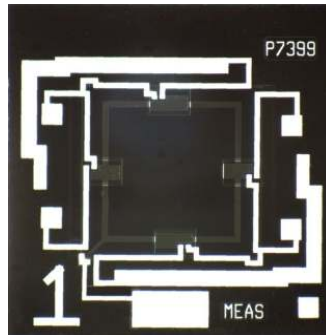
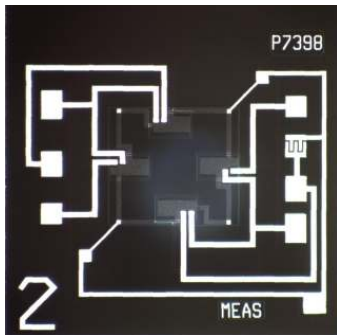


## P7398 and P7399 Pressure Sensor Die



- 0.5k – 5kpsi (35 – 345Bar)
- Absolute Sensor
- Open Bridge Configuration
- RoHS-compatible & Pb-free

### DESCRIPTION

The P7398 and P7399 die are piezoresistive absolute pressure sensors designed for high pressure applications. The P7398 die is available in 0-3000 and 0-5000 psi pressure ranges and the P7399 die is available in 0-500 and 0-1000 psi pressure ranges. These sensors come in an open bridge (two independent half bridges) configuration include a resistor field shield tied to substrate contact for oil-filled applications.

### FEATURES

- High Sensitivity
- -40°C to +85°C Temperature Range
- ±0.25% Linearity
- Die Size: 3.2 X 3.2 mm
- Low Cost, High Reliability

### APPLICATIONS

- For High Pressure Sensor Systems
- Refrigeration/Compressors
- Automotive Applications
- Industrial Applications

### STANDARD RANGES

Range	psia
0 to 500	•
0 to 1000	•
0 to 3000	•
0 to 5000	•

## P7398 and P7399 Pressure Sensor Die

### PERFORMANCE SPECIFICATIONS

Supply Current: 1.5 mA

Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span (500 & 1000psi)	90		160	mV	
Span (3000 & 5000psi)	93		150	mV	
Pressure Non Linearity	-0.25		0.25	%Span	1
Bridge Resistance (Input & Output Impedance)	4100	4800	6000	Ω	2
Temperature Coefficient Resistance (TCR)	2160	2500	2880	ppm/°C	3
Temperature Coefficient Sensitivity (TCS)	-2520	-2160	-1800	ppm/°C	3
Offset	-8.1	0.0	+8.1	mV/V	2
Temperature Coefficient Offset		±1		(μV/V/°C)	3,4
Temperature Coefficient mismatch; (TCR + TCS)	30	300	630	ppm/°C	
Leakage Current			30	nA	5
Operating Voltage			10.0	V	
Operating Current		1.5	2.0	mA	
Over Pressure			5X	Rated	
Burst Pressure	5X			Rated	
Compensated Temperature	-20		+85	°C	
Operating Temperature	-40		+85	°C	
Storage Temperature	-55		150	°C	
Excitation	Constant Current				
Operating Pressure Range	See Output Span and Non Linearity Table				

#### Notes

1. Best fit straight line.
2. 100% probed for offset and bridge resistance.
3. Temperature Coefficient values over -20°C to +85°C with reference to 25°C.
4. Influenced by die attach.
5. Total Leakage current includes junction isolation and oxide at 10Vdc.

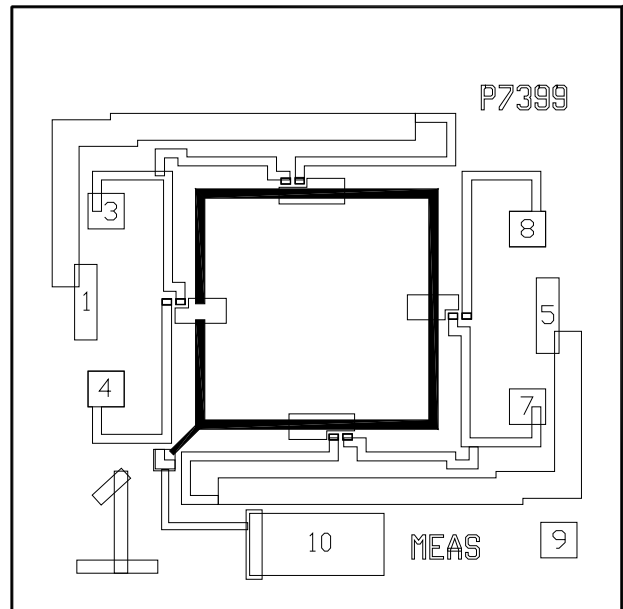
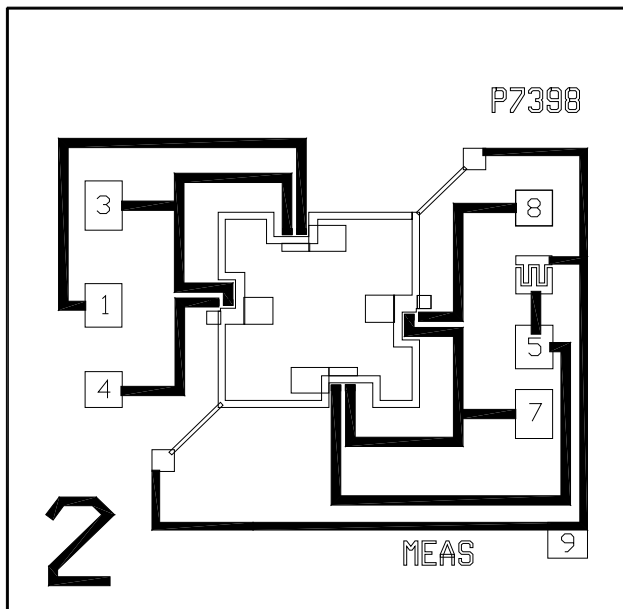
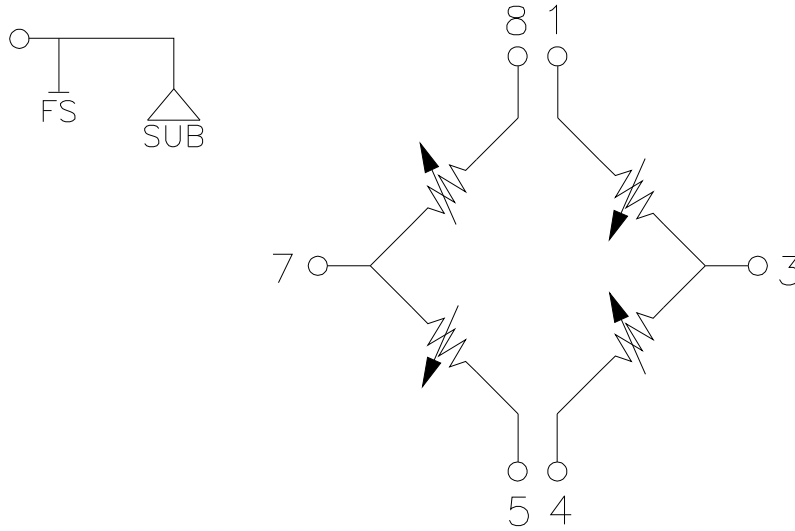
### CHIP DIMENSIONS

PARAMETERS	TYP	MAX	UNITS
Die Length	3.2	3.3	mm
Die Width	3.2	3.3	mm
Die Height	1.24	1.29	mm
Pad Size	150x150		microns

# P7398 and P7399 Pressure Sensor Die

## CONNECTIONS

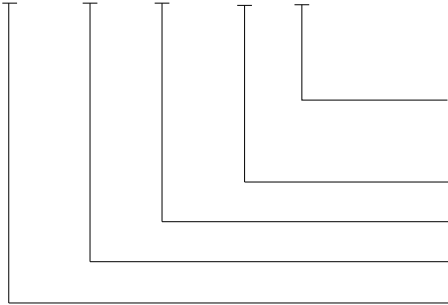
Positive output for pressure applied topside



## P7398 and P7399 Pressure Sensor Die

### ORDERING INFORMATION

#### P7398A-05K-30-CD



Shipping Form (C = Finished Die in Chip Trays, T = Sawn Wafer on Tape  
W = Probed Unsawn Wafer)

Pressure Applied (30 = Frontside)

Pressure Range

Type (A = Absolute)

Model

#### NORTH AMERICA

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45738 Northport Loop West  
Fremont, CA 94538  
Tel: 1-800-767-1888  
Fax: 1-510-498-1578  
Sales: [pfg.cs.amer@meas-spec.com](mailto:pfg.cs.amer@meas-spec.com)

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Sales: [pfg.cs.emea@meas-spec.com](mailto:pfg.cs.emea@meas-spec.com)

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