

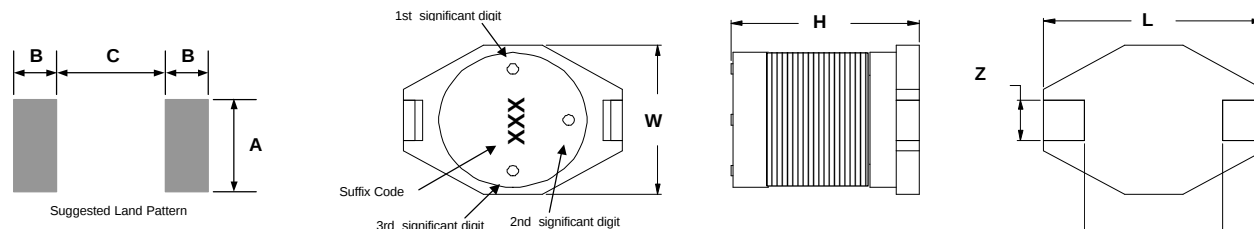
| Series Number |
|---------------|
| DU6629        |
| DU1330        |
| DU1352        |
| DU1311        |
| DU1971        |



3003 9th Avenue SW  
PO Box 50  
Watertown, SD 57201  
Toll free: 888-978-2638  
Ph: 605-886-3326  
Fax: 605-886-8995



SMD Unshielded Power Inductor Series; Part Numbering Sequence: ( Series Number ) - ( Suffix Code )(Tolerance), example DU1330-220M  
Bulk Packaging add (-B) to end of Part Numbering Sequence. example DU1330-220M-B



Parts will be marked with Significant Digit Dots OR Suffix code

| Series Number | Units  | Maximum Dimensions |           |           | Nominal Dimensions |          |          |          |           |  |  |
|---------------|--------|--------------------|-----------|-----------|--------------------|----------|----------|----------|-----------|--|--|
|               |        | L                  | W         | H         | Y                  | Z        | A        | B        | C         |  |  |
| DU6629        | inches | 0.260"             | 0.177"    | 0.115"    | 0.190"             | 0.050"   | 0.140"   | 0.055"   | 0.160"    |  |  |
|               | [ mm ] | [ 6.60 ]           | [ 4.50 ]  | [ 2.92 ]  | [ 4.83 ]           | [ 1.27 ] | [ 3.56 ] | [ 1.40 ] | [ 4.06 ]  |  |  |
| DU1330        | inches | 0.510"             | 0.370"    | 0.130"    | 0.300"             | 0.100"   | 0.110"   | 0.115"   | 0.290"    |  |  |
|               | [ mm ] | [ 12.95 ]          | [ 9.40 ]  | [ 3.30 ]  | [ 7.62 ]           | [ 2.54 ] | [ 2.79 ] | [ 2.92 ] | [ 7.37 ]  |  |  |
| DU1352        | inches | 0.510"             | 0.370"    | 0.205"    | 0.300"             | 0.100"   | 0.110"   | 0.115"   | 0.290"    |  |  |
|               | [ mm ] | [ 12.95 ]          | [ 9.40 ]  | [ 5.21 ]  | [ 7.62 ]           | [ 2.54 ] | [ 2.79 ] | [ 2.92 ] | [ 7.37 ]  |  |  |
| DU1311        | inches | 0.510"             | 0.370"    | 0.450"    | 0.300"             | 0.100"   | 0.110"   | 0.115"   | 0.290"    |  |  |
|               | [ mm ] | [ 12.95 ]          | [ 9.40 ]  | [ 11.43 ] | [ 7.62 ]           | [ 2.54 ] | [ 2.79 ] | [ 2.92 ] | [ 7.37 ]  |  |  |
| DU1971        | inches | 0.730"             | 0.600"    | 0.291"    | 0.500"             | 0.100"   | 0.110"   | 0.115"   | 0.490"    |  |  |
|               | [ mm ] | [ 18.54 ]          | [ 15.24 ] | [ 7.40 ]  | [ 12.70 ]          | [ 2.54 ] | [ 2.79 ] | [ 2.92 ] | [ 12.45 ] |  |  |

#### Features:

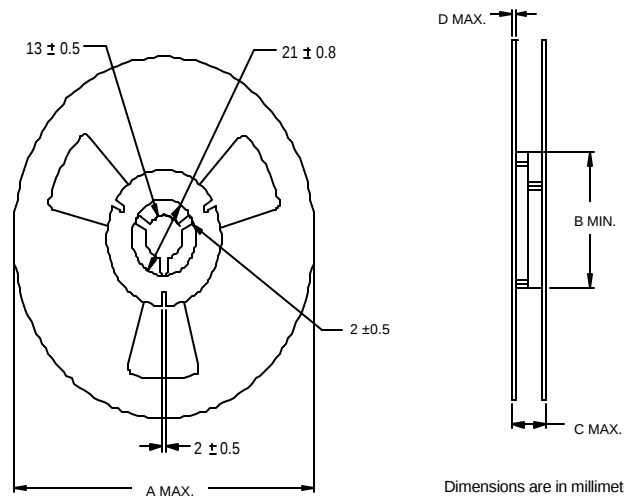
- High energy storage and low resistance
- Ideal for DC-DC step-up or step-down conversion
- Reliable surface mounting, flat top for pick and place
- Robust temperature deflection to prevent damage during solder reflow
- Drop in replacements for industry prevalent competitor series
- Operating temperature -40°C to +85°C

| L <sup>1</sup><br>µH | Suffix<br>Codes | DU6629           |                               |                               |                     | DU1330           |                               |                               |                     | DU1352           |                               |                               |                     | DU1311           |                               |                               |                     | DU1971           |                               |                               |                     | Significant Digit |     |     |
|----------------------|-----------------|------------------|-------------------------------|-------------------------------|---------------------|------------------|-------------------------------|-------------------------------|---------------------|------------------|-------------------------------|-------------------------------|---------------------|------------------|-------------------------------|-------------------------------|---------------------|------------------|-------------------------------|-------------------------------|---------------------|-------------------|-----|-----|
|                      |                 | DCR <sup>2</sup> | I <sub>SAT</sub> <sup>3</sup> | I <sub>RMS</sub> <sup>5</sup> | Tolerance           | DCR <sup>2</sup> | I <sub>SAT</sub> <sup>3</sup> | I <sub>RMS</sub> <sup>5</sup> | Tolerance           | DCR <sup>2</sup> | I <sub>SAT</sub> <sup>3</sup> | I <sub>RMS</sub> <sup>6</sup> | Tolerance           | DCR <sup>2</sup> | I <sub>SAT</sub> <sup>3</sup> | I <sub>RMS</sub> <sup>7</sup> | Tolerance           | DCR <sup>2</sup> | I <sub>SAT</sub> <sup>3</sup> | I <sub>RMS</sub> <sup>7</sup> | Tolerance           | Dot Code          |     |     |
|                      |                 | W                | A                             | A                             | Suffix <sup>4</sup> | W                | A                             | A                             | Suffix <sup>4</sup> | W                | A                             | A                             | Suffix <sup>4</sup> | W                | A                             | A                             | Suffix <sup>4</sup> | W                | A                             | A                             | Suffix <sup>4</sup> | 1st               | 2nd | 3rd |
| 1.0                  | 1R0             | 0.050            | 2.90                          | 2.90                          | M                   |                  |                               |                               |                     | 0.0092           | 9.00                          | 6.80                          | M                   |                  |                               |                               |                     | 0.009            | 20.00                         | 8.60                          | M                   | BRN               | BLK | RED |
| 1.5                  | 1R5             | 0.050            | 2.60                          | 2.80                          | M                   |                  |                               |                               |                     | 0.0104           | 8.00                          | 6.40                          | M                   |                  |                               |                               |                     |                  |                               |                               |                     |                   |     |     |
| 2.2                  | 2R2             | 0.070            | 2.30                          | 2.40                          | M                   |                  |                               |                               |                     | 0.0120           | 7.00                          | 6.10                          | M                   |                  |                               |                               |                     | 0.014            | 16.00                         | 7.10                          | M                   | BRN               | GRN | RED |
| 3.3                  | 3R3             | 0.080            | 2.00                          | 2.00                          | M                   |                  |                               |                               |                     | 0.0150           | 6.40                          | 5.40                          | M                   |                  |                               |                               |                     | 0.018            | 14.00                         | 6.20                          | M                   | RED               | RED | RED |
| 4.7                  | 4R7             | 0.090            | 1.50                          | 1.50                          | M                   |                  |                               |                               |                     | 0.0184           | 5.40                          | 4.80                          | M                   |                  |                               |                               |                     |                  |                               |                               |                     |                   |     |     |
| 5.6                  | 5R6             |                  |                               |                               |                     |                  |                               |                               |                     |                  |                               |                               |                     |                  |                               |                               |                     | 0.020            | 12.00                         | 5.30                          | M                   | YEL               | VIO | RED |
| 6.8                  | 6R8             | 0.130            | 1.20                          | 1.40                          | M                   |                  |                               |                               |                     | 0.0270           | 4.60                          | 4.40                          | M                   | 0.015            | 10.00                         | 5.00                          | M                   |                  |                               |                               |                     | GRN               | BLU | RED |
| 8.0                  | 8R0             |                  |                               |                               |                     |                  |                               |                               |                     |                  |                               |                               |                     | 0.022            | 9.50                          | 4.00                          | M                   |                  |                               |                               |                     | BLU               | GRY | RED |
| 10                   | 100             | 0.160            | 1.10                          | 1.30                          | M                   | 0.110            | 2.40                          | 2.00                          | M                   | 0.0380           | 3.80                          | 3.90                          | M                   | 0.040            | 8.00                          | 3.50                          | M                   | 0.031            | 10.00                         | 4.30                          | M                   | GRY               | BLK | ORG |
| 15                   | 150             | 0.230            | 0.90                          | 1.20                          | M                   | 0.150            | 2.00                          | 1.50                          | M                   | 0.0460           | 3.00                          | 3.10                          | M                   | 0.050            | 7.00                          | 3.00                          | M                   | 0.036            | 8.00                          | 4.00                          | M                   | BRN               | GRN | ORG |
| 22                   | 220             | 0.370            | 0.70                          | 0.80                          | M                   | 0.230            | 1.60                          | 1.30                          | M                   | 0.0850           | 2.60                          | 2.70                          | M                   | 0.070            | 5.50                          | 2.50                          | M                   | 0.047            | 7.00                          | 3.50                          | M                   | RED               | RED | ORG |
| 33                   | 330             | 0.510            | 0.58                          | 0.60                          | M                   | 0.300            | 1.40                          | 1.10                          | M                   | 0.1012           | 2.00                          | 2.10                          | M                   | 0.080            | 4.00                          | 2.00                          | M                   | 0.066            | 5.50                          | 3.00                          | M                   | ORG               | ORG | ORG |
| 47                   | 470             | 0.640            | 0.50                          | 0.50                          | M                   | 0.390            | 1.00                          | 0.80                          | M                   | 0.1400           | 1.60                          | 1.80                          | M                   | 0.110            | 3.80                          | 1.60                          | M                   | 0.086            | 4.50                          | 2.60                          | M                   | YEL               | VIO | ORG |
| 68                   | 680             | 0.860            | 0.40                          | 0.40                          | M                   | 0.660            | 0.90                          | 0.70                          | M                   | 0.2000           | 1.40                          | 1.50                          | M                   | 0.170            | 3.00                          | 1.20                          | M                   | 0.130            | 3.50                          | 2.30                          | M                   | BLU               | GRY | ORG |
| 100                  | 101             | 1.270            | 0.31                          | 0.30                          | M                   | 0.840            | 0.70                          | 0.60                          | M                   | 0.2800           | 1.20                          | 1.30                          | M                   | 0.220            | 2.50                          | 1.20                          | M                   | 0.190            | 3.00                          | 1.80                          | M                   | BRN               | BLK | YEL |
| 150                  | 151             | 2.000            | 0.27                          | 0.25                          | M                   | 1.200            | 0.60                          | 0.50                          | M                   | 0.4000           | 1.00                          | 1.00                          | M                   | 0.340            | 2.00                          | 0.90                          | M                   | 0.250            | 2.60                          | 1.50                          | M                   | BRN               | GRN | YEL |
| 220                  | 221             | 3.110            | 0.22                          | 0.20                          | M                   | 1.900            | 0.50                          | 0.40                          | M                   | 0.6100           | 0.80                          | 0.80                          | M                   | 0.440            | 1.60                          | 0.70                          | M                   | 0.380            | 2.40                          | 1.20                          | M                   | RED               | RED | YEL |
| 330                  | 331             | 4.800            | 0.18                          | 0.16                          | M                   | 2.700            | 0.40                          | 0.30                          | M                   | 1.0200           | 0.60                          | 0.60                          | M                   | 0.700            | 1.20                          | 0.60                          | M                   | 0.560            | 1.90                          | 1.00                          | M                   | ORG               | ORG | YEL |
| 470                  | 471             | 6.800            | 0.16                          | 0.15                          | M                   | 4.000            | 0.30                          | 0.20                          | M                   | 1.2700           | 0.50                          | 0.50                          | M                   | 0.950            | 1.00                          | 0.30                          | M                   | 0.850            | 1.40                          | 0.82                          | M                   | YEL               | VIO | YEL |
| 680                  | 681             | 9.200            | 0.10                          | 0.12                          | M                   | 5.300            | 0.20                          | 0.10                          | M                   | 2.0200           | 0.40                          | 0.40                          | M                   | 1.200            | 1.00                          | 0.20                          | M                   | 1.100            | 1.20                          | 0.72                          | M                   | BLU               | GRY | YEL |
| 1000                 | 102             | 13.800           | 0.10                          | 0.07                          | M                   | 8.400            | 0.10                          | 0.05                          | M                   | 3.0000           | 0.30                          | 0.30                          | M                   | 2.000            | 0.80                          | 0.10                          | M                   | 1.800            | 1.00                          | 0.56                          | M                   | BRN               | BLK | GRN |

- 1) Tested at 100kHz, 100mVrms @20°C
- 2) DCRs (DC resistances) are maximums @20°C.
- 3) DC (Direct Current) current applied to produce a typical 10% drop in inductance.
- 4) Suffix of M=20%
- 5) Current applied to produce a typical 30°C temperature rise from nominal inductance.

- 6) Current applied to produce a typical 15°C temperature rise from nominal inductance.
- 7) Current applied to produce a typical 40°C temperature rise from nominal inductance.

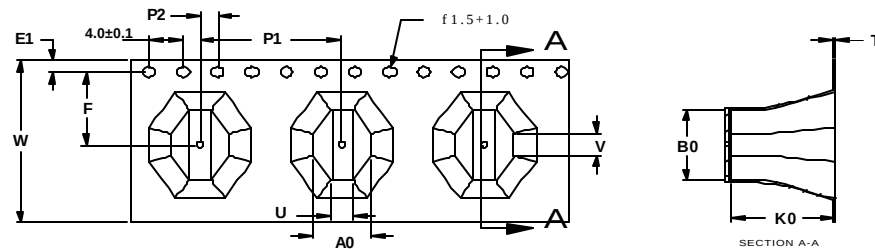
Specifications subject to change without notice.



Dimensions are in millimeters unless specified.

| Series Number | Reel dimensions |        |         |        |        | Reel Qty | Packaging Specification |
|---------------|-----------------|--------|---------|--------|--------|----------|-------------------------|
|               | Units           | A      | B       | C      | D      |          |                         |
| DU6629        | in.             | 12.99" | 3.94"   | 0.88"  | 0.094" | 2500     | 90-0057                 |
|               | (mm)            | [360]  | [100.0] | [22.4] | [2.40] |          |                         |
| DU1330        | in.             | 14.17" | 3.94"   | 0.88"  | 0.094" | 1000     | 90-0058                 |
|               | (mm)            | [360]  | [100.0] | [22.4] | [2.40] |          |                         |
| DU1352        | in.             | 14.17" | 3.94"   | 0.88"  | 0.094" | 700      | 90-0059                 |
|               | (mm)            | [360]  | [100.0] | [22.4] | [2.40] |          |                         |
| DU1311        | in.             | 14.17" | 3.94"   | 0.88"  | 0.094" | 250      | 90-0060                 |
|               | (mm)            | [360]  | [100.0] | [22.4] | [2.40] |          |                         |
| DU1971        | in.             | 14.17" | 3.94"   | 0.88"  | 0.094" | 250      | 90-0065                 |
|               | (mm)            | [360]  | [100.0] | [22.4] | [2.40] |          |                         |

PACKAGING NOTE: Only pressure sensitive cover tape is to be used.



| Series | A0 ± 0.1 | U ± 0.1 | V ± 0.1 | P1 ± 0.1 | P2 ± 0.1 | W ± 0.3 | F ± 0.1    | E1 MIN. | B0 ± 0.1 | K0 ± 0.05 | T ± 0.05 |
|--------|----------|---------|---------|----------|----------|---------|------------|---------|----------|-----------|----------|
| DU6629 | 4.55     | 1.45    | 2.70    | 8.00     | 2.00     | 16.00   | 5.5 ± 0.05 | 1.75    | 6.70     | 3.45      | 0.35     |
| DU1330 | 9.50     | 3.90    | 4.00    | 12.00    | 2.00     | 24.00   | 11.50      | 1.75    | 13.10    | 3.10      | 0.35     |
| DU1352 | 9.50     | 3.90    | 4.00    | 12.00    | 2.00     | 24.00   | 11.50      | 1.75    | 13.10    | 5.30      | 0.35     |
| DU1311 | 10.20    | 3.90    | 4.00    | 12.00    | 2.00     | 24.00   | 11.50      | 1.75    | 13.10    | 11.60     | 0.35     |
| DU1971 | 15.40    | 5.80    | 6.00    | 20.00    | 2.00     | 32.00   | 14.20      | 1.75    | 18.84    | 7.20      | 0.35     |

**Customer Packaging Specifications**  
For Print Distribution to Customers

| Series           | Revision |
|------------------|----------|
| <b>DU SERIES</b> | <b>C</b> |
| Sheet 2 of 3     |          |

| Item                                       | Specification                                                                        | Test Method/Condition                                                                                                                                                                                                                                        |
|--------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Environmental</b>                       |                                                                                      |                                                                                                                                                                                                                                                              |
| Static Humidity                            | After exposure part remains within specified electrical parameters for L, Q and DCR. | Expose parts to an environment of +50°C with 90 to 95% R.H. for 100 hours. After exposure, allow parts to dry for 2 hours before measurements are taken.                                                                                                     |
| Storage Life                               | After exposure part remains within specified electrical parameters for L, Q and DCR. | Subject parts to an environment of +50°C 90 to 100% R.H. for 46 to 50 hours. After exposure, allow parts to dry for 2 hours before measurements are taken.                                                                                                   |
| Moisture Resistance                        | After exposure, part shall not have a shorted or open winding.                       | Per MIL-STD 202 Method 106, ten 24 hour cycles at +25°C to +65°C at 80 to 95% R.H. During any of the first 9 cycles, inductors are revolved from the chamber and exposed to -10°C for 3 hours. Allow parts to dry for 2 hours before measurements are taken. |
| Temperature Cycle                          | After exposure part remains within specified electrical parameters for L, Q and DCR. | 10 cycles (Air to Air) 1 cycle shall consist of:<br>30 minutes exposure to +85°C<br>30 minutes exposure to -40°C<br>Allow 20 minutes transition between extremes.                                                                                            |
| Temperature Shock                          | After exposure part remains within specified electrical parameters for L, Q and DCR. | 10 cycles (Air to Air) 1 cycle shall consist of:<br>30 minutes exposure to -45°C<br>30 minutes exposure to +125°C<br>15 seconds maximum transition between temperatures                                                                                      |
| <b>General</b>                             |                                                                                      |                                                                                                                                                                                                                                                              |
| Storage Temperature Range                  | -40°C to +85°C                                                                       |                                                                                                                                                                                                                                                              |
| Operating Temperature Range                | -40°C to +85°C                                                                       |                                                                                                                                                                                                                                                              |
| Flammability                               | IEC 695-2-2                                                                          | Withstands needle-flame test                                                                                                                                                                                                                                 |
| <b>Other</b>                               |                                                                                      |                                                                                                                                                                                                                                                              |
| Vibration                                  | After exposure part remains within specified electrical parameters for L, Q and DCR. | Inductors shall be randomly vibrated per NAVMAT P9492 profile. Samples shall be subjected to 0.04G/Hz for a minimum of 15 minutes per axis, for each of the three axes.                                                                                      |
| Mechanical Shock                           | After exposure part remains within specified electrical parameters for L, Q and DCR. | Test per MIL-STD 202 method 213 test condition A, test mounted samples 3 axes, 6 times, totaling 18 shocks. (50Gs, 11ms, half-sine).                                                                                                                         |
| Solderability                              | Wetting shall cover 90% minimum of each termination                                  | Dip pads in RMA flux, 63/37 solder (Sn/Pb) at 232°C for 5 seconds ±2 seconds.                                                                                                                                                                                |
| Component Adhesion (Push Test)             | 4 pounds                                                                             | Apply and measure force with a digital force gauge set.                                                                                                                                                                                                      |
| Resistance to Solvent                      | No sign of degradation in appearance or marking detail.                              | Withstands 6 minutes of alcohol.<br>Withstands 3 minutes forced spray Freon TMS                                                                                                                                                                              |
| Load Life                                  | After exposure, part shall not have a shorted or open winding.                       | Parts to be stored at 110°C for 1000 hours with rated current applied. Parts to be tested at: start, 500 and 1000 hours. Allow 2 hours at room temperature before testing.                                                                                   |
| <b>For Print Distribution to Customers</b> |                                                                                      | <b>Series</b>                                                                                                                                                                                                                                                |
|                                            |                                                                                      | <b>DU SERIES</b>                                                                                                                                                                                                                                             |
|                                            |                                                                                      | <b>Revision</b>                                                                                                                                                                                                                                              |
|                                            |                                                                                      | <b>C</b>                                                                                                                                                                                                                                                     |
| <b>Sheet 3 of 3</b>                        |                                                                                      |                                                                                                                                                                                                                                                              |