

**Features:**

- Provides magnetic shielding against radiation
- Designed to provide higher current to meet portable computer requirements
- LPS2618 uses ceramic base with gold plating
- LPS5137 / 7360 uses LCP plastic base
- Contact Stackpole for additional inductance values
- Find environmental information and packaging specification in related supplemental documents
- 100% RoHS compliant and lead free without exemption
- Halogen free
- REACH compliant



**Applications:**

- GPS and PDAs
- Personal computers
- DC/DC converters

**Inductance and Current ranges**

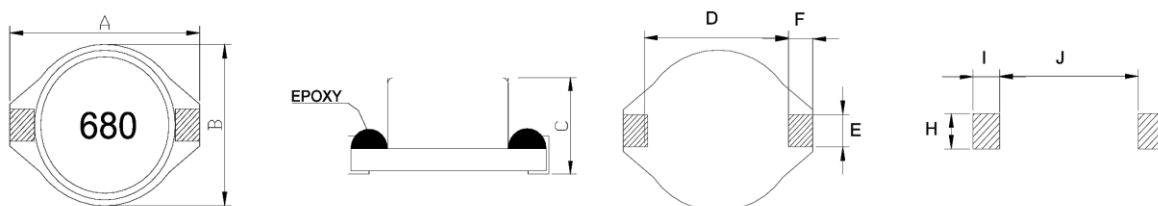
| Type    | Inductance (μH) | Current Range (A) |
|---------|-----------------|-------------------|
| LPS2618 | 1 ~ 10000       | 1.4 ~ 0.02        |
| LPS5137 | 1 ~ 1000        | 5.6 ~ 0.32        |
| LPS7360 | 1 ~ 1000        | 20 ~ 0.8          |

Electrical specification at 25°C

**Performance Characteristics**

| Item                             | Specification   |
|----------------------------------|---|
| Saturation Rated Current (IDC)   | The DC current when the inductance becomes 10% (1608 becomes 30%) lower than its initial value. (Ta = 25°C) |
| Temperature Rise Current (I rms) | The actual current when temperature of coil becomes Δ 40°C. (Ta = 25°C)                                     |
| Operating Temperature Range      | -40 ~ 125°C   |

**Mechanical Specifications**



| Type / Code | A max.         | B max.         | C max.        | D              | E             | F             | H             | I             | J              | Unit         |
|-------------|----------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|----------------|--------------|
| LPS2618     | 0.260<br>6.60  | 0.175<br>4.45  | 0.115<br>2.92 | 0.170<br>4.32  | 0.050<br>1.27 | 0.040<br>1.02 | 0.140<br>3.56 | 0.055<br>1.40 | 0.160<br>4.06  | inches<br>mm |
| LPS5137     | 0.510<br>12.95 | 0.370<br>9.40  | 0.205<br>5.21 | 0.300<br>7.62  | 0.100<br>2.54 | 0.100<br>2.54 | 0.110<br>2.79 | 0.115<br>2.92 | 0.290<br>7.37  | inches<br>mm |
| LPS7360     | 0.730<br>18.54 | 0.600<br>15.24 | 0.300<br>7.62 | 0.500<br>12.70 | 0.100<br>2.54 | 0.100<br>2.54 | 0.110<br>2.79 | 0.115<br>2.92 | 0.490<br>12.45 | inches<br>mm |

**Electrical Specifications – LPS2618**

| Type / Code  | L (μH) | Tolerance | Test Condition |                | DCR (Ω) max. | SRF ref (MHz) | Q min. | IDC (A) max. |       |
|--------------|--------|-----------|----------------|----------------|--------------|---------------|--------|--------------|-------|
|              |        |           | L              | Q              |              |               |        | I sat        | I rms |
| LPS2618MT1R0 | 1      | 20%       | 100 KHz, 0.1 V | 200 KHz, 0.1 V | 0.04         | 250           | 30     | 1.4          | 3     |
| LPS2618MT1R5 | 1.5    | 20%       | 100 KHz, 0.1 V | 200 KHz, 0.1 V | 0.045        | 125           | 30     | 0.93         | 2.3   |
| LPS2618MT2R2 | 2.2    | 20%       | 100 KHz, 0.1 V | 200 KHz, 0.1 V | 0.05         | 120           | 40     | 0.92         | 1.8   |
| LPS2618MT3R3 | 3.3    | 20%       | 100 KHz, 0.1 V | 200 KHz, 0.1 V | 0.055        | 120           | 40     | 0.75         | 1.6   |
| LPS2618MT4R7 | 4.7    | 20%       | 100 KHz, 0.1 V | 200 KHz, 0.1 V | 0.06         | 105           | 40     | 0.58         | 1.4   |
| LPS2618MT6R8 | 6.8    | 20%       | 100 KHz, 0.1 V | 200 KHz, 0.1 V | 0.065        | 50            | 40     | 0.58         | 1.2   |
| LPS2618MT100 | 10     | 20%       | 100 KHz, 0.1 V | 200 KHz, 0.1 V | 0.075        | 38            | 40     | 0.37         | 1     |
| LPS2618MT150 | 15     | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 0.09         | 33            | 40     | 0.31         | 0.8   |
| LPS2618MT220 | 22     | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 0.11         | 25            | 40     | 0.3          | 0.7   |
| LPS2618MT330 | 33     | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 0.19         | 20            | 40     | 0.24         | 0.6   |
| LPS2618MT470 | 47     | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 0.23         | 20            | 40     | 0.24         | 0.5   |
| LPS2618MT680 | 68     | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 0.29         | 15            | 40     | 0.17         | 0.4   |
| LPS2618MT101 | 100    | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 0.48         | 10            | 40     | 0.13         | 0.3   |
| LPS2618MT151 | 150    | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 0.59         | 9             | 40     | 0.1          | 0.26  |
| LPS2618MT221 | 220    | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 0.9          | 6             | 40     | 0.1          | 0.22  |
| LPS2618MT331 | 330    | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 1.4          | 5             | 40     | 0.07         | 0.2   |
| LPS2618MT471 | 470    | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 1.8          | 4             | 40     | 0.06         | 0.19  |
| LPS2618MT681 | 680    | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 2.2          | 3             | 40     | 0.06         | 0.18  |
| LPS2618MT102 | 1000   | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 3.4          | 2             | 40     | 0.05         | 0.15  |
| LPS2618MT152 | 1500   | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 4.2          | 2             | 50     | 0.04         | 0.12  |
| LPS2618MT222 | 2200   | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 8.5          | 2             | 50     | 0.03         | 0.1   |
| LPS2618MT332 | 3300   | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 11           | 1             | 50     | 0.02         | 0.08  |
| LPS2618MT472 | 4700   | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 13.9         | 1             | 50     | 0.02         | 0.06  |
| LPS2618MT682 | 6800   | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 25           | 1             | 50     | 0.02         | 0.04  |
| LPS2618MT103 | 10000  | 20%       | 100 KHz, 0.1 V | 100 KHz, 0.1 V | 32.8         | 0.8           | 50     | 0.02         | 0.02  |

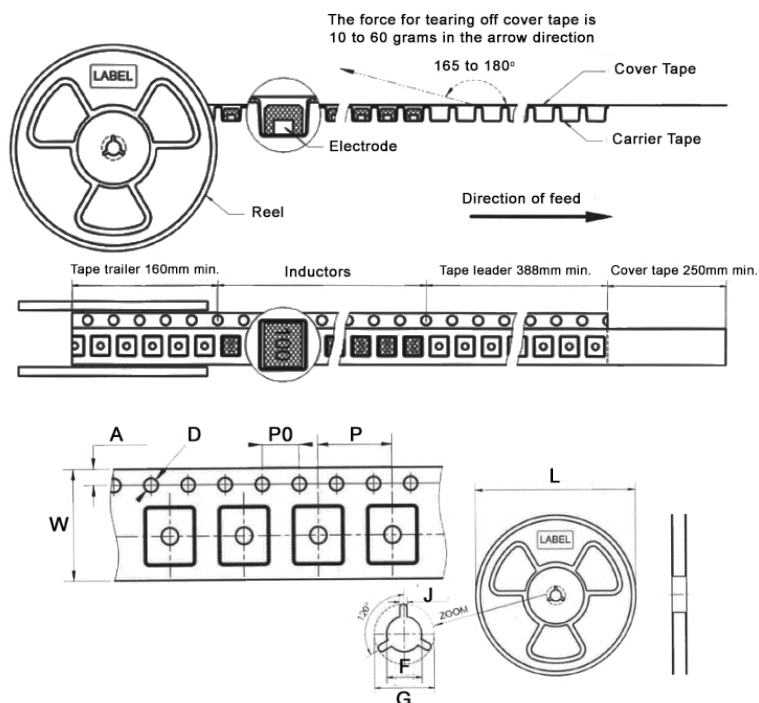
**Electrical Specifications – LPS5137**

| Type / Code  | L (μH) | Tolerance | Test Condition | DCR (Ω) max. | IDC (A) max. |
|--------------|--------|-----------|----------------|--------------|--------------|
| LPS5137MT1R0 | 1      | 20%       | 100 KHz, 0.1 V | 0.021        | 5.6          |
| LPS5137MT1R5 | 1.5    | 20%       | 100 KHz, 0.1 V | 0.022        | 5.2          |
| LPS5137MT2R2 | 2.2    | 20%       | 100 KHz, 0.1 V | 0.032        | 5            |
| LPS5137MT3R3 | 3.3    | 20%       | 100 KHz, 0.1 V | 0.039        | 3.9          |
| LPS5137MT4R7 | 4.7    | 20%       | 100 KHz, 0.1 V | 0.054        | 3.2          |
| LPS5137MT6R8 | 6.8    | 20%       | 100 KHz, 0.1 V | 0.075        | 2.8          |
| LPS5137MT100 | 10     | 20%       | 100 KHz, 0.1 V | 0.101        | 2.4          |
| LPS5137MT120 | 12     | 20%       | 100 KHz, 0.1 V | 0.14         | 2.1          |
| LPS5137MT150 | 15     | 20%       | 100 KHz, 0.1 V | 0.15         | 2            |
| LPS5137MT180 | 18     | 20%       | 100 KHz, 0.1 V | 0.2          | 1.7          |
| LPS5137MT220 | 22     | 20%       | 100 KHz, 0.1 V | 0.207        | 1.6          |
| LPS5137MT270 | 27     | 20%       | 100 KHz, 0.1 V | 0.3          | 1.5          |
| LPS5137MT330 | 33     | 20%       | 100 KHz, 0.1 V | 0.334        | 1.4          |
| LPS5137MT390 | 39     | 20%       | 100 KHz, 0.1 V | 0.46         | 1.1          |
| LPS5137MT470 | 47     | 20%       | 100 KHz, 0.1 V | 0.472        | 1            |
| LPS5137MT680 | 68     | 20%       | 100 KHz, 0.1 V | 0.66         | 0.9          |
| LPS5137MT101 | 100    | 20%       | 100 KHz, 0.1 V | 1.11         | 0.8          |
| LPS5137MT121 | 120    | 20%       | 100 KHz, 0.1 V | 1.3          | 0.62         |
| LPS5137MT151 | 150    | 20%       | 100 KHz, 0.1 V | 1.55         | 0.6          |
| LPS5137MT221 | 220    | 20%       | 100 KHz, 0.1 V | 2            | 0.5          |
| LPS5137MT271 | 270    | 20%       | 100 KHz, 0.1 V | 4.6          | 0.42         |
| LPS5137MT331 | 330    | 20%       | 100 KHz, 0.1 V | 5.6          | 0.35         |
| LPS5137MT391 | 390    | 20%       | 100 KHz, 0.1 V | 6.6          | 0.34         |
| LPS5137MT471 | 470    | 20%       | 100 KHz, 0.1 V | 7.6          | 0.33         |
| LPS5137MT102 | 1000   | 20%       | 100 KHz, 0.1 V | 8.3          | 0.32         |

**Electrical Specifications – LPS7360**

| Type / Code  | L<br>( $\mu$ H) | Tolerance | Test Condition | DCR ( $\Omega$ )<br>max. | IDC (A)<br>max. |
|--------------|-----------------|-----------|----------------|--------------------------|-----------------|
| LPS7360MT1R0 | 1               | 20%       | 100 KHz, 0.1 V | 0.024                    | 20              |
| LPS7360MT2R2 | 2.2             | 20%       | 100 KHz, 0.1 V | 0.026                    | 11              |
| LPS7360MT3R3 | 3.3             | 20%       | 100 KHz, 0.1 V | 0.029                    | 10              |
| LPS7360MT3R9 | 3.9             | 20%       | 100 KHz, 0.1 V | 0.03                     | 8.5             |
| LPS7360MT4R7 | 4.7             | 20%       | 100 KHz, 0.1 V | 0.032                    | 8.4             |
| LPS7360MT5R6 | 5.6             | 20%       | 100 KHz, 0.1 V | 0.034                    | 8.3             |
| LPS7360MT6R8 | 6.8             | 20%       | 100 KHz, 0.1 V | 0.036                    | 8.2             |
| LPS7360MT8R2 | 8.2             | 20%       | 100 KHz, 0.1 V | 0.038                    | 8.1             |
| LPS7360MT100 | 10              | 20%       | 100 KHz, 0.1 V | 0.04                     | 8               |
| LPS7360MT120 | 12              | 20%       | 100 KHz, 0.1 V | 0.046                    | 7.1             |
| LPS7360MT150 | 15              | 20%       | 100 KHz, 0.1 V | 0.048                    | 7               |
| LPS7360MT180 | 18              | 20%       | 100 KHz, 0.1 V | 0.056                    | 6.1             |
| LPS7360MT220 | 22              | 20%       | 100 KHz, 0.1 V | 0.059                    | 6               |
| LPS7360MT270 | 27              | 20%       | 100 KHz, 0.1 V | 0.066                    | 5.1             |
| LPS7360MT330 | 33              | 20%       | 100 KHz, 0.1 V | 0.075                    | 5               |
| LPS7360MT390 | 39              | 20%       | 100 KHz, 0.1 V | 0.92                     | 4.1             |
| LPS7360MT470 | 47              | 20%       | 100 KHz, 0.1 V | 0.097                    | 4               |
| LPS7360MT560 | 56              | 20%       | 100 KHz, 0.1 V | 0.132                    | 3.1             |
| LPS7360MT680 | 68              | 20%       | 100 KHz, 0.1 V | 0.138                    | 3               |
| LPS7360MT820 | 82              | 20%       | 100 KHz, 0.1 V | 0.202                    | 2.5             |
| LPS7360MT101 | 100             | 20%       | 100 KHz, 0.1 V | 0.207                    | 2.4             |
| LPS7360MT121 | 120             | 20%       | 100 KHz, 0.1 V | 0.286                    | 2.2             |
| LPS7360MT151 | 150             | 20%       | 100 KHz, 0.1 V | 0.293                    | 2.1             |
| LPS7360MT181 | 180             | 20%       | 100 KHz, 0.1 V | 0.42                     | 1.91            |
| LPS7360MT221 | 220             | 20%       | 100 KHz, 0.1 V | 0.47                     | 1.9             |
| LPS7360MT271 | 270             | 20%       | 100 KHz, 0.1 V | 0.72                     | 1.12            |
| LPS7360MT331 | 330             | 20%       | 100 KHz, 0.1 V | 0.78                     | 1.1             |
| LPS7360MT391 | 390             | 20%       | 100 KHz, 0.1 V | 1.02                     | 1.1             |
| LPS7360MT471 | 470             | 20%       | 100 KHz, 0.1 V | 1.08                     | 1.1             |
| LPS7360MT561 | 560             | 20%       | 100 KHz, 0.1 V | 1.32                     | 0.97            |
| LPS7360MT681 | 680             | 20%       | 100 KHz, 0.1 V | 1.4                      | 0.96            |
| LPS7360MT821 | 820             | 20%       | 100 KHz, 0.1 V | 1.96                     | 0.81            |
| LPS7360MT102 | 1000            | 20%       | 100 KHz, 0.1 V | 2.01                     | 0.8             |

### Packaging Specifications



| Type / Code | A                            | D                            | P0                           | P              | W              | F                             | G                             | J                            | L                                 | Unit         |
|-------------|------------------------------|------------------------------|------------------------------|----------------|----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------------|--------------|
| LPS2618     | 0.069 ± 0.004<br>1.75 ± 0.10 | 0.059 ± 0.004<br>1.50 ± 0.10 | 0.157 ± 0.004<br>4.00 ± 0.10 | 0.315<br>8.00  | 0.630<br>16.00 | 0.512 ± 0.039<br>13.00 ± 1.00 | 0.906 ± 0.039<br>23.00 ± 1.00 | 0.098 ± 0.020<br>2.50 ± 0.50 | 12.992 ± 7.008<br>330.00 ± 178.00 | Inches<br>mm |
| LPS5137     | 0.069 ± 0.004<br>1.75 ± 0.10 | 0.059 ± 0.004<br>1.50 ± 0.10 | 0.157 ± 0.004<br>4.00 ± 0.10 | 0.472<br>12.00 | 0.945<br>24.00 | 0.512 ± 0.039<br>13.00 ± 1.00 | 0.906 ± 0.039<br>23.00 ± 1.00 | 0.098 ± 0.020<br>2.50 ± 0.50 | 12.992 ± 7.008<br>330.00 ± 178.00 | Inches<br>mm |
| LPS7360     | 0.069 ± 0.004<br>1.75 ± 0.10 | 0.059 ± 0.004<br>1.50 ± 0.10 | 0.157 ± 0.004<br>4.00 ± 0.10 | 0.787<br>20.00 | 1.260<br>32.00 | 0.512 ± 0.039<br>13.00 ± 1.00 | 0.906 ± 0.039<br>23.00 ± 1.00 | 0.098 ± 0.020<br>2.50 ± 0.50 | 12.992 ± 7.008<br>330.00 ± 178.00 | Inches<br>mm |

### Environmental Specifications - General

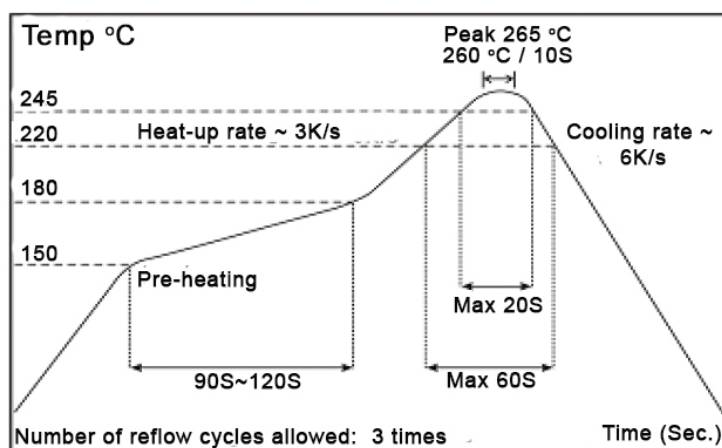
| Item                     | Specification  |
|--------------------------|--|
| Shelf Storage Conditions | Temperature range: 25 ± 3°C. Humidity: < 80% relative humidity.<br>Recommended product should be used within six months from the time of delivery. |

### Environmental Test

| Test                          | Test Specification  | Test Condition  |
|-------------------------------|---|---|
| High Temperature Storage Test | No case deformation or change in appearance.<br>Δ L/L ≤ 10% | Temperature 85 ± 2°C<br>Time: 48 ± 2 hours<br>Tested after 1 hour at room temperature   |
| Low Temperature Storage Test  |   | Temperature -25 ± 2°C<br>Time: 48 ± 2 hours<br>Tested after 1 hour at room temperature  |
| Humidity Test                 |   | Temperature 40 ± 2°C, 90 ~ 95% relative humidity<br>Time: 96 ± 2 hours<br>Tested after 1 hour at room temperature                               |
| Thermal Shock Test            |   | First -25°C 30 minutes, then 25°C 10 minutes, last 85°C 30 minutes, as 1 cycle. Go through 5 cycles.<br>Tested after 1 hour at room temperature |

| Mechanical Test              |   |   |
|------------------------------|---|---|
| Test                         | Test Specification  | Test Condition  |
| Solderability Test           | Terminal area must have 90% minimum solder coverage                   | Product with lead-free terminal:<br>Dip pads in flux then dip in solder pot at $245 \pm 5^\circ\text{C}$ for 3 seconds  |
| Resistance to Soldering Heat | No case deformation or change in appearance                           | Flux should cover the whole of the sample before heating, then be preheated for about 2 minutes over temperature of $130 \sim 150^\circ\text{C}$ .<br>immersing to $260 \pm 5^\circ\text{C}$ for 10 seconds |
| Vibration Test               | No case deformation or change in appearance<br>$\Delta L/L \leq 10\%$ | Apply frequency $10 \sim 55$ Hz 1.5 mm amplitude in each of perpendicular direction for 2 hours   |
| Shock Resistance             |   | Drop down with $981 \text{ m/s}^2$ (100 G) shock attitude upon a rubber block method shock testing machine for 1 time in each of three orientations.  |

Reflow Chart:



RoHS Compliance

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union's directive regarding "Restrictions on Hazardous Substances" (RoHS 3). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament as amended by Directive (EU) 2015/863/EU as regards the list of restricted substances.

| RoHS Compliance Status  |                             |                            |                                |                                   |  |                                       |
|-------------------------|-----------------------------|----------------------------|--------------------------------|-----------------------------------|--|---------------------------------------|
| Standard Product Series | Description                 | Package / Termination Type | Standard Series RoHS Compliant | Lead-Free Termination Composition | Lead-Free Mfg. Effective Date (Std Product Series) | Lead-Free Effective Date Code (YY/WW) |
| LPS                     | Shielded SMD Power Inductor | SMD                        | YES                            | 100% Matte Sn                     | Aug-05   | 05/31                                 |

**“Conflict Metals” Commitment**

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the “conflict region” of the eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

**Compliance to “REACH”**

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, “The Registration, Evaluation, Authorization and Restriction of Chemicals”, otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

**Environmental Policy**

It is the policy of Stackpole Electronics, Inc. (SEI) to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

**How to Order**

|          |          |          |          |          |          |          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>L</b> | <b>P</b> | <b>S</b> | <b>2</b> | <b>6</b> | <b>1</b> | <b>8</b> | <b>M</b> | <b>T</b> | <b>1</b> | <b>0</b> | <b>1</b> |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|

| Product Series |                       | Size | Dimensions           | Tolerance |      | Packaging |                   |      |          | Inductance |                 |
|----------------|-----------------------|------|----------------------|-----------|------|-----------|-------------------|------|----------|------------|-----------------|
| Code           | Description           |      |                      | Code      | Tol  | Code      | Description       | Size | Quantity | Code       | Inductance (µH) |
| LPS            | SMD<br>Power Inductor | 2618 | 6.6 x 4.45 x 2.92    | M         | ±20% | T         | 13" Tape and Reel | 2618 | 2,000    | 1R1        | 1.1             |
|                |                       | 5137 | 12.95 x 9.4 x 5.21   |           |      |           |                   | 5137 | 1,000    | 470        | 47              |
|                |                       | 7360 | 18.54 x 15.24 x 7.62 |           |      |           |                   | 7360 | 250      | 101        | 100             |
|                |                       |      |                      |           |      |           |                   |      |          | 332        | 3300            |
|                |                       |      |                      |           |      |           |                   |      |          | 103        | 10000           |

Legacy Part Number:

|          |          |          |          |          |          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>P</b> | <b>S</b> | <b>1</b> | <b>6</b> | <b>0</b> | <b>8</b> | <b>M</b> | <b>T</b> | <b>1</b> | <b>0</b> | <b>1</b> |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|

| Product Series |                       | Size | Dimensions (mm)  | Tolerance |      | Packaging |                   |      |          | Inductance |                 |
|----------------|-----------------------|------|------------------|-----------|------|-----------|-------------------|------|----------|------------|-----------------|
| Code           | Description           |      |                  | Code      | Tol  | Code      | Description       | Size | Quantity | Code       | Inductance (µH) |
| PS             | SMD<br>Power Inductor | 1608 | 6.6x4.45x2.92    | K         | ±10% | T         | 13" Tape and Reel | 1608 | 2,000    | 1R1        | 1.1             |
|                |                       | 3316 | 12.95x9.4x5.21   |           |      |           |                   | 3316 | 1,000    | 470        | 47              |
|                |                       | 5022 | 18.54x15.24x7.62 |           |      |           |                   | 5022 | 250      | 101        | 100             |
|                |                       |      |                  |           |      |           |                   |      |          | 332        | 3300            |
|                |                       |      |                  |           |      |           |                   |      |          | 103        | 10000           |