead magnesium niobate	lead magnesium niobate-lead titanate	lithium niobate	lithium tantalate	quartz	tourmaline	Rochelle salt	topaz	lead titanate	bismuth potassium titanate	barium titanate	bismuth sodium titanate	bismuth titanate	lead lanthanum zirconate titanate	lead metaniobate	lead nickel niobate	lead titanate	lead zirconate-titanate	sodium tungstate	strontium titanate	zinc oxide
AlPO	CTGS	GaPO	LGS	LGT	PMN	PMN-PT	LN	LT	QZT	TUR	RS	TOZ	PT	BKT	BT	BNT	BIT	PLZT	PNN	PT	PZT		ST	ZnO	
no	no	no	no	no	yes	no	yes	yes	no						yes	yes		yes	yes		yes	yes			no
no	no	no	no	no	yes	yes	no	no	no									yes		yes	yes				
no	no	no	no	no	yes	no	yes	yes	no	yes			yes	yes				yes	yes	yes	yes		yes	yes	
					P	P	T	P								P						P		P	
T	T	T	T	T	O				T				M	O											
32	32	32	32	32	D		3m		32				2/m												
584	700	970	900	600		110				480				80				350							
	N/A	N/A	N/A	N/A	150	125	1150	603	573	1400	24		240	380	120	320	650	570	570	150		350			
	4	4.2		6.5	1285	1200	12.5	8	2.3	5.6			68	350	150			330	180	660		390			11.67
			5.4	4.7		135	74	26	0.67	11			67					200	700						
	14		6.1		-646	-570	-0.66	-2		0.74			-3							-310		-194			-5.43
		10	80	80	30000	4753	85		4.5	4			270	1500				1200	800	5500		1800		300	10.4

Company	City	Country																								
American Elements	Los Angeles, CA	USA				X												X	X							
American Piezo	Mackeyville, PA	USA																								
Boston Piezo Optics	Bellingham, MA	USA							X	X	X															
CeramTec	Plochingen	Germany																				X				
CTS Corporation								X																		
Epson		China																								
Ferroperm	Kvistgård	Denmark																								
Fomos	Moscow	Russia		X		X	X			X	X															
Morgan Advanced Ceramics	Windsor	UK																	X			X				
MSE Supplies	Tucson, AZ	USA																								
NDK	Tokyo	Japan																								
Omega Piezo	State College, PA	USA												X								X				
PI Ceramic	Lederhose	Germany													X							X				
Piezo Direct	Burlingame, CA	USA																								
Piezo Kinetics	Bellefonte, PA	USA																	X	X		X				
Piezo Systems	Woburn, MA	USA																								
Piezo Technologies	Indianapolis, IN	USA												X		X		X								
Piezocryst	Graz	Austria																								
Precision Multi-Optics	Burlington, MA	USA								X	X															
Roditi	London	UK		X	X					X	X	X														
TRS Technologies	State College, PA	USA												X								X				