

Shear/Torque Rosettes (General-Use)

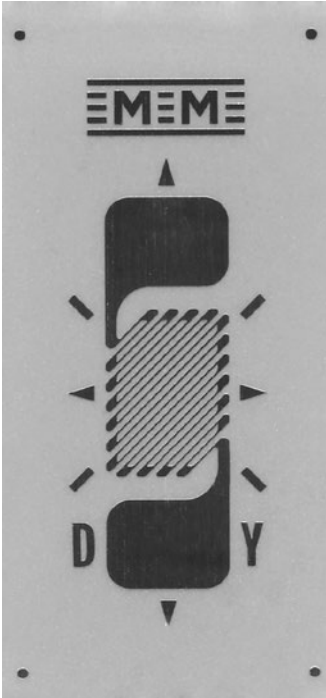
FEATURES

- Gage patterns designed for measuring shear strain and torque
- Individual and multiple grid patterns
- Gage lengths from 0.062" (1.57 mm) to 0.250" (6.35 mm)

PATTERNS

062DY	106
062LV	107
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062TV	109
062UV	110
125TK	111
187UV	112
250US	113
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General Purpose Strain Gages – Shear/ Torque Pattern

GAGE PATTERN DATA					
		<p>GAGE DESIGNATION See Note 1, 3</p>		<p>RESISTANCE (OHMS) See Note 2</p>	<p>OPTIONS AVAILABLE See Note 3</p>
		<p>EA-XX-062DY-120 ED-DY-062DY-350 WA-XX-062DY-120 WK-XX-062DY-350 SA-XX-062DY-350 SK-XX-062DY-350 SD-DY-062DY-350 WD-DY-062DY-350</p>		<p>120 ± 0.15% 350 ± 0.4% 120 ± 0.3% 350 ± 0.3% 120 ± 0.3% 350 ± 0.3% 350 ± 0.8% 350 ± 0.8%</p>	<p>E, L, LE E, L*, LE*</p>
<p>DESCRIPTION</p> <p>45° torque gage. Similar to 062DW pattern but with opposite grid angle.</p>					
GAGE DIMENSIONS		<p>Legend</p> <p>ES = Each Section CP = Complete Pattern <input type="checkbox"/> inch S = Section (S1 = Section 1) M = Matrix <input type="checkbox"/> millimeter</p>			
Gage Length	Overall Length	Grid Width	Overall Width	Matrix Length	Matrix Width
0.062	0.175	0.055	0.055	0.30	0.15
1.57	4.45	1.40	1.40	7.6	3.8

GAGE SERIES DATA — See Gage Series datasheet for complete specifications			
Series	Description	Strain Range	Temperature Range
EA	Constantan foil in combination with a tough, flexible, polyimide backing.	±3%	-100° to +350°F (-75° to +175°C)
ED	Isoelastic foil in combination with tough, flexible polyimide film.	±2%	-320° to +400°F (-195° to +205°C)
WA	Fully encapsulated constantan gages with high-endurance leadwires.	±2%	-100° to +400°F (-75° to +205°)
WK	Fully encapsulated K-alloy gages with high-endurance leadwires.	±1.5%	-452° to +550°F (-269° to +290°C)
SA	Fully encapsulated constantan gages with solder dots.	±2%	-100° to +400°F (-75° to +205°C)
SK	Fully encapsulated K-alloy gages with solder dots.	±1.5%	-452° to +450°F (-269° to +230°C)
SD	Equivalent to WD Series, but with solder dots instead of leadwires.	±1.5%	-320° to +400°F (-195° to +205°C)
WD	Fully encapsulated isoelastic gages with high-endurance leadwires.	±1.5%	-320° to +500°F (-195° to +260°C)

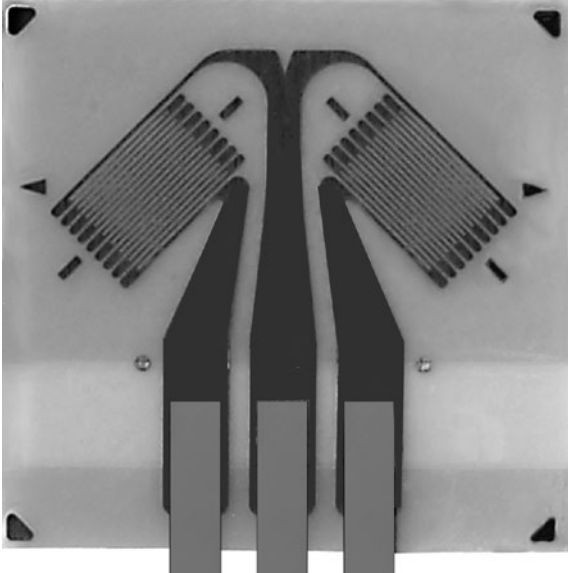


Note 1: Insert desired S-T-C number in spaces marked XX.

Note 2: Tolerance is increased when Option W, E, SE, LE, or P is specified.



Note 3: Products with designations and options shown in **bold** are not RoHS compliant.

*Options available but not normally recommended. See Optional Features datasheet for details.

General Purpose Strain Gages – Shear/ Torque Pattern

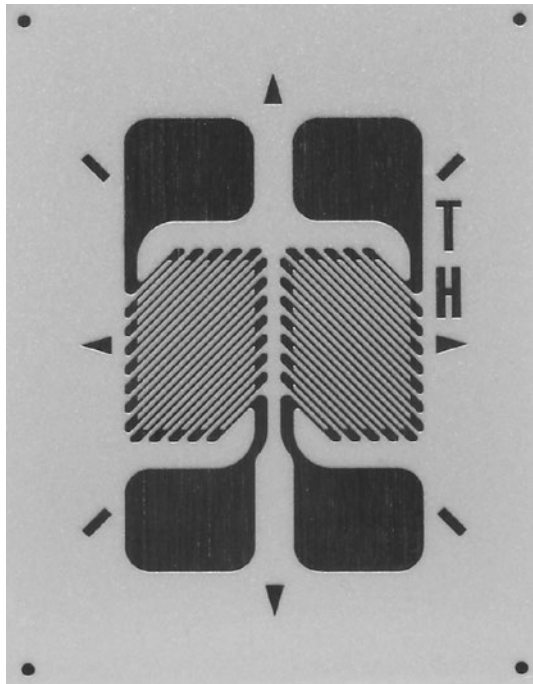

GAGE PATTERN DATA					
  actual size			GAGE DESIGNATION See Note 1	RESISTANCE (OHMS)	OPTIONS AVAILABLE
			L2A-XX-062LV-120 C2A-XX-062LV-120	120 ± 0.6% 120 ± 0.6%	
DESCRIPTION Two-element 90° torque gage.					
GAGE DIMENSIONS		Legend ES = Each Section CP = Complete Pattern S = Section (S1 = Section 1) M = Matrix			<input type="checkbox"/> inch <input type="checkbox"/> millimeter
Gage Length	Overall Length	Grid Width	Overall Width	Matrix Length	Matrix Width
0.062 ES	0.214 CP	0.050 ES	0.215 CP	0.255	0.265
1.52 ES	5.44 CP	1.27 ES	5.46 CP	6.48	6.73

GAGE SERIES DATA — See Gage Series datasheet for complete specifications			
Series	Description	Strain Range	Temperature Range
L2A	Encapsulated constantan gages with preattached ribbon leads.	±3%	-100° to +250°F (-75° to +120°C)
C2A	Encapsulated constantan gages with preattached ready-to-use cables.	±3%	-60° to +180°F (-50° to +80°C)

 Example of an L2A Construction	 Example of an C2A Construction
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Note 1: Insert desired S-T-C number in spaces marked XX.

General Purpose Strain Gages – Shear/ Torque Pattern

GAGE PATTERN DATA					
		GAGE DESIGNATION See Note 1, 3		RESISTANCE (OHMS) See Note 2	OPTIONS AVAILABLE See Note 3
		EA-XX-062TH-120 SA-XX-062TH-120 SK-XX-062TH-350		120 ± 0.2% 120 ± 0.4% 350 ± 0.4%	E, L, LE
		 actual size		DESCRIPTION Two-element 90° torque gage. Sections are electrically independent. See also 062TV and 062TW patterns.	
GAGE DIMENSIONS			Legend ES = Each Section CP = Complete Pattern S = Section (S1 = Section 1) M = Matrix		
		inch			
		millimeter			
Gage Length	Overall Length	Grid Width	Overall Width	Matrix Length	Matrix Width
0.062 ES	0.175 CP	0.055 ES	0.115 CP	0.27	0.21
1.57 ES	4.45 CP	1.40 ES	2.92 CP	6.9	5.3

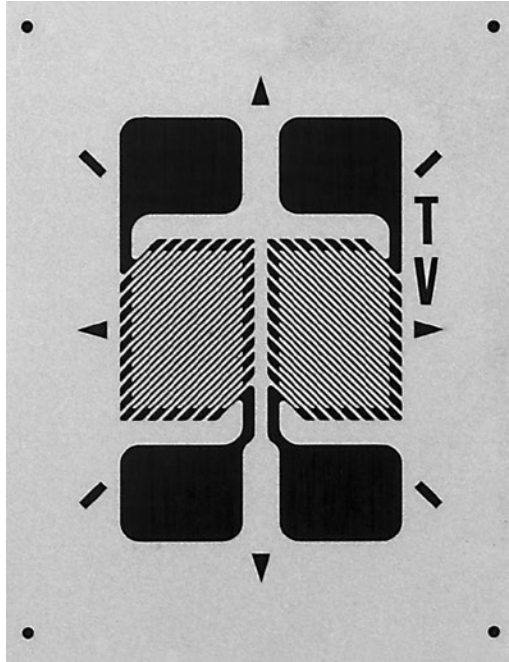

GAGE SERIES DATA — See Gage Series datasheet for complete specifications			
Series	Description	Strain Range	Temperature Range
EA	Constantan foil in combination with a tough, flexible, polyimide backing.	±3%	-100° to +350°F (-75° to +175°C)
SA	Fully encapsulated constantan gages with solder dots.	±2%	-100° to +400°F (-75° to +205°C)
SK	Fully encapsulated K-alloy gages with solder dots.	±1.5%	-452° to +450°F (-269° to +230°C)

Note 1: Insert desired S-T-C number in spaces marked XX.

Note 2: Tolerance is increased when Option W, E, SE, LE, or P is specified.

Note 3: Products with designations and options shown in **bold** are not RoHS compliant.

General Purpose Strain Gages – Shear/ Torque Pattern

GAGE PATTERN DATA					
  actual size		GAGE DESIGNATION See Note 1, 3	RESISTANCE (OHMS) See Note 2	OPTIONS AVAILABLE See Note 3	
		EA-XX-062TV-350 SA-XX-062TV-350 SK-XX-062TV-500	350 ± 0.2% 350 ± 0.4% 500 ± 0.4%	E, L, LE	
		DESCRIPTION Two-element 90° torque gage.			
GAGE DIMENSIONS		Legend ES = Each Section CP = Complete Pattern S = Section (S1 = Section 1) M = Matrix			<input type="checkbox"/> inch <input type="checkbox"/> millimeter
Gage Length	Overall Length	Grid Width	Overall Width	Matrix Length	Matrix Width
0.062 ES	0.175 CP	0.055 ES	0.115 CP	0.27	0.21
1.57 ES	4.45 CP	1.40 ES	2.92 CP	6.9	5.3

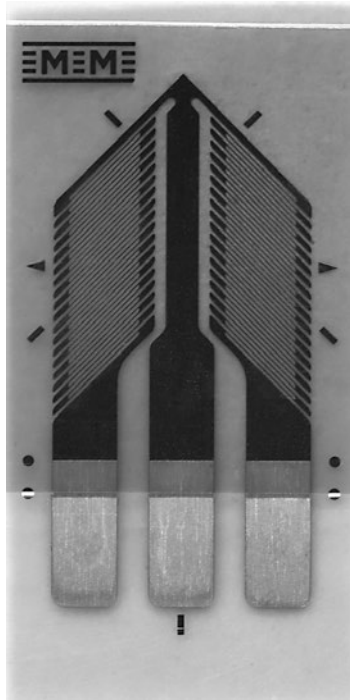
GAGE SERIES DATA — See Gage Series datasheet for complete specifications			
Series	Description	Strain Range	Temperature Range
EA	Constantan foil in combination with a tough, flexible, polyimide backing.	±3%	-100° to +350°F (-75° to +175°C)
SA	Fully encapsulated constantan gages with solder dots.	±2%	-100° to +400°F (-75° to +205°C)
SK	Fully encapsulated K-alloy gages with solder dots.	±1.5%	-452° to +450°F (-269° to +230°C)

Note 1: Insert desired S-T-C number in spaces marked XX.

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General Purpose Strain Gages – Shear/ Torque Pattern

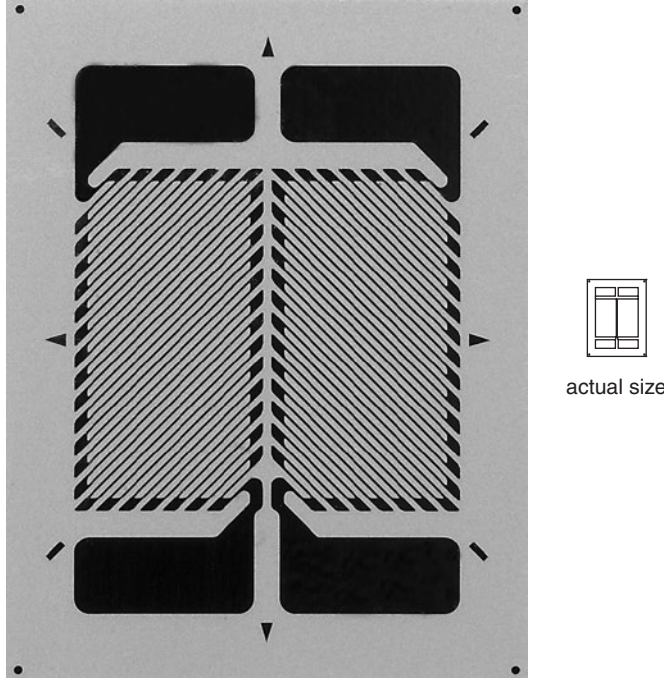
GAGE PATTERN DATA					
			GAGE DESIGNATION See Note 1	RESISTANCE (OHMS)	OPTIONS AVAILABLE See Note 2
			CEA-XX-062UV-350 CEA-XX-062UV-500	350 ± 0.4% 500 ± 0.4%	P2
DESCRIPTION Two-element 90° rosette for torque and shear-strain measurement. Sections have a common electrical connection. Exposed solder tab area is 0.04 x 0.07 in [1.0 x 1.8 mm].					
GAGE DIMENSIONS		Legend ES = Each Section CP = Complete Pattern S = Section (S1 = Section 1) M = Matrix			
				<input type="checkbox"/> inch <input type="checkbox"/> millimeter	
Gage Length	Overall Length	Grid Width	Overall Width	Matrix Length	Matrix Width
0.062 ES	0.330 CP	0.063 ES	0.160 CP	0.42	0.23
1.57 ES	8.38 CP	1.60 ES	4.06 CP	10.7	5.8

GAGE SERIES DATA — See Gage Series datasheet for complete specifications			
Series	Description	Strain Range	Temperature Range
CEA	Universal general-purpose strain gages.	±3%	-100° to +350°F (-75° to +175°C)

Note 1: Insert desired S-T-C number in spaces marked XX.

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General Purpose Strain Gages – Shear/ Torque Pattern

GAGE PATTERN DATA					
 <p>actual size</p>		GAGE DESIGNATION See Note 1, 3	RESISTANCE (OHMS) See Note 2	OPTIONS AVAILABLE See Note 3	
		EA-XX-125TK-350 WA-XX-125TK-350 WK-XX-125TK-10C SA-XX-125TK-350 SK-XX-125TK-10C	350 ± 0.2% 350 ± 0.4% 1000 ± 0.4% 350 ± 0.4% 1000 ± 0.4%	E, L, LE	
DESCRIPTION High-resistance two-element 90° torque gage. Similar to 125TL pattern except sections are electrically independent. See also 125TH pattern.					
GAGE DIMENSIONS		Legend			<input type="checkbox"/> inch <input type="checkbox"/> millimeter
		ES = Each Section S = Section (S1 = Section 1)			CP = Complete Pattern M = Matrix
Gage Length	Overall Length	Grid Width	Overall Width	Matrix Length	Matrix Width
0.125 ES	0.320 CP	0.110 ES	0.225 CP	0.40	0.31
3.18 ES	8.13 CP	2.79 ES	5.72 CP	10.2	7.9

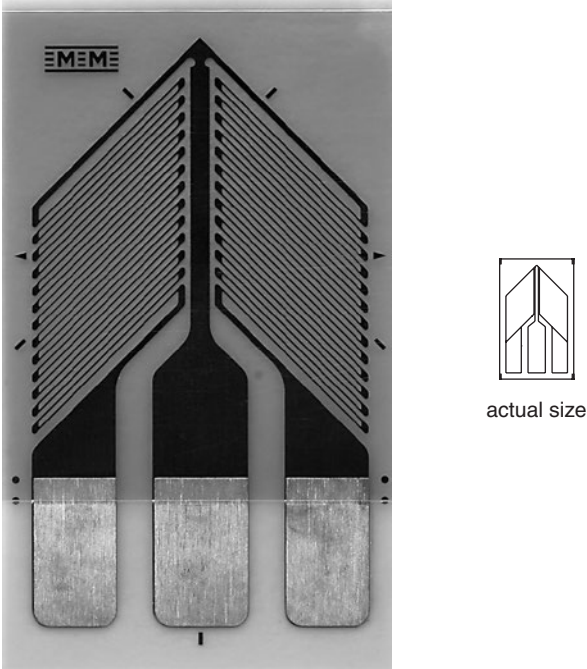
GAGE SERIES DATA — See Gage Series datasheet for complete specifications			
Series	Description	Strain Range	Temperature Range
EA	Constantan foil in combination with a tough, flexible, polyimide backing.	±5%	-100° to +350°F (-75° to +175°C)
WA	Fully encapsulated constantan gages with high-endurance leadwires.	±2%	-100° to +400°F (-75° to +205°)
WK	Fully encapsulated K-alloy gages with high-endurance leadwires.	±1.5%	-452° to +550°F (-269° to +290°C)
SA	Fully encapsulated constantan gages with solder dots.	±2%	-100° to +400°F (-75° to +205°C)
SK	Fully encapsulated K-alloy gages with solder dots.	±1.5%	-452° to +450°F (-269° to +230°C)

Note 1: Insert desired S-T-C number in spaces marked XX.

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General Purpose Strain Gages – Shear/ Torque Pattern

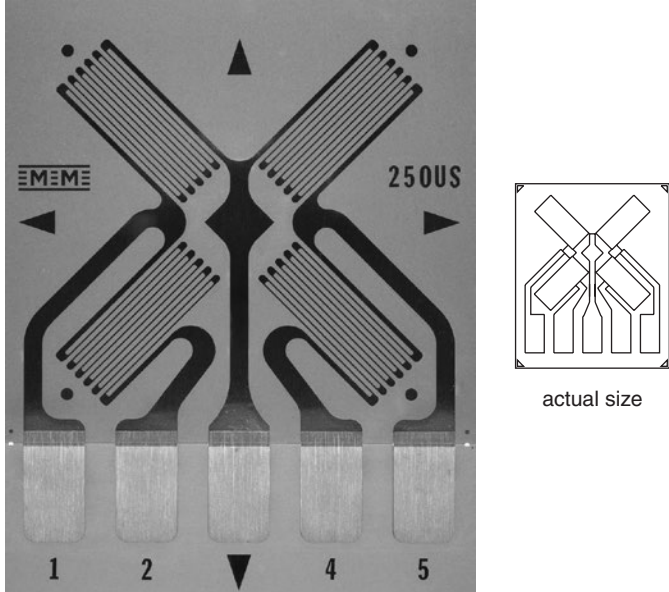
GAGE PATTERN DATA					
		GAGE DESIGNATION See Note 1	RESISTANCE (OHMS)	OPTIONS AVAILABLE See Note 2	
		CEA-XX-187UV-120 CEA-XX-187UV-350	120 ± 0.4% 350 ± 0.4%	P2 P2	
DESCRIPTION Two-element 90° rosette for torque and shear-strain measurement. Sections have a common electrical connection. Exposed solder tab area is 0.13 x 0.08 in [3.3 x 2.0 mm].					
GAGE DIMENSIONS		Legend ES = Each Section CP = Complete Pattern <input type="checkbox"/> inch S = Section (S1 = Section 1) M = Matrix <input type="checkbox"/> millimeter			
Gage Length	Overall Length	Grid Width	Overall Width	Matrix Length	Matrix Width
0.187 ES	0.560 CP	0.150 ES	0.320 CP	0.63	0.39
4.75 ES	14.22 CP	3.81 ES	8.13 CP	15.9	9.8

GAGE SERIES DATA — See Gage Series datasheet for complete specifications			
Series	Description	Strain Range	Temperature Range
CEA	Universal general-purpose strain gages.	±5%	-100° to +350°F (-75° to +175°C)

Note 1: Insert desired S-T-C number in spaces marked XX.

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General Purpose Strain Gages – Shear/ Torque Pattern

GAGE PATTERN DATA					
		GAGE DESIGNATION See Note 1	RESISTANCE (OHMS)	OPTIONS AVAILABLE See Note 2	
		CEA-XX-250US-120 CEA-XX-250US-350	120 ± 0.4% 350 ± 0.4%		
<p>DESCRIPTION</p> <p>Four-element full-bridge pattern for shear-strain measurement. Grids are spaced 90° apart, and 45° from pattern centerlines. Exposed solder tab area is 0.16 x 0.10 in (4.1 x 2.5 mm).</p>					
GAGE DIMENSIONS		<p>Legend</p> <p>ES = Each Section CP = Complete Pattern <input type="checkbox"/> inch</p> <p>S = Section (S1 = Section 1) M = Matrix <input type="checkbox"/> millimeter</p>			
Gage Length	Overall Length	Grid Width	Overall Width	Matrix Length	Matrix Width
0.250 ES	0.820 CP	0.120 ES	0.700 CP	0.96	0.80
6.35 ES	20.83 CP	3.05 ES	17.78 CP	24.4	20.3

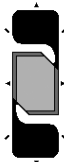

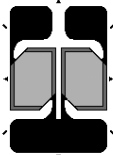

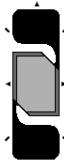

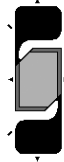

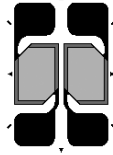

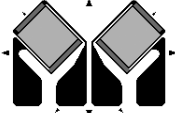

GAGE SERIES DATA — See Gage Series datasheet for complete specifications

Series	Description	Strain Range	Temperature Range
CEA	Universal general-purpose strain gages.	±5%	-100° to +350°F (-75° to +175°C)

Note 1: Insert desired S-T-C number in spaces marked XX.

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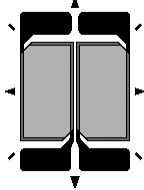
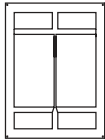
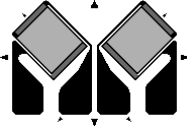
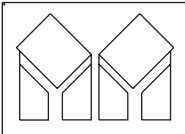
General Purpose Strain Gages

GAGE PATTERN	GAGE SERIES See Note 1	GAGE RESISTANCE (OHMS)	GAGE LENGTH	
			inches	millimeters
062DW   <p>actual size</p>	EA, ED, WA , WK, SA , SK , SD, WD	120, 350	0.062	1.57
	45° torque gage. Matrix size: 0.30L x 0.15W in. (7.6L x 3.8W mm)			
062TW   <p>actual size</p>	EA, WK, SA , SK	120, 350	0.062	1.52
	Two-element 90° torque gage. Matrix size: 0.27L x 0.21W in. (6.9L x 5.3W mm)			
090DW   <p>actual size</p>	EA, WA , WK, SA , SK	120, 350	0.09	2.29
	45° torque gage. Larger version of 062DW pattern. See also 090DY pattern. Matrix size: 0.38L x 0.19W in. (9.6L x 4.8W mm)			
090DY   <p>actual size</p>	EA, WA , WK, SA , SK	120, 350	0.09	2.29
	45° torque gage. Similar to the 090DW pattern except opposite grid angle. Matrix size: 0.38L x 0.19W in. (9.7L x 4.8W mm)			
125TH   <p>actual size</p>	EA, WA , WK, SA , SK	120, 350	0.125	3.18
	Two-element 90° torque gage. Sections are electrically independent. Matrix size: 0.44L x 0.31W in. (11.2L x 7.9W mm)			
125TR   <p>actual size</p>	EA, EK, S2K , WA , WK, SA , SK	120, 350, 1000	0.125	3.18
	Two-element 90° torque rosette. EK-Series gages are supplied with duplex copper dots (DD) when optional feature W or SE is not specified. Matrix size: 0.36L x 0.47W in. (9.1L x 11.9W mm)			

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See <http://www.vishaypg.com/micro-measurements/stress-analysis-strain-gages/other-rosettes/> for complete specifications.

General Purpose Strain Gages

GAGE PATTERN	GAGE SERIES See Note 1	GAGE RESISTANCE (OHMS)	GAGE LENGTH	
			inches	millimeters
250TK   <p>actual size</p>	EA, WA , WK, SA , SK	120, 350, 1000	0.25	6.35
250TR   <p>actual size</p>	EA, EK, S2K , WA , WK, SA , SK	120, 350, 1000	0.25	6.35

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See <http://www.vishaypg.com/micro-measurements/stress-analysis-strain-gages/other-rosettes/> for complete specifications.