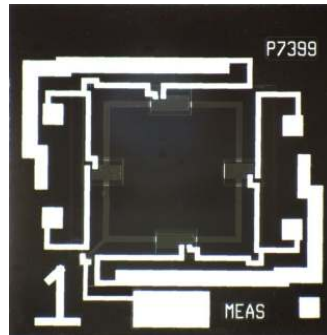
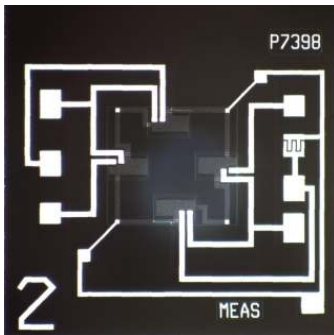


P7398 and P7399 Pressure Sensor Die



- 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
- $\pm 0.25\%$ 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.

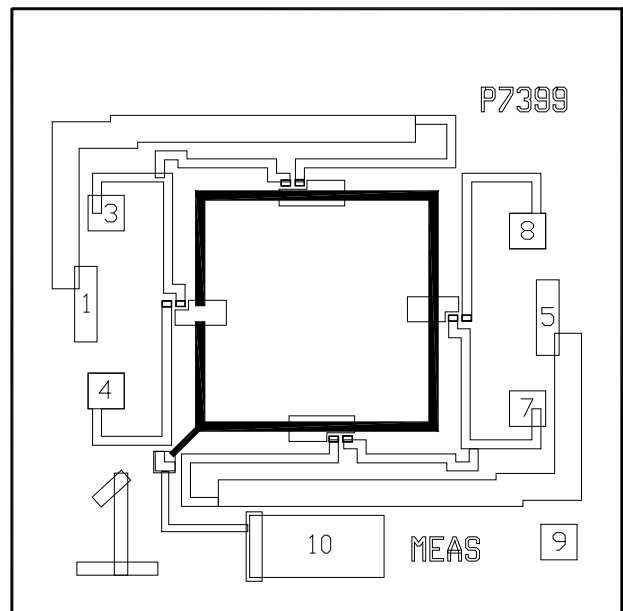
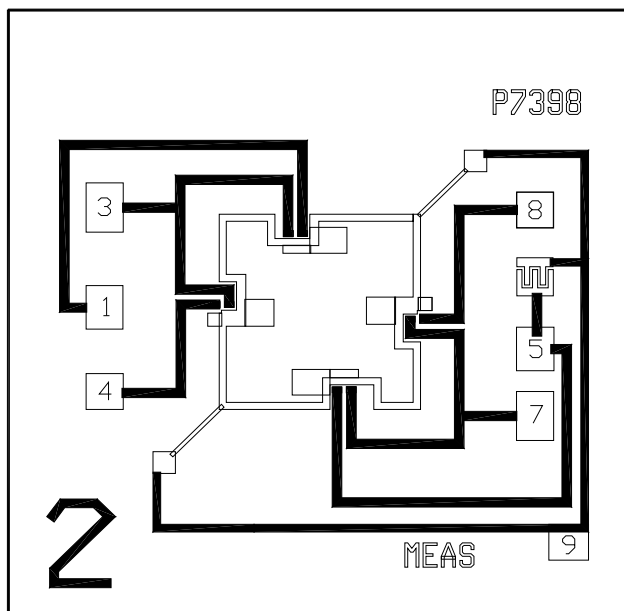
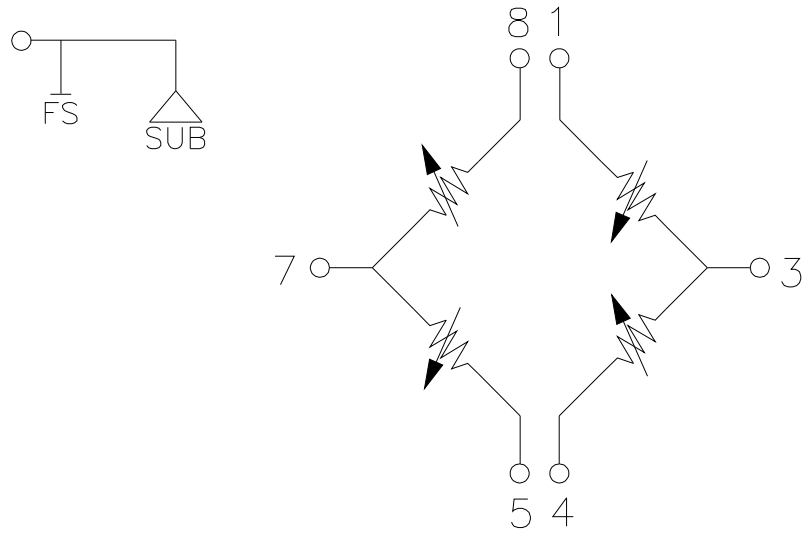
CHIP DIMENSIONS

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

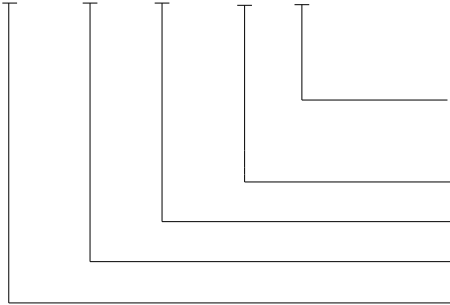
Positive output for pressure applied topside



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

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

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26 Rue des Dames
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