

PMS40-3/120

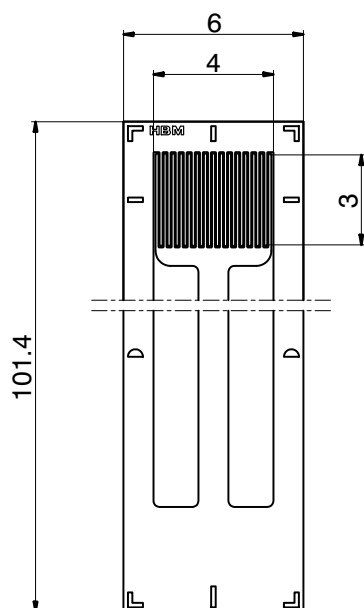
Pressure measurement
gage



Special features

- Transient pressure measurement
- Short rise time
- Bonded and non-bonded application

Dimensions (in mm; 1 mm = 0.03937 inches)



Specifications

Construction			Pressure measurement gage with embedded measuring grid
Measuring grid			
Material			Manganin
Thickness	μm		10
Carrier			
Material			Polyimide
Thickness	μm		45 \pm 5
Covering agent			
Material			Polyimide
Thickness	μm		25 \pm 12
Connections			Solder tabs, two-wire configuration
Nominal (rated) resistance	R	Ω	120
Resistance tolerance		%	\pm 2
PMS output signal ($\Delta R/R$)			$a \cdot \Delta p + k \cdot \varepsilon + k \cdot \varepsilon_s(T)$
Pressure sensitivity ¹⁾ ($\Delta R/R = a \cdot \Delta p$)	a		$2.50 \cdot 10^{-6}/\text{bar}$
Pressure-sensitivity tolerance		%	\pm 2
Gage factor ²⁾ ($\Delta R/R = k \cdot \varepsilon$)	k		0.57
Gage factor tolerance		%	\pm 4
Temperature sensitivity (apparent strain)	$\varepsilon_s(T)$	$\mu\text{m}/\text{m}$	$-619.4 + 50.1 \cdot T - 1.1 \cdot T^2 + 0.003 \cdot T^3 \pm (T - 20)$ [T in °C]
Rise time	τ		\geq 50 ns
Maximum permissible effective bridge excitation voltage	U_{max}	V	3.5
Reference temperature	T_{ref}	°C	20
Operating temperature range		°C	-50 ... +180
Bonding material used ³⁾			
cold-curing adhesives			Z70, X60, X280
hot-curing adhesives			EP150, EP250, EP310S

¹⁾ Tested under hydrostatic conditions up to 200 bar. Further, non-calibrated tests were run up to 2 kbar.

²⁾ Specified up to 1000 $\mu\text{m}/\text{m}$ strain.

³⁾ The gage factor must be taken into consideration for bonded applications. Non-bonded installation of the PMS is possible.

Modifications reserved.

All product descriptions are for general information only. They are not to be understood as a guarantee of quality or durability and do not constitute any liability whatsoever.

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