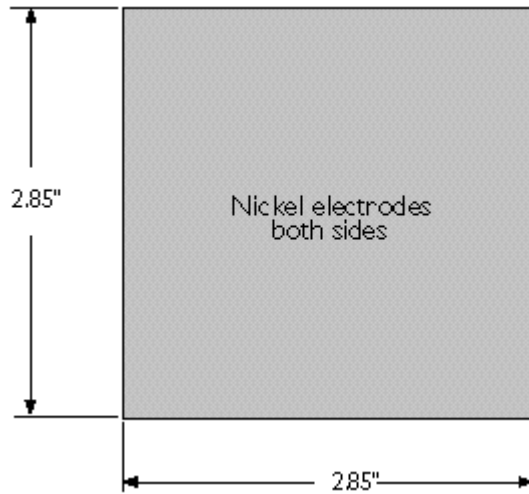


APPENDIX D
Information on Piezoelectric Materials

PIEZOELECTRIC SINGLE SHEET

**5H Ceramic
H4E Series**



- [Description](#)
- [Specifications](#)
- [Pricing](#)

Description:

Our single layer piezoceramic sheets are available in the standard size for immediate delivery. In most cases, we can cut the sheets to size for you. Contact us for a price quote.

We recommend our [Solder/Flux Kit](#) for use when soldering wires to our single sheets.

Specifications:

Capacitance

Part Number	Thickness		Capacitance
	mm	in	nF ($\pm 10\%$)
T105-H4E-602	.127	.005	1250
T107-H4E-602	.191	.0075	850
T110-H4E-602	.267	.0105	610

PIEZOELECTRIC	
Composition	Lead Zirconate Titanate
Material Designation	PSI-5H-S4-ENH

Relative Dielectric Constant (@ 1 KHz)	K_{33}^T	3800	
Piezoelectric Strain Coefficient	d_{33}	650×10^{-12}	Meters/Volt
	d_{31}	-320×10^{-12}	Meters/Volt
Piezoelectric Voltage Coefficient	g_{33}	19.0×10^{-3}	Volt Meters/Newton
	g_{31}	-9.5×10^{-3}	Volt Meters/Newton
Coupling Coefficient	k_{33}	0.75	
	k_{31}	0.44	
Polarization Field	E_p	$1.5 \times 10_6$	Volts/Meter
Initial Depolarization Field	E_c	$3.0 \times 10_5$	Volts/Meter
MECHANICAL			
Density		7800	Kg/Meter ³
Mechanical Q		30	
Elastic Modulus	Y_3^E	5.0×10^{10}	Newtons/Meter ²
	Y_1^E	6.2×10^{10}	Newtons/Meter ²
THERMAL			
Thermal Expansion Coefficient		$\sim 3 \times 10^{-6}$	Meters/Meter °C
Curie Temperature		250	°C

Pricing:

Ordering Information	Part No.	1 pc.	5 pcs.	25 pcs.	100 pcs.
PSI-5H-S4-ENH (2.85" Sq. x .005"T)	T105-H4E-602	\$ 100	\$ 70	\$ 50	\$ 35
PSI-5H-S4-ENH (2.85" Sq. x .0075"T)	T107-H4E-602	\$ 100	\$ 60	\$ 40	\$ 30
PSI-5H-S4-ENH (2.85" Sq. x .0105"T)	T110-H4E-602	\$ 100	\$ 70	\$ 50	\$ 35

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