



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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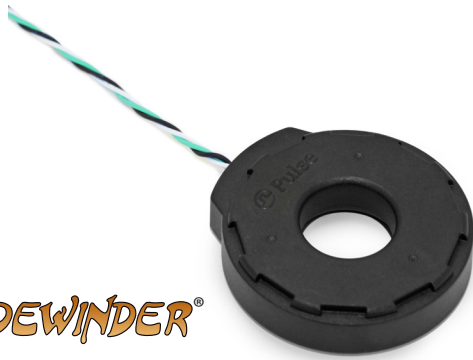
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# SIDEWINDER® - CURRENT SENSOR

PA3209NL Series



- ⚙️ Dynamic Range from 0.1 to 1000 Amps
- ⚙️ Meets ANSI C12.20 Accuracy Class 0.2
- ⚙️ Meets IEC 62053-21 class 1
- ⚙️ Phase error < 0.05 degree
- ⚙️ Bandwidth 100KHz
- ⚙️ Immune to external AC magnetic fields
- ⚙️ Immune to DC current & magnetic field
- ⚙️ Low temperature coefficient
- ⚙️ Patent pending

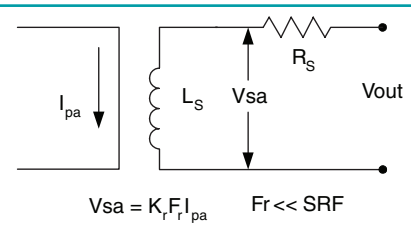
Electrical Specifications at 25°C Temp Range -40°C to 130°C							Actual Secondary Output Voltage (V <sub>sa</sub> )	
Part Number	Accuracy Class <sup>3</sup>	Kr <sup>4</sup> (μΩ/Hz typ)	Pri-Sec Isolation (V min)	L <sub>s</sub> <sup>5</sup> (mH typ)	R <sub>s</sub> <sup>6</sup> (Ohms typ)	SRF <sup>7</sup> (Hz typ)	@ 50 Hz (μV/A) <sup>1</sup>	@ 60 Hz (μV/A) <sup>1</sup>
PA3209NL	0.2	9.26	6,000	3.0	96.0	80,000	463	556

EQUATIONS:  $V_{sa} = K_r F_r I_{pa}$   
 $F_r \ll SRF$

**NOTES:**

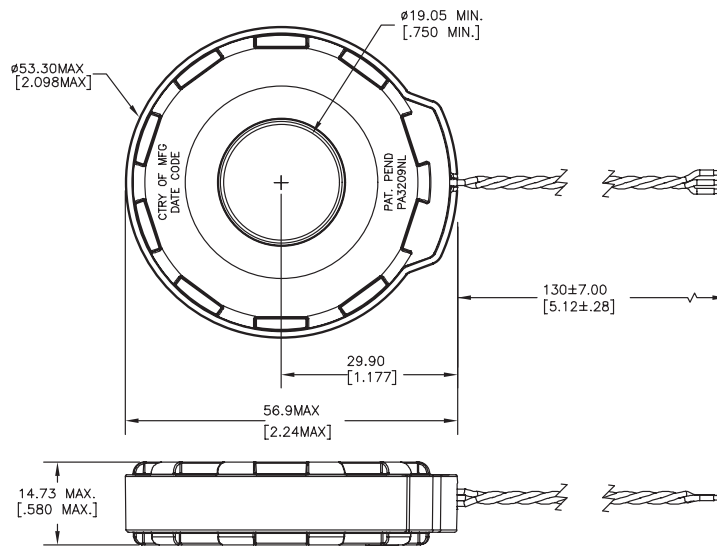
1. Output Voltage is proportional to the derivative (di/dt) of the input current based on the Rogowski Coil principle.
2. All current and voltages assumed to be sinusoidal waveforms at F<sub>r</sub>, the constant rated frequency in Hz, measured as RMS values.
3. Accuracy Class per IEC 60044-1 Table 11 where:
  - Percentage current error = ((K<sub>r</sub>•F<sub>r</sub>•I<sub>pa</sub> - V<sub>out</sub>) / V<sub>out</sub>) x 100
  - Phase displacement = the difference between the primary current (I<sub>pa</sub>) phase vector and the (secondary voltage (V<sub>out</sub>) phase vector minus 90 degrees), in minutes
4. K<sub>r</sub> = Rated transformation constant
5. L<sub>s</sub> = Secondary winding inductance
6. R<sub>s</sub> = Secondary winding resistance
7. SRF = Self Resonate Frequency
8. I<sub>pa</sub> = Actual primary current
9. V<sub>sa</sub> = Actual secondary output voltage

### Low Frequency Equivalent Circuit



### Mechanical

#### PA3209NL



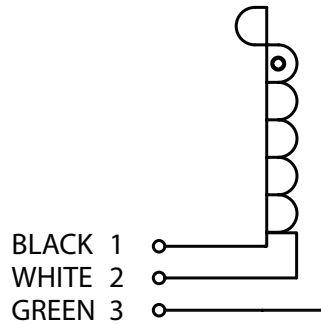
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PA3209NL Series



## Schematic

PA3209NL



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