

## Drum Core Surface Mount Unshielded Power Inductors SPC Series



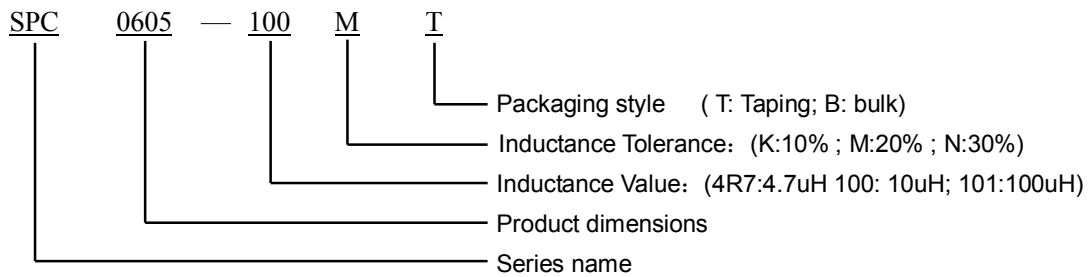
### Features

- Surface mount inductor with high current rating.
- Low resistance to keep power loss minimum.
- All terminals are welded without lead.

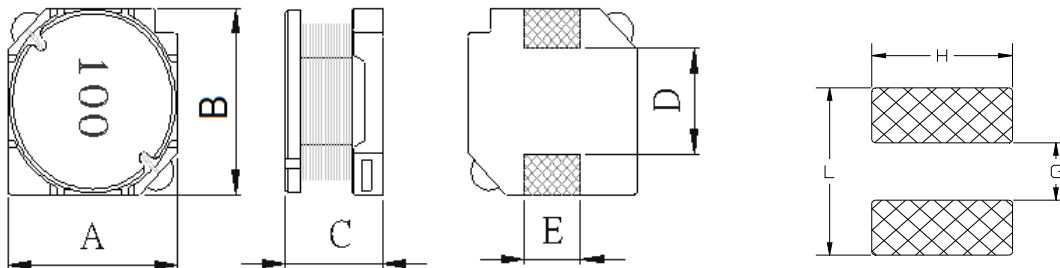
### Applications

- Excellent for power line DC-DC conversion applications used in hard disk, notebook computers and other electronic equipment.

### PRODUCT IDENTIFICATION



### SHAPES AND DIMENSIONS Unit: mm



| Part Number | A        | B        | C       | D       | E       | L    | G   | H   |
|-------------|----------|----------|---------|---------|---------|------|-----|-----|
| SPC0603     | 6.0±0.3  | 6.0±0.3  | 2.9±0.3 | 3.0±0.2 | 2.0±0.2 | 7.0  | 4.0 | 2.2 |
| SPC0604     | 6.0±0.3  | 6.0±0.3  | 3.9±0.3 | 3.0±0.2 | 2.0±0.2 | 7.0  | 4.0 | 2.2 |
| SPC0605     | 6.0±0.3  | 6.0±0.3  | 4.9±0.3 | 3.0±0.2 | 2.0±0.2 | 7.0  | 4.0 | 2.2 |
| SPC0703     | 7.0±0.3  | 7.0±0.3  | 3.0±0.3 | 4.0±0.2 | 2.0±0.2 | 7.9  | 4.9 | 2.2 |
| SPC0705     | 7.0±0.3  | 7.0±0.3  | 4.6±0.3 | 4.0±0.2 | 2.0±0.2 | 7.9  | 4.9 | 2.2 |
| SPC1003     | 10.0±0.3 | 10.0±0.3 | 3.0±0.3 | 6.0±0.2 | 2.4±0.2 | 10.6 | 5.6 | 3.2 |
| SPC1004     | 10.0±0.3 | 10.0±0.3 | 4.6±0.3 | 6.0±0.2 | 2.4±0.2 | 10.6 | 5.6 | 3.2 |

**ELECTRICAL CHARACTERISTICS**

| Part Number   | L(uH)    | Test req.(KHz) | DCR Max. (Ω) | Irated(A) |
|---------------|----------|----------------|--------------|-----------|
| SPC 0603-1R2M | 1.2±20%  | 100            | 0.025        | 2.80      |
| SPC 0603-1R5M | 1.5±20%  | 100            | 0.028        | 2.60      |
| SPC 0603-2R2M | 2.2±20%  | 100            | 0.030        | 2.30      |
| SPC 0603-3R3M | 3.3±20%  | 100            | 0.055        | 2.00      |
| SPC 0603-4R7M | 4.7±20%  | 100            | 0.065        | 1.85      |
| SPC 0603-6R8M | 6.8±20%  | 100            | 0.090        | 1.65      |
| SPC 0603-100M | 8.2±20%  | 100            | 0.115        | 1.45      |
| SPC 0603-120M | 12±20%   | 100            | 0.15         | 1.20      |
| SPC 0603-150M | 15±20%   | 100            | 0.18         | 1.15      |
| SPC 0603-180M | 18±20%   | 100            | 0.23         | 1.05      |
| SPC 0603-220M | 22±20%   | 100            | 0.25         | 1.00      |
| SPC 0603-270M | 27±20%   | 100            | 0.35         | 0.95      |
| SPC 0603-330K | 33±10%   | 100            | 0.38         | 0.90      |
| SPC 0603-390K | 39±10%   | 100            | 0.41         | 0.80      |
| SPC 0603-470K | 47±10%   | 100            | 0.43         | 0.75      |
| SPC 0603-560K | 56±10%   | 100            | 0.62         | 0.70      |
| SPC 0603-680K | 68±10%   | 100            | 0.71         | 0.60      |
| SPC 0603-820K | 82±10%   | 100            | 0.73         | 0.50      |
| SPC 0603-101K | 100±10%  | 100            | 1.05         | 0.48      |
| SPC 0603-121K | 120±10%  | 100            | 1.18         | 0.45      |
| SPC 0603-151K | 150±10%  | 100            | 1.80         | 0.40      |
| SPC 0603-181K | 180±10%  | 100            | 1.95         | 0.35      |
| SPC 0603-221K | 220±10%  | 100            | 2.96         | 0.30      |
| SPC 0603-271K | 270±10%  | 100            | 3.45         | 0.28      |
| SPC 0603-331K | 330±10%  | 100            | 3.8          | 0.26      |
| SPC 0603-391K | 390±10%  | 100            | 4.0          | 0.24      |
| SPC 0603-471K | 470±10%  | 100            | 4.4          | 0.22      |
| SPC 0603-561K | 560±10%  | 100            | 6.2          | 0.20      |
| SPC 0603-681K | 680±10%  | 100            | 6.8          | 0.18      |
| SPC 0603-821K | 820±10%  | 100            | 12.0         | 0.16      |
| SPC 0603-102K | 1000±10% | 100            | 13.5         | 0.14      |

| Part Number   | L(uH)   | Test req.(KHz) | DCR Max. (Ω) | Irated(A) |
|---------------|---------|----------------|--------------|-----------|
| SPC 0604-1R2M | 1.2±20% | 100            | 0.025        | 3.00      |
| SPC 0604-1R8M | 1.8±20% | 100            | 0.030        | 2.85      |
| SPC 0604-2R2M | 2.2±20% | 100            | 0.035        | 2.65      |
| SPC 0604-3R3M | 3.3±20% | 100            | 0.040        | 2.35      |
| SPC 0604-4R7M | 4.7±20% | 100            | 0.045        | 2.15      |
| SPC 0604-6R8M | 6.8±20% | 100            | 0.060        | 1.85      |
| SPC 0604-100M | 10±20%  | 100            | 0.085        | 1.60      |
| SPC 0604-120M | 12±20%  | 100            | 0.09         | 1.50      |
| SPC 0604-150M | 15±20%  | 100            | 0.11         | 1.45      |
| SPC 0604-180M | 18±20%  | 100            | 0.12         | 1.30      |
| SPC 0604-220M | 22±20%  | 100            | 0.16         | 1.25      |
| SPC 0604-270M | 27±20%  | 100            | 0.19         | 1.10      |
| SPC 0604-330K | 33±10%  | 100            | 0.28         | 1.00      |

|               |            |     |      |      |
|---------------|------------|-----|------|------|
| SPC 0604-390K | 39 ± 10%   | 100 | 0.30 | 0.90 |
| SPC 0604-470K | 47 ± 10%   | 100 | 0.33 | 0.85 |
| SPC 0604-560K | 56 ± 10%   | 100 | 0.41 | 0.80 |
| SPC 0604-680K | 68 ± 10%   | 100 | 0.45 | 0.70 |
| SPC 0604-820K | 82 ± 10%   | 100 | 0.60 | 0.60 |
| SPC 0604-101K | 100 ± 10%  | 100 | 0.66 | 0.55 |
| SPC 0604-121K | 120 ± 10%  | 100 | 0.72 | 0.50 |
| SPC 0604-151K | 150 ± 10%  | 100 | 1.05 | 0.45 |
| SPC 0604-181K | 180 ± 10%  | 100 | 1.15 | 0.40 |
| SPC 0604-221K | 220 ± 10%  | 100 | 1.25 | 0.35 |
| SPC 0604-271K | 270 ± 10%  | 100 | 1.80 | 0.30 |
| SPC 0604-331K | 330 ± 10%  | 100 | 1.95 | 0.28 |
| SPC 0604-391K | 390 ± 10%  | 100 | 2.78 | 0.25 |
| SPC 0604-471K | 470 ± 10%  | 100 | 2.98 | 0.23 |
| SPC 0604-561K | 560 ± 10%  | 100 | 3.3  | 0.21 |
| SPC 0604-681K | 680 ± 10%  | 100 | 5.1  | 0.20 |
| SPC 0604-821K | 820 ± 10%  | 100 | 5.4  | 0.18 |
| SPC 0604-102K | 1000 ± 10% | 100 | 6.0  | 0.16 |

| Part Number   | L(uH)     | Test req.(KHz) | DCR Max. (Ω) | Irated(A) |
|---------------|-----------|----------------|--------------|-----------|
| SPC 0605-1R2M | 1.2 ± 20% | 100            | 0.028        | 3.50      |
| SPC 0605-1R5M | 1.5 ± 20% | 100            | 0.030        | 3.00      |
| SPC 0605-2R2M | 2.2 ± 20% | 100            | 0.035        | 2.70      |
| SPC 0605-3R3M | 3.3 ± 20% | 100            | 0.042        | 2.50      |
| SPC 0605-4R7M | 4.7 ± 20% | 100            | 0.050        | 2.20      |
| SPC 0605-6R8M | 6.8 ± 20% | 100            | 0.060        | 2.00      |
| SPC 0605-100M | 10 ± 20%  | 100            | 0.070        | 1.80      |
| SPC 0605-120M | 12 ± 20%  | 100            | 0.080        | 1.60      |
| SPC 0605-150M | 15 ± 20%  | 100            | 0.090        | 1.50      |
| SPC 0605-180M | 18 ± 20%  | 100            | 0.095        | 1.30      |
| SPC 0605-220M | 22 ± 20%  | 100            | 0.11         | 1.20      |
| SPC 0605-270M | 27 ± 20%  | 100            | 0.13         | 1.10      |
| SPC 0605-330K | 33 ± 10%  | 100            | 0.18         | 1.00      |
| SPC 0605-390K | 39 ± 10%  | 100            | 0.21         | 0.90      |
| SPC 0605-470K | 47 ± 10%  | 100            | 0.22         | 0.80      |
| SPC 0605-560K | 56 ± 10%  | 100            | 0.25         | 0.75      |
| SPC 0605-680K | 68 ± 10%  | 100            | 0.30         | 0.70      |
| SPC 0605-820K | 82 ± 10%  | 100            | 0.39         | 0.60      |
| SPC 0605-101K | 100 ± 10% | 100            | 0.43         | 0.55      |
| SPC 0605-121K | 120 ± 10% | 100            | 0.50         | 0.50      |
| SPC 0605-151K | 150 ± 10% | 100            | 0.62         | 0.45      |
| SPC 0605-181K | 180 ± 10% | 100            | 0.69         | 0.40      |
| SPC 0605-221K | 220 ± 10% | 100            | 0.89         | 0.38      |
| SPC 0605-271K | 270 ± 10% | 100            | 1.0          | 0.35      |
| SPC 0605-331K | 330 ± 10% | 100            | 1.4          | 0.32      |
| SPC 0605-391K | 390 ± 10% | 100            | 1.5          | 0.30      |
| SPC 0605-471K | 470 ± 10% | 100            | 2.0          | 0.28      |

|               |            |     |     |      |
|---------------|------------|-----|-----|------|
| SPC 0605-561K | 560 ± 10%  | 100 | 2.3 | 0.25 |
| SPC 0605-681K | 680 ± 10%  | 100 | 3.2 | 0.20 |
| SPC 0605-821K | 820 ± 10%  | 100 | 3.5 | 0.18 |
| SPC 0605-102K | 1000 ± 10% | 100 | 4.1 | 0.16 |

| Part Number   | L(uH)      | Test req.(KHz) | DCR Max. (Ω) | Irated(A) |
|---------------|------------|----------------|--------------|-----------|
| SPC 0703-1R0M | 1.0 ± 20%  | 100            | 0.020        | 3.20      |
| SPC 0703-1R5M | 1.5 ± 20%  | 100            | 0.025        | 2.80      |
| SPC 0703-2R2M | 2.2 ± 20%  | 100            | 0.035        | 2.50      |
| SPC 0703-3R3M | 3.3 ± 20%  | 100            | 0.040        | 2.20      |
| SPC 0703-4R7M | 4.7 ± 20%  | 100            | 0.045        | 2.00      |
| SPC 0703-6R8M | 6.8 ± 20%  | 100            | 0.060        | 1.60      |
| SPC 0703-100M | 10 ± 20%   | 100            | 0.080        | 1.40      |
| SPC 0703-120M | 12 ± 20%   | 100            | 0.085        | 1.30      |
| SPC 0703-150L | 15 ± 15%   | 100            | 0.11         | 1.10      |
| SPC 0703-180L | 18 ± 15%   | 100            | 0.13         | 1.05      |
| SPC 0703-220L | 22 ± 15%   | 100            | 0.15         | 1.00      |
| SPC 0703-270L | 27 ± 15%   | 100            | 0.19         | 0.95      |
| SPC 0703-330L | 33 ± 15%   | 100            | 0.21         | 0.85      |
| SPC 0703-390L | 39 ± 15%   | 100            | 0.27         | 0.75      |
| SPC 0703-470L | 47 ± 15%   | 100            | 0.31         | 0.70      |
| SPC 0703-560K | 56 ± 10%   | 100            | 0.39         | 0.65      |
| SPC 0703-680K | 68 ± 10%   | 100            | 0.43         | 0.60      |
| SPC 0703-820K | 82 ± 10%   | 100            | 0.49         | 0.50      |
| SPC 0703-101K | 100 ± 10%  | 100            | 0.65         | 0.45      |
| SPC 0703-121K | 120 ± 10%  | 100            | 0.70         | 0.40      |
| SPC 0703-151K | 150 ± 10%  | 100            | 0.85         | 0.35      |
| SPC 0703-181K | 180 ± 10%  | 100            | 1.10         | 0.33      |
| SPC 0703-221K | 220 ± 10%  | 100            | 1.25         | 0.30      |
| SPC 0703-271K | 270 ± 10%  | 100            | 1.45         | 0.28      |
| SPC 0703-331K | 330 ± 10%  | 100            | 2.00         | 0.25      |
| SPC 0703-391K | 390 ± 10%  | 100            | 2.25         | 0.23      |
| SPC 0703-471K | 470 ± 10%  | 100            | 2.6          | 0.22      |
| SPC 0703-561K | 560 ± 10%  | 100            | 3.7          | 0.20      |
| SPC 0703-681K | 680 ± 10%  | 100            | 4.3          | 0.18      |
| SPC 0703-821K | 820 ± 10%  | 100            | 4.9          | 0.16      |
| SPC 0703-102K | 1000 ± 10% | 100            | 5.6          | 0.15      |

| Part Number   | L(uH)     | Test req.(KHz) | DCR Max. (Ω) | Irated(A) |
|---------------|-----------|----------------|--------------|-----------|
| SPC 0705-1R0M | 1.0 ± 20% | 100            | 0.023        | 3.50      |
| SPC 0705-1R5M | 1.5 ± 20% | 100            | 0.028        | 3.20      |
| SPC 0705-2R2M | 2.2 ± 20% | 100            | 0.033        | 3.30      |
| SPC 0705-3R3M | 3.3 ± 20% | 100            | 0.040        | 2.70      |
| SPC 0705-4R7M | 4.7 ± 20% | 100            | 0.050        | 2.50      |
| SPC 0705-6R8M | 6.8 ± 20% | 100            | 0.060        | 2.20      |
| SPC 0705-100M | 10 ± 20%  | 100            | 0.075        | 2.00      |
| SPC 0705-120M | 12 ± 20%  | 100            | 0.085        | 1.90      |

|               |            |     |      |      |
|---------------|------------|-----|------|------|
| SPC 0705-150L | 15 ± 15%   | 100 | 0.09 | 1.50 |
| SPC 0705-180L | 18 ± 15%   | 100 | 0.10 | 1.40 |
| SPC 0705-220L | 22 ± 15%   | 100 | 0.12 | 1.30 |
| SPC 0705-270L | 27 ± 15%   | 100 | 0.15 | 1.20 |
| SPC 0705-330L | 33 ± 15%   | 100 | 0.18 | 1.10 |
| SPC 0705-390L | 39 ± 15%   | 100 | 0.19 | 1.00 |
| SPC 0705-470L | 47 ± 15%   | 100 | 0.22 | 0.90 |
| SPC 0705-560K | 56 ± 10%   | 100 | 0.25 | 0.85 |
| SPC 0705-680K | 68 ± 10%   | 100 | 0.27 | 0.80 |
| SPC 0705-820K | 82 ± 10%   | 100 | 0.38 | 0.70 |
| SPC 0705-101K | 100 ± 10%  | 100 | 0.42 | 0.65 |
| SPC 0705-121K | 120 ± 10%  | 100 | 0.52 | 0.60 |
| SPC 0705-151K | 150 ± 10%  | 100 | 0.58 | 0.50 |
| SPC 0705-181K | 180 ± 10%  | 100 | 0.65 | 0.45 |
| SPC 0705-221K | 220 ± 10%  | 100 | 0.88 | 0.40 |
| SPC 0705-271K | 270 ± 10%  | 100 | 0.99 | 0.35 |
| SPC 0705-331K | 330 ± 10%  | 100 | 1.1  | 0.32 |
| SPC 0705-391K | 390 ± 10%  | 100 | 1.4  | 0.30 |
| SPC 0705-471K | 470 ± 10%  | 100 | 1.9  | 0.28 |
| SPC 0705-561K | 560 ± 10%  | 100 | 2.2  | 0.25 |
| SPC 0705-681K | 680 ± 10%  | 100 | 2.5  | 0.22 |
| SPC 0705-821K | 820 ± 10%  | 100 | 2.9  | 0.20 |
| SPC 0705-102K | 1000 ± 10% | 100 | 4.0  | 0.18 |

| Part Number   | L(uH)     | Test req.(KHz) | DCR Max. (Ω) | Irated(A) |
|---------------|-----------|----------------|--------------|-----------|
| SPC 1003-1R8M | 1.8 ± 20% | 100            | 0.027        | 4.00      |
| SPC 1003-2R7M | 2.7 ± 20% | 100            | 0.030        | 3.65      |
| SPC 1003-3R9M | 3.9 ± 20% | 100            | 0.035        | 3.15      |
| SPC 1003-4R7M | 4.7 ± 20% | 100            | 0.040        | 3.00      |
| SPC 1003-6R8M | 6.8 ± 20% | 100            | 0.050        | 2.35      |
| SPC 1003-100M | 10 ± 20%  | 100            | 0.060        | 2.20      |
| SPC 1003-120M | 12 ± 20%  | 100            | 0.080        | 2.00      |
| SPC 1003-150M | 15 ± 20%  | 100            | 0.100        | 1.75      |
| SPC 1003-180L | 18 ± 15%  | 100            | 0.110        | 1.70      |
| SPC 1003-220L | 22 ± 15%  | 100            | 0.140        | 1.60      |
| SPC 1003-270L | 27 ± 15%  | 100            | 0.160        | 1.40      |
| SPC 1003-330L | 33 ± 15%  | 100            | 0.210        | 1.20      |
| SPC 1003-390L | 39 ± 15%  | 100            | 0.235        | 1.10      |
| SPC 1003-470L | 47 ± 15%  | 100            | 0.28         | 1.00      |
| SPC 1003-560L | 56 ± 15%  | 100            | 0.32         | 0.90      |
| SPC 1003-680L | 68 ± 15%  | 100            | 0.37         | 0.85      |
| SPC 1003-820L | 82 ± 15%  | 100            | 0.43         | 0.74      |
| SPC 1003-101K | 100 ± 10% | 100            | 0.56         | 0.70      |
| SPC 1003-121K | 120 ± 10% | 100            | 0.64         | 0.60      |
| SPC 1003-151K | 150 ± 10% | 100            | 0.73         | 0.55      |
| SPC 1003-181K | 180 ± 10% | 100            | 0.96         | 0.50      |
| SPC 1003-221K | 220 ± 10% | 100            | 1.10         | 0.48      |
| SPC 1003-271K | 270 ± 10% | 100            | 1.24         | 0.45      |

|               |            |     |      |      |
|---------------|------------|-----|------|------|
| SPC 1003-331K | 330 ± 10%  | 100 | 1.64 | 0.38 |
| SPC 1003-391K | 390 ± 10%  | 100 | 1.79 | 0.35 |
| SPC 1003-471K | 470 ± 10%  | 100 | 2.05 | 0.30 |
| SPC 1003-561K | 560 ± 10%  | 100 | 2.89 | 0.29 |
| SPC 1003-681K | 680 ± 10%  | 100 | 3.24 | 0.27 |
| SPC 1003-821K | 820 ± 10%  | 100 | 3.7  | 0.25 |
| SPC 1003-102K | 1000 ± 10% | 100 | 7.0  | 0.24 |

| Part Number   | L(uH)      | Test req.(KHz) | DCR Max. (Ω) | Irated(A) |
|---------------|------------|----------------|--------------|-----------|
| SPC 1004-1R8M | 1.8 ± 20%  | 100            | 0.023        | 5.50      |
| SPC 1004-2R7M | 2.7 ± 20%  | 100            | 0.025        | 5.00      |
| SPC 1004-3R9M | 3.9 ± 20%  | 100            | 0.030        | 4.50      |
| SPC 1004-4R7M | 4.7 ± 20%  | 100            | 0.035        | 4.00      |
| SPC 1004-6R8M | 6.8 ± 20%  | 100            | 0.040        | 3.80      |
| SPC 1004-100M | 10 ± 20%   | 100            | 0.050        | 3.30      |
| SPC 1004-120M | 12 ± 20%   | 100            | 0.055        | 3.20      |
| SPC 1004-150M | 15 ± 20%   | 100            | 0.065        | 3.00      |
| SPC 1004-180L | 18 ± 15%   | 100            | 0.07         | 2.70      |
| SPC 1004-220L | 22 ± 15%   | 100            | 0.08         | 2.64      |
| SPC 1004-270L | 27 ± 15%   | 100            | 0.09         | 2.40      |
| SPC 1004-330L | 33 ± 15%   | 100            | 0.11         | 2.00      |
| SPC 1004-390L | 39 ± 15%   | 100            | 0.12         | 1.90      |
| SPC 1004-470L | 47 ± 15%   | 100            | 0.13         | 1.80      |
| SPC 1004-560L | 56 ± 15%   | 100            | 0.18         | 1.60      |
| SPC 1004-680L | 68 ± 15%   | 100            | 0.21         | 1.40      |
| SPC 1004-820L | 82 ± 15%   | 100            | 0.24         | 1.30      |
| SPC 1004-101K | 100 ± 10%  | 100            | 0.29         | 1.20      |
| SPC 1004-121K | 120 ± 10%  | 100            | 0.34         | 1.10      |
| SPC 1004-151K | 150 ± 10%  | 100            | 0.47         | 1.00      |
| SPC 1004-181K | 180 ± 10%  | 100            | 0.53         | 0.90      |
| SPC 1004-221K | 220 ± 10%  | 100            | 0.73         | 0.80      |
| SPC 1004-271K | 270 ± 10%  | 100            | 0.83         | 0.70      |
| SPC 1004-331K | 330 ± 10%  | 100            | 0.99         | 0.65      |
| SPC 1004-391K | 390 ± 10%  | 100            | 1.10         | 0.60      |
| SPC 1004-471K | 470 ± 10%  | 100            | 1.25         | 0.55      |
| SPC 1004-561K | 560 ± 10%  | 100            | 1.60         | 0.50      |
| SPC 1004-681K | 680 ± 10%  | 100            | 1.80         | 0.45      |
| SPC 1004-821K | 820 ± 10%  | 100            | 2.06         | 0.40      |
| SPC 1004-102K | 1000 ± 10% | 100            | 2.80         | 0.38      |

- Isat: DC current at which the inductance drops 10% from its value without current.
- Irms: Current that causes a 40°C temperature rise from 25°C ambient.