Vitec Electronics Corporation

Current/Voltage Sensing Products

- Current Sense Inductors
- Split Core Current Sense Inductors
- Current Sense Transformers
- SMD Current Sensing Products
WELCOME TO VITEC ELECTRONICS

Founded in 1986, Vitec is a leading manufacturer of transformer products and magnetic components for the electronics industry. With headquarters in Carlsbad, California and manufacturing facilities in Shanghai, China, Vitec has a wide range of capabilities available to its customers, including support for JIT and Dock-to-Stock programs. Vitec is committed to quality through continuous, careful attention to material management, product design, application engineering and reliable, consistent manufacturing processes. Put our field-proven expertise to work on your next project.

Vitec’s operations include authorized distributorships and representative sales offices worldwide. Sales management in the continental United States, Puerto Rico, Canada, Mexico, Brazil, and Europe are conducted from corporate headquarters in Carlsbad, California, and for all of Asia from Shanghai, China.

DESIGN & DEVELOPMENT

Vitec’s comprehensive, in-house tooling capability — including jigs, fixtures and automation equipment — combined with the use of innovative materials such as iron powder, ferrite, MPP and Sandust, ensure the most cost-effective solution to your yield and performance objectives. Our product capability ranges from high-volume standard surface-mount and thru-hole inductors to short-run, high-power custom transformers. Our highly trained and dedicated engineering, technical and customer-support staff will oversee your project from design and prototyping through production and delivery, ensuring the highest standards of product performance, consistency and reliability.
# Current/Voltage Sensing Products

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<td>57P</td>
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</table>
FEATURES

- Frequency Range of 50Hz to 120Hz.
- Fully Encapsulated Construction
- Rated for 25 to 480 Amps RMS Sense Current
- Operating Temperature Range of -40°C to 125°C
- Primary to Secondary Isolation of 3500 VAC
- Manufactured to UL Recognized 130 Insulation System (UL File # E107307)
- Materials Meets Flammability Requirement of UL94V-0

APPLICATIONS

Vitec Electronics' Current Sense Inductors shown on this data sheet are the secondary portion of a current transformer created by the user placing a turn or more through the center hole of the package. The current flow through the turn or turns installed by the user are detected by Vitec's inductor and is converted to proportional but smaller current that is then used in the following applications:

- Overload Sensing
- Ground Fault Detection
- Metering
- Analog to Digital Circuitry
- Power Limiting Controllers in Industrial Applications

Typical Application Circuit
TYPE 57P

CURRENT SENSE INDUCTORS

PACKAGE 57P1831

PACKAGE 57P1832 - 57P1837

SCHEMATIC

Dimensions: Inches/mm.
Tolerances: +/- 0.010"/0,25mm unless otherwise noted

ELECTRICAL CHARACTERISTICS @ +25°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Lp **</th>
<th>Turns</th>
<th>DCR</th>
<th>Rated Current *</th>
<th>R_L</th>
<th>Volt per Ampere</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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<tbody>
<tr>
<td></td>
<td>H</td>
<td>#</td>
<td>Ohm</td>
<td>Amp</td>
<td>Ohm</td>
<td>Volts</td>
<td>MAX</td>
<td>MAX</td>
<td>MAX</td>
<td>MAX</td>
<td>NOM</td>
<td>MIN</td>
<td>NOM</td>
</tr>
<tr>
<td>Classic</td>
<td>MIN</td>
<td>+/- 1%</td>
<td>MAX</td>
<td>MAX</td>
<td>MAX</td>
<td>NOM</td>
<td></td>
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<td>2.00</td>
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<td>0.500</td>
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<td>1.150</td>
<td>0.450</td>
<td>0.300</td>
<td>0.350</td>
<td>0.600</td>
<td>0.032</td>
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<td>1.190</td>
<td>1.200</td>
<td>0.575</td>
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<td>20.00</td>
<td>180.00</td>
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<td>0.036</td>
<td>1.375</td>
<td>1.375</td>
<td>0.575</td>
<td>0.400</td>
<td>0.540</td>
<td>1.000</td>
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<td>4.20</td>
<td>1000</td>
<td>18.00</td>
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<td>1.550</td>
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<td>0.400</td>
<td>0.570</td>
<td>1.200</td>
<td>0.032</td>
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<td>57P1836</td>
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<td>1.750</td>
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<td>10.00</td>
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<td>0.500</td>
<td>0.880</td>
<td>1.800</td>
<td>0.040</td>
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</table>

Notes: * Rated current is for <1% linearity.
** Tested @ 120 Hz, 1 Vrms.

Variations to standard product offering is also available. Please contact factory.
TYPE 57P

CURRENT SENSE INDUCTORS

57P1831 LINEARITY GRAPH
Input vs. Output Current with 72 Ohms Load

57P1832 LINEARITY GRAPH
Input vs. Output Current with 58.3 Ohms Load

57P1833 LINEARITY GRAPH
Input vs. Output Current with 43.3 Ohms Load

57P1834 LINEARITY GRAPH
Input vs. Output Current with 36.1 Ohms Load

57P1835 LINEARITY GRAPH
Input vs. Output Current with 36.0 Ohms Load

57P1836 LINEARITY GRAPH
Input vs. Output Current with 33.3 Ohms Load

Vitec Electronics Corporation
www.VitecCorp.com
Vitec Electronics Corporation, founded in 1986, is a worldwide leader in the design, manufacture and sale of magnetic solutions. Vitec's market focus includes the power, power conditioning, telecom, networking, communications and computing. Vitec has also established strong alliances with chip manufacturers whereby magnetic solutions are designed in conjunction with unique silicon requirements and are offered as reference designs by the chip companies.

With its Corporate Headquarters and Research & Development center located in Carlsbad, California, and its state of the art manufacturing facility and material sourcing in China, Vitec is uniquely positioned to supply the latest technology at the lowest cost. Vitec offers both standard and custom product design capabilities with all of its facilities being ISO certified.

VITEC Electronics empowers each of its employees by providing a business environment that encourages a commitment to excellence, a sense of ownership and personal accountability to all Vitec Customers.

Competitive Pricing, Quality Products, and On Time Deliveries are expected from today's World Class Magnetics Suppliers. The high standards of today's customer are strengthening the dedication and commitment of VITEC Electronics to provide Total Customer Service.
FEATURES

- Designed for use with switching power supplies.
- Frequency range above 50 KHz.
- Low cost epoxy encapsulated construction.
- Rated 20 Amp peak sense current.
- Materials meet flammability requirement of UL94V-0.
- Manufactured to UL recognized 130 insulation system. UL file# E107307.
- RoHS compliant version available.

**Add an "R" to the part number after "P" for the RoHS compliant version (i.e. 57PR1987 is the RoHS compliant version of 57P1687).**

Notes:

- *For Voltage Across Terminating Resistance of 1 Volt per Ampere*
- **For Center Tapped Units, Terminating Resistance for Each Half of Winding is 1/2 the Listed Value**
- Test Frequency 10 KHz
- Request TUV Certificates When Ordering
TYPE 57P

Current Sense Transformers

FEATURES
- Designed for use with switching power supplies.
- Reinforced insulation per IEC 380.
- Frequency range above 20KHz.
- Epoxy encapsulated construction.
- 3750 Vrms primary to secondary Hipot.
- Materials meet requirement of UL94V-0.
- Manufactured to UL recognized 130 insulation system. UL file# E107307.
- Bauart approval, license # 9306 18725 007.

DRAWING

SCHEMATIC

ELECTRICAL CHARACTERISTICS @ +25°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Secondary Turns</th>
<th>Secondary Inductance</th>
<th>Secondary Inductance Test Volts</th>
<th>Secondary DCR</th>
<th>Secondary Terminating Resistance*</th>
<th>Primary Unipolar Rating</th>
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<tr>
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<td>50</td>
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<td>0.70</td>
<td>50</td>
<td>150</td>
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<td>3.00</td>
<td>11.00</td>
<td>300</td>
<td>900</td>
</tr>
</tbody>
</table>

Add an "R" to the part number after "P" for the RoHS compliant version (i.e. 57PR3556 is the RoHS compliant version of 57P3556).

Notes:
* For voltage across terminating resistance of 1 Volt per Ampere
* Request TUV certificate when ordering.
* Test frequency 10KHz.
FEATURES
- Designed for use with switching power supplies.
- 1 or 2 turn primary winding.
- Reinforced insulation per IEC 380.
- Frequency range 20KHz plus.
- Epoxy encapsulated construction.
- 3750 Vrms primary to secondary Hipot.
- Materials meet flammability requirement of UL94V-0.
- Manufactured to UL recognized 130° or higher insulation system. UL file# E107307.
- TUV approval, license # 9306 18725 007.

ELECTRICAL CHARACTERISTICS @ +25°C

<table>
<thead>
<tr>
<th>Part Number (1T Primary)</th>
<th>Part Number (2T Primary)</th>
<th>Secondary Turns</th>
<th>Secondary Inductance</th>
<th>Secondary Inductance Test Volts</th>
<th>Secondary DCR</th>
<th>Secondary Terminating Resistance*</th>
<th>Primary Unipolar Rating</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>57P3586</td>
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<td>50</td>
<td>50</td>
<td>0.50</td>
<td>0.50</td>
<td>0.70</td>
<td>50</td>
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<td>20.0</td>
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<td>57P3617</td>
<td>57P3617</td>
<td>50</td>
<td>5.0</td>
<td>0.50</td>
<td>0.70</td>
<td>50 **</td>
<td>150</td>
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<td>57P3618</td>
<td>57P3618</td>
<td>100</td>
<td>20.0</td>
<td>1.00</td>
<td>1.40</td>
<td>100 **</td>
<td>300</td>
</tr>
<tr>
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<td>57P3619</td>
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<td>80.0</td>
<td>2.00</td>
<td>4.50</td>
<td>200 **</td>
<td>600</td>
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<tr>
<td>57P3620</td>
<td>57P3620</td>
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<td>180.0</td>
<td>3.00</td>
<td>11.00</td>
<td>300 **</td>
<td>900</td>
</tr>
</tbody>
</table>

Add an "R" to the part number after "P" for the RoHS compliant version (i.e. 57PR3586 is the RoHS compliant version of 57P3586).

Notes:
* For voltage across terminating resistance of 1 Volt per Ampere
** For center-tapped units, terminating resistance for each half of winding is 1/2 the listed value.
# Test frequency 10KHz.
TYPE 57P

Current Sense Inductors and Transformers

FEATURES

- Designed for frequency range from 200KHz to 500KHz.
- 1250 Vrms Isolation.
- 20 Amp Peak Sense Current.
- Materials meet flammability requirement of UL94V-0.

STYLE 1 - INDUCTOR

STYLE 2 - TRANSFORMER

ELECTRICAL CHARACTERISTICS @ +25°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Turns</th>
<th>Inductance Secondary</th>
<th>DCR Primary</th>
<th>DCR Secondary</th>
<th>Terminating Resistance*</th>
<th>Vs</th>
<th>Style</th>
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<tr>
<td></td>
<td></td>
<td>uH</td>
<td>Ohm MIN</td>
<td>Ohm MAX</td>
<td>Ohm TYP</td>
<td>mV</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>±2%</td>
<td>MIN</td>
<td>MAX</td>
<td>TYP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57P1676</td>
<td>10</td>
<td>150</td>
<td>-</td>
<td>0.055</td>
<td>1.50</td>
<td>30</td>
<td>1</td>
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<tr>
<td>57P1677</td>
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<td>600</td>
<td>-</td>
<td>0.097</td>
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<td>1</td>
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<td>57P1678</td>
<td>50</td>
<td>4000</td>
<td>-</td>
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<td>150</td>
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Add an “R” to the part number after “P” for the RoHS compliant version (i.e. 57PR1676 is the RoHS compliant version of 57P1676).

Notes: * For Voltage Across Terminating Resistance of 0.15 Volt per Ampere
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TYPE VC

Surface Mount Current Sense Transformers

FEATURES

- Designed for Switching Power Supplies.
- Low profile self-leaded design.
- Ideal for IR and vapor reflow soldering.
- Operating temperature: -30°C to +130°C.
- Materials meet flammability requirement of UL94V-0.

ELECTRICAL CHARACTERISTICS @ +25°C

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<th>Part Number</th>
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<th>Rated Current</th>
<th>LP (Pin 5-6)</th>
<th>RT</th>
<th>Droop</th>
<th>DCR (Pin 5-6)</th>
<th>Dielectric Strength</th>
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<td></td>
<td></td>
<td>Ns</td>
<td>Amps</td>
<td>mH</td>
<td>Ohm</td>
<td>%</td>
<td>Ohm</td>
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<td>16.3</td>
<td>14.80</td>
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<td>0.93</td>
<td>500</td>
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<td>VC3702</td>
<td>200</td>
<td>16.4</td>
<td>59.20*</td>
<td>100</td>
<td>0.30</td>
<td>3.90</td>
<td>500</td>
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</table>

Add an "R" to the part number after "VC" for the RoHS compliant version (i.e. VCR3700 is the RoHS compliant version of VC3700).

Notes: Inductance measured at 10KHz, 20mV.
FEATURES

- Operating temperature from -40°C to 155°C.
- Manufactured to UL recognized 155°C insulation system.
- Materials meet flammability requirements for UL 94V-0.
- Frequency range from 50 KHz to 500 KHz.

ELECTRICAL CHARACTERISTICS @ +25°C

<table>
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<th>Secondary Inductance (a)</th>
<th>Turns Ratio</th>
<th>Primary DCR</th>
<th>Secondary DCR</th>
<th>Hipot (Pri-Sec)</th>
<th>Rated Current (Primary)</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>mOhm</td>
<td>mOhm</td>
<td>68 Hz 2 Sec</td>
<td>A RMS</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>MAX</td>
<td>MAX</td>
<td>@ 40°C Trise</td>
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<td>57P93-020</td>
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<td>20:1</td>
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<tr>
<td>57P93-030</td>
<td>120 ±30%</td>
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<td>1.45</td>
<td>500</td>
<td>35</td>
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<tr>
<td>57P93-040</td>
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<td>1.95</td>
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<td>35</td>
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<td>2.90</td>
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<td>57P93-070</td>
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<td>35</td>
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<td>120 ±30%</td>
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<td>0.28</td>
<td>5.00</td>
<td>500</td>
<td>35</td>
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<td>57P93-125</td>
<td>120 ±30%</td>
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<td>6.00</td>
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<td>35</td>
</tr>
<tr>
<td>57P93-200</td>
<td>120 ±30%</td>
<td>200:1</td>
<td>0.28</td>
<td>10.00</td>
<td>500</td>
<td>35</td>
</tr>
</tbody>
</table>

Add an "R" to the part number after "P" for the RoHS compliant version (i.e. 57PR93-020 is the RoHS compliant version of 57P93-020).

Notes:
(a) Tested at 100 KHz, 0.1 VRMS.

To determine maximum operation parameters for unipolar current, use the following formulas:
1. Terminating resistor: \( R_t = \frac{N_s \times V_{ref}}{N_p \times I_{ppk}} \)
2. Maximum flux density (Tesla): \( B_{pk} = \frac{V_{ref} \times \mu_{Cy,max}}{N \times 12.42E-06 \times \text{Freq}} \)
   Recommended \( B_{pk,\text{max}} = 0.200 \text{ T} \) (2000 G)
TYPE 57P94

Current Sense Transformers

FEATURES

- Operating temperature from -40°C to 125°C.
- Manufactured to UL recognized 155°C insulation system.
- Materials meet flammability requirements for UL 94V-0.
- Frequency range from 50 KHz to 1 MHz.

ELECTRICAL CHARACTERISTICS @ +25°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Secondary Inductance (a)</th>
<th>Turns Ratio</th>
<th>Primary DCR</th>
<th>Secondary DCR</th>
<th>Hipot (Pri-Sec)</th>
<th>Rated Current (Primary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classic</td>
<td>2.45 [±25%]</td>
<td>50:1</td>
<td>0.00215</td>
<td>0.80</td>
<td>1500</td>
<td>8</td>
</tr>
<tr>
<td>57PR94-050</td>
<td>4.80 [±25%]</td>
<td>70:1</td>
<td>0.00215</td>
<td>1.10</td>
<td>1500</td>
<td>8</td>
</tr>
<tr>
<td>57PR94-070</td>
<td>6.27 [±25%]</td>
<td>80:1</td>
<td>0.00215</td>
<td>1.30</td>
<td>1500</td>
<td>8</td>
</tr>
<tr>
<td>57PR94-100</td>
<td>9.80 [±25%]</td>
<td>100:1</td>
<td>0.00215</td>
<td>1.60</td>
<td>1500</td>
<td>8</td>
</tr>
<tr>
<td>57PR94-125</td>
<td>15.31 [±25%]</td>
<td>125:1</td>
<td>0.00215</td>
<td>2.13</td>
<td>1500</td>
<td>8</td>
</tr>
</tbody>
</table>

Add an "R" to the part number after "P" for the RoHS compliant version (i.e. 57PR94-050 is the RoHS compliant version of 57P94-050).

Notes:

(a) Tested at 10 KHz, 0.1 VRMS.

To determine maximum operation parameters for unipolar current, use the following formulas:
1. Terminating resistor: \( R_t = \left(\frac{N_s \times V_{ref}}{N_p \times I_{pk}}\right) \)
2. Maximum flux density (Teslas): \( B_{pk} = \frac{(V_{ref} \times DuCy_{max})}{(N_s \times 2.06E-6 \times Freq)} \)

Recommended \( B_{pk\_max} = 0.200 \) T (2000 G)
**TYPE 57P95**

**Current Sense Transformers**

**FEATURES**
- Operating temperature from -40°C to 125°C.
- Manufactured to UL recognized 130°C insulation system.
- Materials meet flammability requirements for UL 94V-0.
- Frequency range from 50 KHz to 1 MHz.
- RoHS compliant version available.

**ELECTRICAL CHARACTERISTICS @ 25°C**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Secondary Inductance $(1)$</th>
<th>Turns Ratio</th>
<th>Primary DCR</th>
<th>Secondary DCR</th>
<th>Hipot (Pri-Sec)</th>
<th>Rated Current (Primary)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mH</td>
<td>Ns: Np</td>
<td>mOhm</td>
<td>Ohm</td>
<td>VRMS 60 Hz 2 SEC</td>
<td>A RMS 50°C TRise</td>
</tr>
<tr>
<td>Classic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57P95-020</td>
<td>0.075</td>
<td>20:1</td>
<td>0.75</td>
<td>0.350</td>
<td>500</td>
<td>18</td>
</tr>
<tr>
<td>57P95-030</td>
<td>0.160</td>
<td>30:1</td>
<td>0.75</td>
<td>0.500</td>
<td>500</td>
<td>18</td>
</tr>
<tr>
<td>57P95-040</td>
<td>0.300</td>
<td>40:1</td>
<td>0.75</td>
<td>0.850</td>
<td>500</td>
<td>18</td>
</tr>
<tr>
<td>57P95-050</td>
<td>0.480</td>
<td>50:1</td>
<td>0.75</td>
<td>1.300</td>
<td>500</td>
<td>18</td>
</tr>
<tr>
<td>57P95-060</td>
<td>0.700</td>
<td>60:1</td>
<td>0.75</td>
<td>1.600</td>
<td>500</td>
<td>18</td>
</tr>
<tr>
<td>57P95-070</td>
<td>0.980</td>
<td>70:1</td>
<td>0.75</td>
<td>3.200</td>
<td>500</td>
<td>18</td>
</tr>
<tr>
<td>57P95-100</td>
<td>1.900</td>
<td>100:1</td>
<td>0.75</td>
<td>5.400</td>
<td>500</td>
<td>18</td>
</tr>
<tr>
<td>57P95-125</td>
<td>3.000</td>
<td>125:1</td>
<td>0.75</td>
<td>6.700</td>
<td>500</td>
<td>18</td>
</tr>
<tr>
<td>57P95-150</td>
<td>4.000</td>
<td>150:1</td>
<td>0.75</td>
<td>8.200</td>
<td>500</td>
<td>18</td>
</tr>
</tbody>
</table>

Add an "R" to the part number after "P" for the RoHS compliant version (i.e. 57PR95-020 is the RoHS compliant version of 57P95-020).

Notes:
1. Tested at 100 KHz, 0.1 VRMS.
2. Terminating resistor: $R_t = (N_s x V_{ref}) / (N_p x I_{ppk})$.
3. Maximum flux density (Teslas): $B_{pk} = (V_{ref} x D_{Cy_{max}}) / (N_s x 2.66E-6 x Freq)$. Recommended $B_{pk_{max}} = 0.200$ T [2000 G].

---

**Notes:**
- "Classic" parts are marked with the letter P followed by the suffix, and "RoHS" compliant parts are marked with the letter R followed by the suffix.
- All dimensions given in inches [mm]. Tolerances unless otherwise specified: ±0.01 [0.25]; ±0.005 [0.13] Angular: ±1°.
### FEATURES
- Operating temperature from -40°C to 130°C.
- Manufactured to UL recognized 130°C insulation system.
- Materials meet flammability requirements for UL 94V-0.
- Frequency range from 10 KHz to 300 KHz.
- RoHS compliant version available.

### ELECTRICAL CHARACTERISTICS @ 25°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Secondary Inductance(1)</th>
<th>Turns Ratio</th>
<th>Primary DCR</th>
<th>Secondary DCR</th>
<th>Hipot (Pri-Sec)</th>
<th>Rated Current (Primary)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mH</td>
<td>Ns:Np</td>
<td>mOhm</td>
<td>Ohm</td>
<td>VRMS</td>
<td>A RMS</td>
</tr>
<tr>
<td>Classic</td>
<td></td>
<td>+/- 30%</td>
<td>+/- 1%</td>
<td>MAX</td>
<td>MAX</td>
<td>60 Hz 2 SEC</td>
</tr>
<tr>
<td>57P96-050</td>
<td>7.40</td>
<td>50:1</td>
<td>0.20</td>
<td>0.375</td>
<td>3750</td>
<td>60</td>
</tr>
<tr>
<td>57P96-100</td>
<td>29.60</td>
<td>100:1</td>
<td>0.20</td>
<td>1.150</td>
<td>3750</td>
<td>60</td>
</tr>
<tr>
<td>57P96-200</td>
<td>118.00</td>
<td>200:1</td>
<td>0.20</td>
<td>4.000</td>
<td>3750</td>
<td>60</td>
</tr>
<tr>
<td>57P96-300</td>
<td>267.00</td>
<td>300:1</td>
<td>0.20</td>
<td>7.000</td>
<td>3750</td>
<td>60</td>
</tr>
<tr>
<td>57P96-400</td>
<td>474.00</td>
<td>400:1</td>
<td>0.20</td>
<td>11.200</td>
<td>3750</td>
<td>60</td>
</tr>
</tbody>
</table>

Add an "R" to the part number after "P" for the RoHS compliant version (i.e. 57PR96-050 is the RoHS compliant version of 57P96-050).

Notes:
1. Tested at 10 KHz, 0.1 VRMS.
2. To determine maximum operation parameters for unipolar current, use the following formulas:
   1. Terminating resistor: \( R_t = \frac{(N_x \times V_{ref})}{(N_p \times l_{ppk})} \)
   2. Maximum flux density (Teslas): \( B_{pk} = \frac{(V_{ref} \times Du_{Cy_{max}})}{(N_s \times 1.488E-5 \times \text{Freq})} \)
   Recommended \( B_{pk_{max}} = 0.200 \ T \) [2000 G]

All dimensions given in inches [mm]. Tolerances unless otherwise specified: \( XX \pm 0.01 \) [\( XX \pm 0.25 \)]; \( XXX \pm 0.005 \) [\( XX \pm 0.13 \)]; Angular: \( \pm 1° \)
TYPE 57P97

Current Sense Transformers

FEATURES
- Operating temperature from -40°C to 130°C.
- Manufactured to UL recognized 130°C insulation system.
- Materials meet flammability requirements for UL 94V-0.
- Frequency range from 10 KHz to 300 KHz.
- RoHS compliant version available.

ELECTRICAL CHARACTERISTICS @ 25°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Secondary Inductance(1)</th>
<th>Turns Ratio</th>
<th>Primary DCR</th>
<th>Secondary DCR</th>
<th>Hipot (Pri-Sec)</th>
<th>Rated Current (Primary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classic</td>
<td>0.625 [15.87]</td>
<td>118</td>
<td>200:1</td>
<td>0.10</td>
<td>66 Hz 2 SEC</td>
<td>4800</td>
</tr>
<tr>
<td>57PR97-200</td>
<td>0.129 [3.26]</td>
<td>0.032</td>
<td>2 PLS</td>
<td>0.625 [15.87]</td>
<td>0.039 [0.99]</td>
<td>0.625 [15.87]</td>
</tr>
<tr>
<td>RoHS</td>
<td>0.670 [17.02]</td>
<td>0.080 [22.35]</td>
<td>MAX</td>
<td>0.125 ± 0.020 [3.17 ± 0.51]</td>
<td>MAX</td>
<td>MAX</td>
</tr>
<tr>
<td>57PR97-200</td>
<td>0.780 [19.81]</td>
<td>MAX</td>
<td></td>
<td>0.125 ± 0.020 [3.17 ± 0.51]</td>
<td>MAX</td>
<td>MAX</td>
</tr>
</tbody>
</table>

Add an "R" to the part number after "P" for the RoHS compliant version (i.e. 57PR97-200 is the RoHS compliant version of 57P97-200).

Notes:
(1) Tested at 10 KHz, 0.1 VRMS.

To determine maximum operation parameters for unipolar current, use the following formulas:
1. Terminating resistor: Rt = (Ns x Vref) / (Np x lpk)
2. Maximum flux density (Teslas): Bpk = (Vref x DuCy_max) / (Ns x 1.488E-5 x Freq)
   Recommended Bpk_max = 0.200 T [2000 G]

All dimensions given in inches [mm]. Tolerances unless otherwise specified: XXX±0.01 [XX±0.25]; XXX±0.005 [XX±0.13] Angular: ±1°
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## TYPE 57P

### Split-Core Current Sense Inductors

**FEATURES**

- Compact and low cost locking hinge design.
- Manufactured to UL recognized 105°C insulation system.
- Linear performance over a wide range of current and loads.
- RoHS compliant version available.

### DRAWING

![Drawing of Split-Core Current Sense Inductors](image)

### SCHEMATIC

![Schematic of Split-Core Current Sense Inductors](image)

### ELECTRICAL CHARACTERISTICS @ +25°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Turns</th>
<th>Lp</th>
<th>DCR</th>
<th>Frequency</th>
<th>Rated Current @ 3PC Trise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57P1673</td>
<td>3000</td>
<td>20</td>
<td>560</td>
<td>50/60</td>
<td>60</td>
</tr>
<tr>
<td>57PR1673</td>
<td>3000</td>
<td>20</td>
<td>560</td>
<td>50/60</td>
<td>60</td>
</tr>
</tbody>
</table>

**Notes:** Add an "R" to the part number after "P" for the RoHS compliant version (i.e. 57PR1673 is the RoHS compliant version of 57P1673).

### LINEARITY GRAPH

**Input vs. Output Current (RL=75 Ohms)**

![Linearity Graph](image)
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INDUSTRIES
• Monitoring
• Metering
• Computing
• Industrial
• Telecom
• Power Protection
• Consumer
• Medical
• Networking
• Audio/Visual
• Test & Measurement
• Automation

PRODUCTS/SYSTEMS
• Power Meters
• Power Distribution
• Test Equipment
• HVAC
• Motion Control
• PCs
• Welders
• Back-up
• UPS
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- International Rectifiers
- Primarion
- AMD
- Intersil
- Texas Instruments
- Intel
- Linear
- Technology
- Volterra

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Competitive Pricing, Quality Products, and On Time Deliveries are expected from today's World Class Magnetics Suppliers. The high standards of today's customer are strengthening the dedication and commitment of VITEC Electronics to provide Total Customer Service.

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