

PRECISION STRAIN GAGE

PRECISION LINEAR PATTERN FOR STATIC AND DYNAMIC APPLICATIONS



Starts at
\$45
Pkg of 10

SGD Series

- Very Flexible, Mechanically Strong
- Small Bending Radius
- Broad Temperature Range
- Ribbon Leads or Solder Pads,
- Clear Alignment Marks
- Affix with Cold or Hot Curing Adhesives

OMEGA® strain gages are available in a variety of models to cover most strain measurement applications. Their rugged construction and flexibility make them suitable for highly accurate static and dynamic measurement. The measuring grid is formed by etching constantan foil, which is then completely sealed in a carrier medium composed of polyimide film. The linear pattern strain gages are used to measure strain in a single direction. They are often used for experimental stress analysis applications. The strain gage pattern is shown on the left side of the table. Notice the "arrow" which indicates the principal stress direction.

The linear pattern strain gages are available in a variety of styles and sizes. OMEGA is offering miniature linear patterns for strain measurement of a stress concentration or high gradient areas. We also have wide or narrow grid patterns, and small, medium or large patterns. To determine if the strain gages have temperature characteristics matched to steel or aluminum, see the column labeled "COMP" short for compensation, "ST" indicates steel, "AL" indicates aluminum, "UNC" indicates uncompensated. See the column labeled "BTP" for accessory bondable terminal pad model numbers.

Dimensions are listed for pattern gage grid length (A) and width (B), and the matrix or carrier length (C) and width (D). The patterns include alignment triangles. The carrier or matrix material on the patterns may be trimmed in the field on all sides to within 0.25 mm of the foil grid with no effect on strain gage performance.

FEATURED MOST POPULAR MODELS!
 MOST POPULAR MODELS HIGHLIGHTED!



To Order (Specify Model Number)

	MODEL NO.	PRICE PER PKG OF 10	NOM. RESISTANCE (Ω)	DIMENSIONS mm (in) [†]				MAX V* (Vrms)	TERMINATION	TEMP COMP	TERM PAD
				GRID		CARRIER					
				A	B	C	D				
Shown actual size 4.70 mm Leads not shown	SGD-1.5/120-LY11	\$49	120	1.50 1.20 4.70 3.40 (0.059) (0.047) (0.185) (0.134) Miniature linear pattern Measurement of stress concentration 120 Ω	2.5	Ribbon Leads	ST	BTP-1			
	SGD-1.5/120-LY13	49	120			3.5	Ribbon Leads		AL		
	SGD-1.5/120-LY41	45	120			2.5	Solder Pads		ST		
	SGD-1.5/120-LY43	45	120			3.5	Solder Pads		AL		
Shown actual size 7.60 mm Leads not shown	SGD-2/350-LY11	\$55	350	2.00 2.50 7.60 5.80 (0.079) (0.098) (0.299) (0.228) Miniature linear pattern Measurement of stress concentration, higher resistance, reduced heat generation 350 Ω	7.5	Ribbon Leads	ST	BTP-2			
	SGD-2/350-LY13	55	350			10	Ribbon Leads		AL		
	SGD-2/350-LY41	45	350			7.5	Solder Pads		ST		
	SGD-2/350-LY43	45	350			10	Solder Pads		AL		
Shown actual size 7.10 mm Leads not shown	SGD-2D/350-LY11	\$59	350	1.90 4.80 7.10 6.60 (0.075) (0.189) (0.280) (0.260) Miniature linear pattern, grid width, wide 350 Ω	10	Ribbon Leads	ST	BTP-2			
	SGD-2D/350-LY13	59	350			14	Ribbon Leads		AL		
	SGD-2D/350-LY41	49	350			10	Solder Pads		ST		
	SGD-2D/350-LY43	49	350			14	Solder Pads		AL		
Shown actual size 7.00 mm Leads not shown	SGD-3/350-LY11	\$55	350	3.20 2.50 7.00 4.00 (0.126) (0.098) (0.276) (0.157) Linear pattern leads/pads at one end of grid 350 Ω	9.5	Ribbon Leads	ST	BTP-3			
	SGD-3/350-LY13	55	350			13	Ribbon Leads		AL		
	SGD-3/350-LY41	45	350			9.5	Solder Pads		ST		
	SGD-3/350-LY43	45	350			13	Solder Pads		AL		

STRAIN GAGES E

DISCOUNT SCHEDULE	
1 to 10 pkgs	Net
11 to 24 pkgs	.5%
25 to 49 pkgs	.10%
50 and up and OEM	Consult Factory

† For dimensions key, see page E-15.
 * Maximum permitted bridge energizing voltage (Vrms).
Note: For strain gage accessories see pages E-56 to E-59.
Ordering Example: SGD-3/350-LY11, 3.2 mm grid, 350 Ω nominal-resistance strain gage, \$55.

Custom-Designed Strain Gages Available!
 No Minimum Quantities. Consult Engineering.

NOTE
 ST = Steel
 AL = Aluminum



PRECISION STRAIN GAGE

PRECISION LINEAR PATTERN FOR STATIC AND DYNAMIC APPLICATIONS

MOST POPULAR MODELS HIGHLIGHTED!



To Order (Specify Model Number)

	MODEL NO.	PRICE PER PKG OF 10	NOM. RESISTANCE (Ω)	DIMENSIONS mm (in) [†]				MAX V* (Vrms)	TERMINATION	TEMP COMP	TERM PAD
				GRID		CARRIER					
				A	B	C	D				
Shown actual size 7.80 mm Leads not shown	SGD-3/120-LY11	\$55	120	3.00 (0.118) 1.50 (0.059) 7.80 (0.307) 3.80 (0.150) Linear pattern, grid width narrow 120 Ω	4	Ribbon Leads	ST	BTP-3			
	SGD-3/120-LY13	55	120		5.5	Ribbon Leads	AL				
	SGD-3/120-LY41	49	120		4	Solder Pads	ST				
	SGD-3/120-LY43	49	120		5.5	Solder Pads	AL				
Shown actual size 6.60 mm Leads not shown	SGD-3S/120-LY11	\$55	120	3.00 (0.118) 1.70 (0.067) 6.60 (0.260) 3.30 (0.130) Linear pattern, small size 120 Ω	4.5	Ribbon Leads	ST	BTP-3			
	SGD-3S/120-LY13	55	120		6	Ribbon Leads	AL				
	SGD-3S/120-LY41	49	120		4.5	Solder Pads	ST				
	SGD-3S/120-LY43	49	120		6	Solder Pads	AL				
Shown actual size 7.90 mm Leads not shown	SGD-4/120-LY11	\$59	120	3.80 (0.150) 5.70 (0.224) 7.90 (0.311) 7.10 (0.280) Linear pattern, grid width wide 120 Ω	9	Ribbon Leads	ST	BTP-3			
	SGD-4/120-LY13	59	120		12	Ribbon Leads	AL				
	SGD-4/120-LY41	49	120		9	Solder Pads	ST				
	SGD-4/120-LY43	49	120		12	Solder Pads	AL				
Shown actual size 9.80 mm Leads not shown	SGD-5/350-LY11	\$65	350	4.50 (0.177) 3.20 (0.126) 9.80 (0.386) 5.20 (0.205) Linear pattern, medium size 350 Ω	12	Ribbon Leads	ST	BTP-4			
	SGD-5/350-LY13	65	350		17	Ribbon Leads	AL				
	SGD-5/350-LY41	55	350		12	Solder Pads	ST				
	SGD-5/350-LY43	55	350		17	Solder Pads	AL				

DISCOUNT SCHEDULE

1 to 10 pkgs	.....Net
11 to 24 pkgs	.....5%
25 to 49 pkgs	.....10%
50 and up and OEM	.....Consult Factory

* Maximum permitted bridge energizing voltage (Vrms).

Note: For strain gage accessories see pages E-56 to E-59.

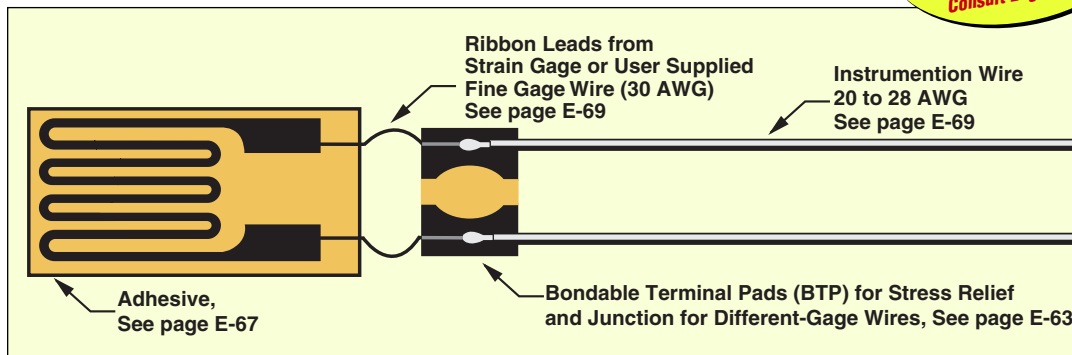
Ordering Example: SGD-4/120-LY13, 3.8 mm grid, 120 Ω nominal-resistance strain gage, \$59.

NOTE

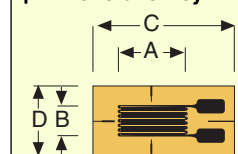
ST = Steel
AL = Aluminum

Custom-Designed Strain Gages Available!
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TYPICAL STRAIN GAGE INSTALLATION



† Dimensions Key:



GRID

A: Active gage length
B: Active gage width
CARRIER
C: Matrix length
D: Matrix width

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To Order (Specify Model Number)

	MODEL NO.	PRICE PER PKG OF 10	NOM. RESISTANCE (Ω)	DIMENSIONS mm (in) [†]				MAX V* (Vrms)	TERMINATION	TEMP COMP	TERM PAD
				GRID		CARRIER					
				A	B	C	D				
Shown actual size 11.4 mm Leads not shown	SGD-6/120-LY11	\$70	120	6.50 3.10 11.40 5.10 (0.256) (0.122) (0.449) (0.201) Linear pattern, medium size 120 Ω	9	Ribbon Leads	ST	BTP-4			
	SGD-6/120-LY13	70	120						9	Solder Pads	ST
	SGD-6/120-LY41	62	120								
	SGD-6/120-LY43	62	120								
Shown actual size 11.4 mm Leads not shown	SGD-7/350-LY11	\$79	350	6.50 3.10 11.40 5.10 (0.256) (0.122) (0.449) (0.201) Linear pattern, medium size 350 Ω	15	Ribbon Leads	ST	BTP-5			
	SGD-7/350-LY13	79	350						20	Ribbon Leads	AL
	SGD-7/350-LY41	65	350								
	SGD-7/350-LY43	65	350								
Shown actual size 11.8 mm Leads not shown	SGD-7/1000-LY11	\$145	1000	7.00 3.60 11.80 5.60 (0.276) (0.142) (0.465) (0.220) Medium size, higher resistance, reduced heat generation 1000 Ω	27	Ribbon Leads	ST	BTP-5			
	SGD-7/1000-LY13	145	1000						37	Ribbon Leads	AL
	SGD-7/1000-LY41	135	1000								
	SGD-7/1000-LY43	135	1000								
Shown actual size 17.7 mm Leads not shown	SGD-10/120-LY11	\$69	120	10.00 4.90 17.70 8.00 (0.394) (0.193) (0.697) (0.315) Linear pattern, large size 120 Ω	14	Ribbon Leads	ST	BTP-5			
	SGD-10/120-LY13	75	120						19	Ribbon Leads	A
	SGD-10/120-LY41	69	120								
	SGD-10/120-LY43	69	120								

DISCOUNT SCHEDULE

1 to 10 pkgs	.....Net
11 to 24 pkgs	.....5%
25 to 49 pkgs	.....10%
50 and up and OEM	.....Consult Factory

* Maximum permitted bridge energizing voltage (Vrms).

Note: For strain gage accessories see pages E-56 to E-59

Ordering Example: SGD-6/120-LY13, 6.5 mm grid, 120 Ω nominal-resistance strain gage, \$70.

Custom-Designed Strain Gages Available!
No Minimum Quantities. Consult Engineering.

NOTE

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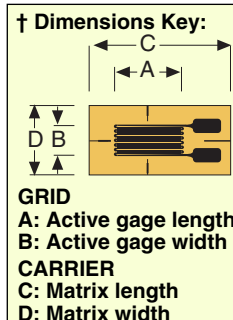
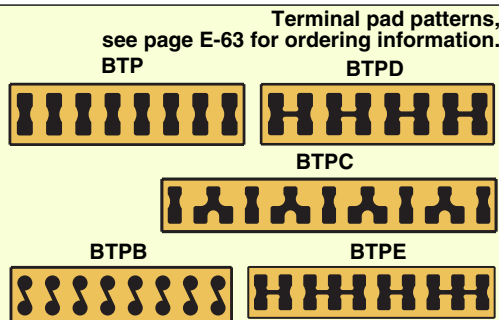
BONDABLE TERMINAL PADS

When installing strain gages with ribbon leads or solder pads, use Bondable Terminal Pads (BTP) between the strain gage and the wires to your instrumentation.

The Bondable Terminal Pads provide a large easy to use soldering area and provide strain relief between the strain gage and the heavy instrument wires.

Using Bondable Terminal Pads is simple. Use the same adhesive and bonding procedure on the Bondable Terminal Pads as you use on the strain gage.

OMEGA offers BTPs in several sizes and wiring configurations to fit most all strain gage applications.



STRAIN GAGES E



PRECISION STRAIN GAGE

PRECISION LINEAR PATTERN AND EXTRA LONG PATTERN

MOST POPULAR MODELS HIGHLIGHTED!



To Order (Specify Model Number)

	MODEL NO.	PRICE PER PKG OF 10	NOM. RESISTANCE (Ω)	DIMENSIONS mm (in) [†]				MAX V* (Vrms)	TERMINATION	TEMP COMP	TERM PAD
				GRID		CARRIER					
				A	B	C	D				
Shown actual size 17.7 mm Leads not shown	SGD-10/350-LY11	\$75	350	10.00 (0.394) 4.90 (0.193) 17.70 (0.697) 8.00 (0.315) Linear pattern, large size 350 Ω	22	Ribbon Leads	ST	BTP-5			
	SGD-10/350-LY13	75	350								
	SGD-10/350-LY41	69	350								
	SGD-10/350-LY43	69	350								
Shown actual size 17.7 mm Leads not shown	SGD-10/1000-LY11	\$95	1000	10.00 (0.394) 4.90 (0.193) 17.70 (0.697) 8.00 (0.315) Linear pattern, large size, higher resistance, reduced heat generation 1000 Ω	40	Ribbon Leads	ST	BTP-5			
	SGD-10/1000-LY13	95	1000								
	SGD-10/1000-LY41	85	1000								
	SGD-10/1000-LY43	85	1000								
Shown actual size 22.7 mm Leads not shown	SGD-13/350-LY11	\$95	350	13.00 (0.511) 7.20 (0.283) 22.70 (0.893) 10.00 (0.393) Linear pattern, grid length long 350 Ω	30	Ribbon Leads	ST	BTP-6			
	SGD-13/350-LY13	95	350								
	SGD-13/350-LY41	85	350								
	SGD-13/350-LY43	85	350								
Shown actual size 22.7 mm Leads not shown	SGD-13/1000-LY11	\$125	1000	13.00 (0.511) 7.20 (0.283) 22.70 (0.893) 10.00 (0.393) Linear pattern, grid length long, higher resistance, reduced heat generation 1000 Ω	55	Ribbon Leads	ST	BTP-6			
	SGD-13/1000-LY13	125	1000								
	SGD-13/1000-LY41	115	1000								
	SGD-13/1000-LY43	115	1000								

DISCOUNT SCHEDULE

1 to 10 pkgs	.....Net
11 to 24 pkgs	.....5%
25 to 49 pkgs	.....10%
50 and up and OEM	.....Consult Factory

[†] For dimensions key, see page E-18.

* Maximum permitted bridge energizing voltage (Vrms).

Note: For strain gage accessories see pages E-56 to E-59.

Ordering Example: SGD-13/350-LY13, 13 mm grid, 350 Ω nominal-resistance strain gage, \$95.

NOTE
ST = Steel
AL = Aluminum

Extra-Long For Inhomogeneous Material

MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

	MODEL NO.	PRICE PER PKG OF 5	NOM. RESISTANCE (Ω)	DIMENSIONS mm (in) [†]				MAX V* (Vrms)	TERMINATION	TEMP COMP	TERM PAD
				GRID		CARRIER					
				A	B	C	D				
Shown smaller than actual size 50 mm Leads not shown	SGD-30/120-LY40	\$105	120	25.00 (0.984)	8.00 (0.315)	40.00 (1.575)	12.00 (0.472)	12	Solder Pads	UNC	BTP-6
	SGD-30/350-LY40	115	350	30.00 (1.181)	3.00 (0.118)	36.00 (1.417)	5.00 (0.197)	14	Solder Pads	UNC	
	SGD-50/120-LY40	129	120	50.00 (1.969)	4.30 (0.169)	60.00 (2.362)	9.00 (0.354)	12	Solder Pads	UNC	
	SGD-150/240-LY40	135	240	150.00 (5.906)	5.00 (0.197)	165.00 (6.496)	9.00 (0.354)	35	Solder Pads	UNC	

[†] For dimensions key, see page E-18.

* Maximum permitted bridge energizing voltage (Vrms).

Note: For strain gage accessories see pages E-56 to E-59.

Ordering Example: SGD-30/120-LY40, 120 Ω nominal-resistance strain gage, \$105.

NOTE UNC = Uncompensated



UNITED STATES

www.omega.com
1-800-TC-OMEGA
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CANADA

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Laval(Quebec)
1-800-TC-OMEGA

GERMANY

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Deckenpfronn, Germany
0800-8266342

UNITED KINGDOM

www.omega.co.uk
Manchester, England
0800-488-488

FRANCE

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088-466-342

CZECH REPUBLIC

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BENELUX

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Amstelveen, NL
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• Temperature

Calibrators, Connectors, General Test and Measurement Instruments, Glass Bulb Thermometers, Handheld Instruments for Temperature Measurement, Ice Point References, Indicating Labels, Crayons, Cements and Lacquers, Infrared Temperature Measurement Instruments, Recorders Relative Humidity Measurement Instruments, RTD Probes, Elements and Assemblies, Temperature & Process Meters, Timers and Counters, Temperature and Process Controllers and Power Switching Devices, Thermistor Elements, Probes and Assemblies, Thermocouples Thermowells and Head and Well Assemblies, Transmitters, Wire

• Flow and Level

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• pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

• Data Acquisition

Auto-Dialers and Alarm Monitoring Systems, Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485 and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

• Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

• Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters