Signal Transformer – PT3338

Special Features:

- Nominal input voltage: 0-3V
- Nominal output voltage: 0-3V
- Low repeatable leakage inductance: 0.4µH
- High self-resonant frequency
- Insulation voltage up to 3kV
- Excellent partial discharge resistance
- High parameters stability
- Compliant with:
  - IEC62109
  - UL840
- Compact and lightweight
- Low profile surface mount component
- Operating ambient temperature: -40°C to 85 °C
- Designed for fully automated assembly process

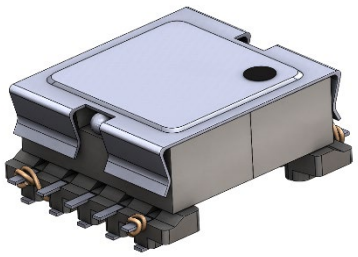

Figure 1. View of signal transformer.

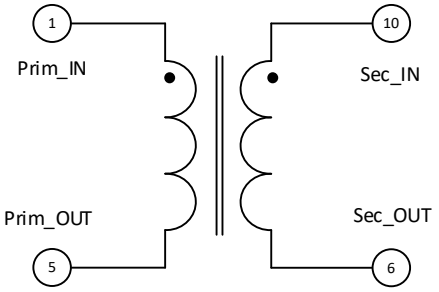

Figure 2. Electrical circuit of the transformer.

Typical Applications:

- Arc Fault Circuit Interrupter (AFCI)
- Signal transmission

Packaging possibilities:

- ESD box
- Cardboard box
- Tape & Reel

For samples please contact directly

Environmentally friendly solution:

- RoHS and REACH compliant

Table 1.Electrical parameters

Parameter description	Parameter	Comment
Circuits	Circuit terminals are shown in Figure 2	-
Primary inductance	$L_{P\text{-}Prim\_IN\text{-}Prim\_OUT}$ = 59 µH ± 11% (Measured on primary winding, secondary winding open)	@0.1 A, 10 kHz, sinus current
Secondary inductacne	$L_{P\text{-}Sec\_IN\text{-}Sec\_OUT}$ = 59 µH ± 11% (Measured on secondary winding, primary winding open)	@0.1 A, 10 kHz, sinus current
Inductance at rated current	$L_{P\text{-}Prim\_IN\text{-}Prim\_OUT}$ ≥ 52 µH @I_{DC} = 0.5 A	@0.1 V, 10 kHz, sinus current
Leakage inductance	$L_{S\text{-}Prim\_IN\text{-}Prim\_OUT}$ ≤ 0.9 µH (Measured on primary winding, secondary winding shorted)	@0.1 V, 100 kHz, sinus voltage
Rated voltage	$V_{Prim\_IN\text{-}Prim\_OUT}$, $V_{Sec\_IN\text{-}Sec\_OUT}$ = 3 V	Nominal voltage
Rated RMS current	$I_{Prim\_IN\text{-}Prim\_OUT}$, $I_{Sec\_IN\text{-}Sec\_OUT}$ = 0.1 A	Nominal current
Turns ratio	Prim : Sec = 1 : 1 ± 2%	@0.1 V, 10 kHz, sinus current
Winding dc resistance	$R_{Prim\_IN\text{-}Prim\_OUT}$, $R_{Sec\_IN\text{-}Sec\_OUT}$ ≤ 150 mΩ (@20°C)	given values are valid for 20°C (resistance temperature coefficient 0.00393 1/K)
Primary to secondary capacitance	C_M ≤ 120 pF	@0.1 V, 1 kHz & 100 kHz
Rated ambient temperature	T_a = -40 °C to +85 °C	-
Insulation class	B (130 °C)	Customer should provide power de-rating to prevent exceeding of 110 °C on windings surface
Dielectric strength	Primary – Secondary 1000 V_{ACRMS} @50 Hz, 1 sec.	-
Cooling	Natural convection	-
Partial Discharge	Between primary and secondary: Partial discharge inception voltage (V_{PDinc}): 650 Vp Partial discharge extinction voltage (V_{PDext}): 550 Vp Partial discharge < 10 pC	-

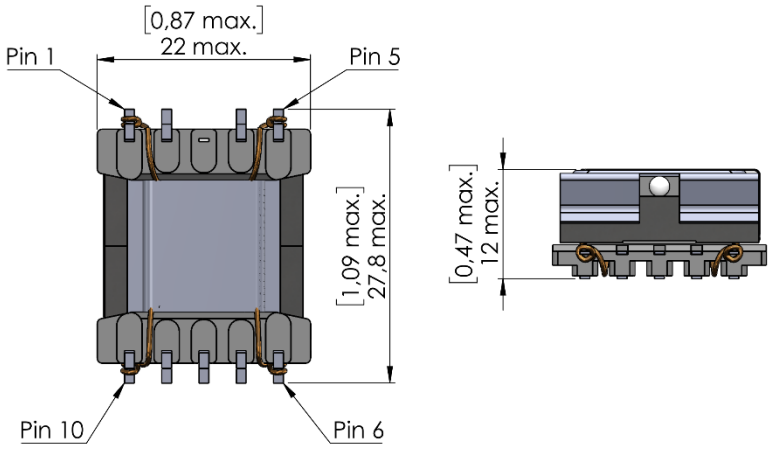

Figure 3. Transformer view bottom and side (dimensions in mm [inch]).

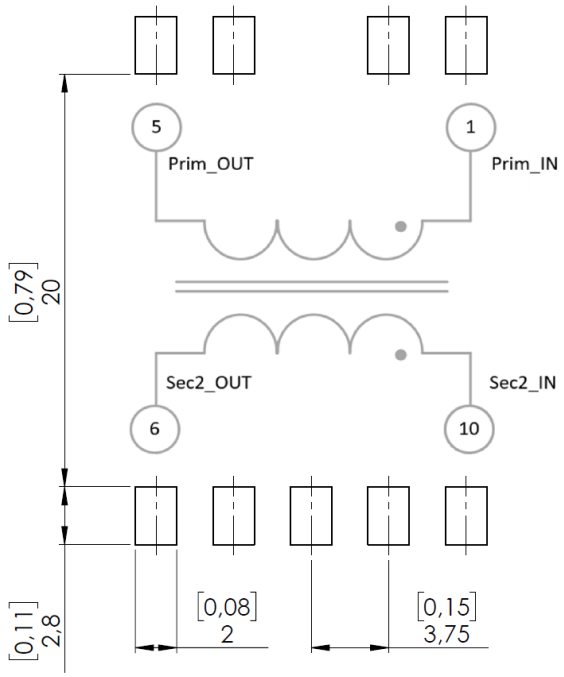

Figure 4. Transformer footprint (dimensions in mm [inch]).

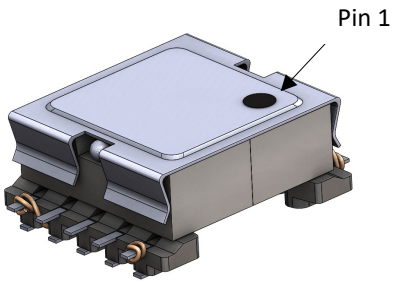

Figure 5. Product Pin 1 marking.