Innovia PIN-PMN-PT Crystal Properties (Typical)

Medical Ultrasound Grade 0.24PIN-PMN-0.30PT		
	[001]-Poled	[011]-poled
Materials Type	001PIMN-L	011PIMN-L
Mechanical		
Density (g/cc)	7.95	7.95
Poisson's Ratio	0.32	0.32
Speed of Sound （m/s）	4250	4300
Acoustic Impedance (MRayls)	33.8	34.2
Elastic Constant s_{33}^E （$10^{-12}m^2/N$）	60	50
s_{33}^D（$10^{-12}m^2/N$）	12	12
Electro-mechanical		
d_{33} （pC/N）	1,400	700
d_{31} （pC/N）	-800	-1300
Coupling *k_{eff}	0.89 (k_{33})	0.86 (k_{31})
T_{R-T} （°C）	130	120
T_C （°C）	180	170

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Electrical		
Dielectric Constant	**4,500**	**2,800**
Coercive Field (kV/cm)	**4.5**	**4.0**
Loss tanδ（%）	**<0.5**	**<0.5**

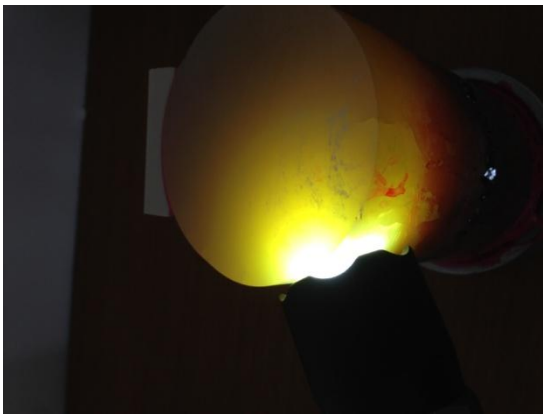
*Note: Piezoelectric properties are obtained according to IEEE Standard, where electromechanical coupling coefficient is given by:

$$k^2 = \frac{\pi}{2}\frac{f_r}{f_a}\tan\left(\frac{\pi}{2}\frac{f_a - f_r}{f_a}\right)$$

Where fr is resonance frequency and fa is anti-resonance frequency

Example transducer using Innovia Ultrasound Grade PIN-PMN-PT

Automatic Dicer



3 inch PIN-PMN-PT ingot

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