



Technical Specification Options Double Shear HA Pattern Series

Strain Gauge Type ²		BKM	BYM, BYN, BA	ZYM, ZYN, ZA
Sensitive Grid Material		Constantan		Karma
Backing Material		PEEK	*YM/YN= Special Polyimide / *A = Modified phenolic	
Encapsulation Material		PEEK	Polyimide Film / Modified phenolic	
Strain Gauge Thickness Range	μm	40 ~ 60		
Compensation Coefficient ⁷		9, 11, 16, 23, 27		9, 11, 16, 23, 27, M23
Creep Code* ⁸	Positive	N9, N7, N5, N3, N1, N0, N8		
	Neutral	N6, N4, N2, T0		
	Negative	T2, T4, T6, T8		
Resistance Value Options** ⁵	Ω	175, 350, 650, 700, 1000, 2000		
Grid Resistance Tolerance	Ω	1		
Gauge Factor		1.9 ~ 2.2		1.8 ~ 2.3
Wiring Options ⁹		C, D, Xxx, BXxx, Qxx, Pxx, Gxx, -CP, -GP		
Recommended Excitation	V	2 ± 10%		
Strain Limit		2%		
Fatigue Life		≥10 ⁷ (@ ± 1000 με)		
Sensitivity Ratio Dispersion		≤± 1% per Batch		
Operating Temperature ⁶	°C	-30 ~ +80	-50 ~ +150	-200 ~ +250
Storage Temperature	°C	20 ~ + 40		
Storage Humidity	%RH	30 ~ 50		

* The creep difference between two adjacent codes is 0.01 - 0.015%FS/30min.

** other resistance values may be available upon special request

Strain Gauge Code

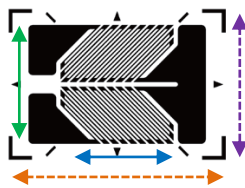
2	5	1	3	4	6	7	8	9
ZYM	650	-2	HA	N/A	-80	(11)	N4	-X

Notes: the numbers refer to the various specifications. E.G. #5 = resistance, #3 = Grid Pattern, #1 = Grid Length, etc.

#4 refers to Grid Distance between two (or more) grids, but for HA strain gauges this distance is smaller than 5mm.

#6 (Ultimate Work Temperature) is omitted when = 80°C

HA³ Pattern Dimensions¹



- A** Grid Length; this dimension is leading; i.e. -2HA has a grid length of 2mm. -4HA= 4mm
Options: 1, 2, 3, 4, 5, 6, 8
- B** Grid Width
- C** Strain gauge Total Length
- D** Strain gauge Total Width

Note: While the Grid Length value is leading, the combination and variation of these 4 dimensions is depending on the strain gauges' resistance value and design.

Compensation Coefficient⁷

9 = Titanium Alloy, 11 = Alloy Steel, Martensitic and Age Hardenable Stainless, 16 = Copper based and Austenitic Stainless Steel, 23 = Aluminium Alloy, 27 = Magnesium Alloy, M23 = Aluminium Alloy

Wiring Options⁹

C = Solder tabs exposed, D = Solder tin dots, Xxx = Standard lead wire, Bxx = Flat Ribbon wire, Qxx = Varnished Wire, P = PVC lead wires, Gxx = High Temp Wire, -CP = Copper Plated tabs, -GP = Gold Plated tabs.

Note: xx = wire length in mm. (If >999, xx becomes kmm. Example: 1500mm will be shown as 1.5K)