

PROPERTIES OF PIEZOCERAMIC MATERIAL PZS- 40

<b>Property</b>	<b>Symbol &amp; Unit</b>	<b>Value</b>
<b><i>DIELECTRICAL DATA</i></b>		
Permittivity	$\epsilon_{33}^T / \epsilon_0$	1250
Dielectric Loss Factor	$\text{tg}\delta [10^{-4}]$	30
Dielectric Loss Factor (at 400 V/mm)	$\text{tg}\delta (4) [10^{-4}]$	150
<b><i>ELECTROMECHANICAL DATA</i></b>		
Coupling Factor	$K_p$	0.58
Coupling Factor	$K_{31}$	0.32
Coupling Factor	$K_{33}$	0.67
Piezoelectric Charge Constant	$-d_{31} [10^{-12} \text{ C/N}]$	125
Piezoelectric Charge Constant	$d_{33} [10^{-12} \text{ C/N}]$	290
Piezoelectric Voltage Constant	$-g_{31} [10^3 \text{ Vm/N}]$	11.3
Piezoelectric Voltage Constant	$g_{33} [10^3 \text{ Vm/N}]$	26.2
<b><i>MECHANICAL DATA</i></b>		
Elastic Compliance	$s_{11}^E [10^{-12} \text{ m}^2/\text{N}]$	13.4
Elastic Compliance	$s_{33}^E [10^{-12} \text{ m}^2/\text{N}]$	17.0
Radial Frequency Constant	$N_p^E [\text{m/s}]$	2180
Thickness Frequency Constant	$N_t^D [\text{m/s}]$	1980
Transverse Frequency Constant	$N_1^E [\text{m/s}]$	1560
Longitudinal Frequency Constant	$N_3^D [\text{m/s}]$	1750
Mechanical Quality Factor	$Q_m$	600
Density	$\rho [10^3 \text{ kg/m}^3]$	7.65
<b><i>THERMAL DATA</i></b>		
Curie Temperature	$T_c [^\circ\text{C}]$	325