HTS 10-P Current Transducer

The HTS 10-P provides electronic measurement of AC, DC, pulsed, and complex currents with galvanic isolation between the primary (power) circuit and the secondary (measurement) circuit.

Electrical Data

Nominal Current	10 A_{RMS}
Measurement Range	± 15 A
Sensitivity @ 25°C (note 1)	V_{DD} • 20 = 100 mV/A ± 30%
Overload Capacity	± 25 A for 15 seconds
Supply Voltage (note 1)	5.0 V_{DC} ± 10%
Primary to Secondary Isolation	2500 V_{RMS} for 1 minute
Maximum Output (note 2)	within 500 mV of each supply rail = 0.5 to 4.5 V

Accuracy-Dynamic Performances

Zero Offset @25°C (note 1)	V_{DD} / 2 = 2.5 V_{DC} ± 12%
Linearity @ 25°C	< 0.8% typical, 1.2% maximum
Zero Offset Drift	± 2.0 mV/K maximum
Magnetic Offset	± 0.5 % after 45A peak overload
Gain Drift	± 0.20 %/K maximum
Bandwidth, typical	DC - 16 kHz (-3dB; 10 kHz @ -1dB)
Response Time, typical	25 µs (with 2 - 10 A/µs rising or falling edge)

General Data

Operating Temperature	-40 to 85 °C
Storage Temperature	-55 to 95 °C
Current Consumption	12 mA max @ 5.5V_{DC}
Output Current (note 3)	1 mA source and sink
Enclosure and Potting	UL Recognized materials meeting UL94-V0
Weight	5 grams nominal
Fastening	PCB Footprint (as shown on page 2)
Output Reference	A positive going output signal is obtained when the primary current flows from the I+ to I- pin.

Notes:

1) This device is ratiometric: sensitivity and offset vary in direct proportion to supply voltage.
2) Output linearity is not guaranteed within 500mV of the supply rails.
3) Output loading to V_{DD} or V_{SS} must be = 5.1kΩ. Tested with 10kΩ from O_{UT} to V_{SS}.

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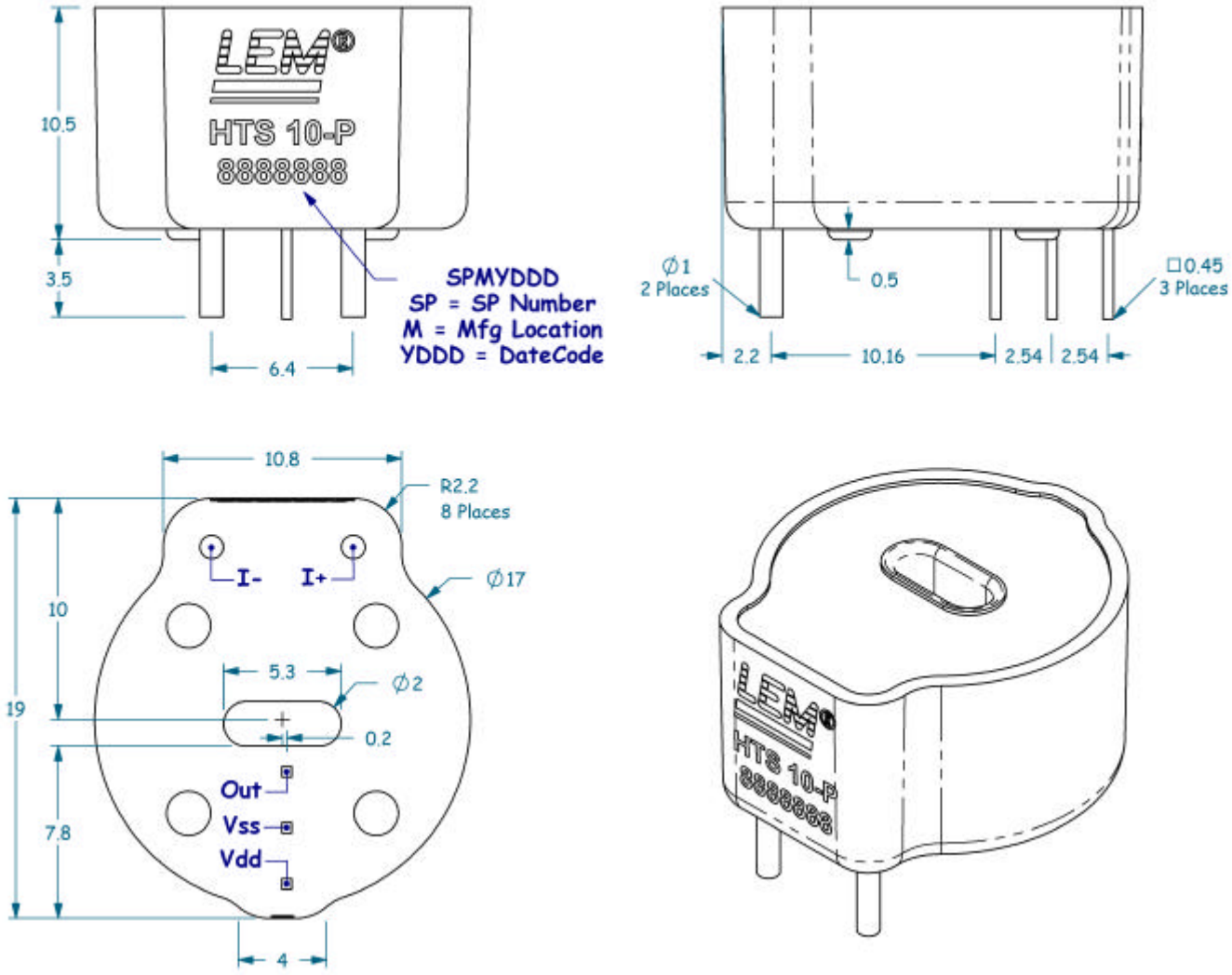
Dimensions for the HTS 10-P in millimeters (1mm = 0.0394"):



Notes:

A positive going output signal is obtained when the primary current flows from I+ to I-.

Primary wires may also be used through the aperture. Sensitivity is reduced by a factor of 3. A positive going output signal is obtained when the primary current flows from bottom to top.

Optimum performance is attained with a 0.1µF capacitor between V_{DD} and V_{SS} and a 100pF capacitor between O_{UT} to V_{SS} , placed as close to the HTS 10-P pins as possible.

Recommended PWB hole diameters: 2 x 1.3 for primary, 3 x 0.8 for secondary.

This device is sensitive to electrostatic discharge (ESD) and must be handled appropriately.

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