

LOW VOLTAGE PIEZOELECTRIC STACKS



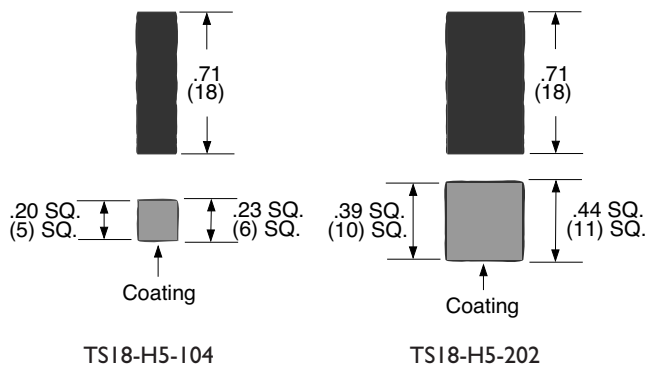
DESCRIPTION

A low voltage piezoelectric stack is a monolithic ceramic construction of many thin piezoceramic layers which are connected in parallel electrically. The principal characteristics of the stack are: a high energy conversion efficiency, low voltage operation, large force, low motion, fast response, and no EMI.

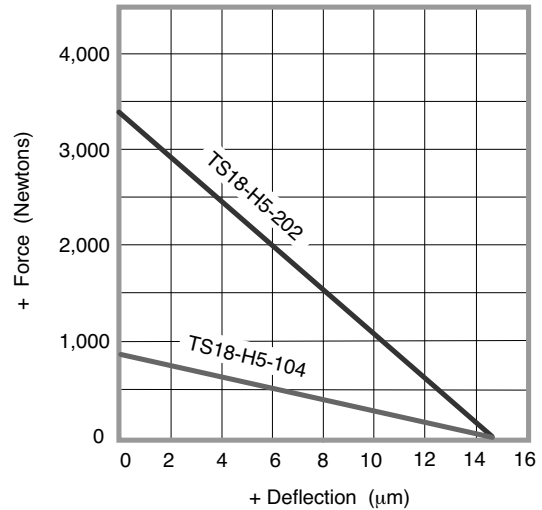
Motion may be increased, at the expense of force, by mechanical amplification. The stack offers a high energy density in a small package. Due to its superior compressive strength, it provides a high load bearing capability. However, it is relatively weak in tension.

Generally, excitation should be applied only in the direction of polarization.

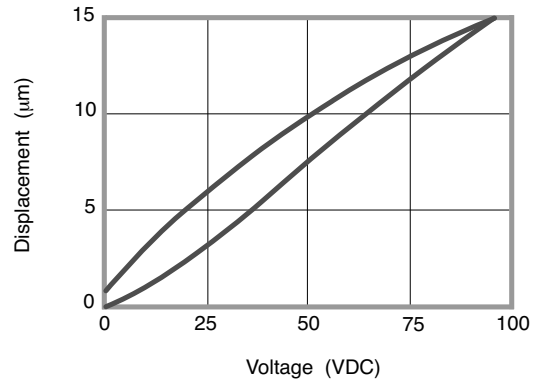
Hysteresis is typically about 15% in static applications.



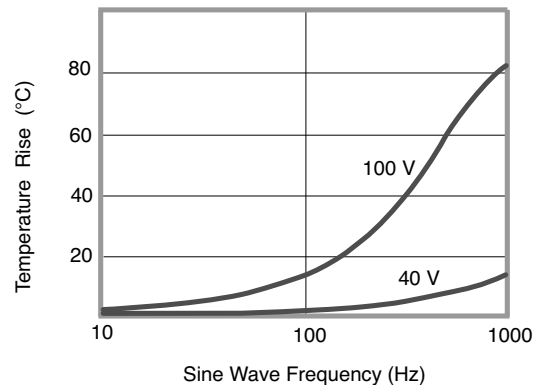
STACK PERFORMANCE



TS18-H5-104 & TS18-H5-202



TS18-H5-104



ORDERING INFORMATION

Low Voltage Piezoelectric Stack (small)
Low Voltage Piezoelectric Stack (large)

PART NO.

TS18-H5-104
TS18-H5-202

1 pc.

\$350
\$499

5 pc.

\$300
\$425

25 pc.

\$250
\$350

100 pc.

\$200
\$275



SPECIFICATIONS

PIEZOELECTRIC STACKS

		TS18-H5-104	TS18-H5-202
MECHANICAL			
Dimensions (L x W x H)	Inches	0.2 x 0.2 x 0.72	0.4 x 0.4 x 0.72
	mm	5 x 5 x 18	10 x 10 x 18
Compressive Strength	N/m ²	8.8 x 10 ⁸	8.8 x 10 ⁸
Tensile Strength	N/m ²	4.9 x 10 ⁶	4.9 x 10 ⁶
Young's Modulus	N/m ²	4.4 x 10 ¹⁰	4.4 x 10 ¹⁰
Poisson Ratio		0.34	0.34
Density	Kg/m ³	7,900	7,900
Weight	grams	4.5	16.
Wires		.002 x 50 Stranded, Red wire positive	
ELECTRICAL			
Rated Voltage (Positive Only)		+100 VDC	+100 VDC
Capacitance	nF	1600	6,500
PERFORMANCE (@ =100 VDC)			
Free Deflection	µm	+14.5	+14.5
Blocked Force	N	840	3,388
Resonant Frequency	Hz	74,000	69,000
Stiffness	N/m	5.8 x 10 ⁷	2.3 x 10 ⁸
Response Time	µs	50	50
ENVIRONMENTAL			
Thermal Operating Range	° C	-20° to +80°	
Thermal Storage Range	° C	-30° to +85°	
Humidity	%	< 50%	
ROHS:		Compliant.	