

## SDS127Q SERIES ~

## SMD Shielded Coupled Inductors



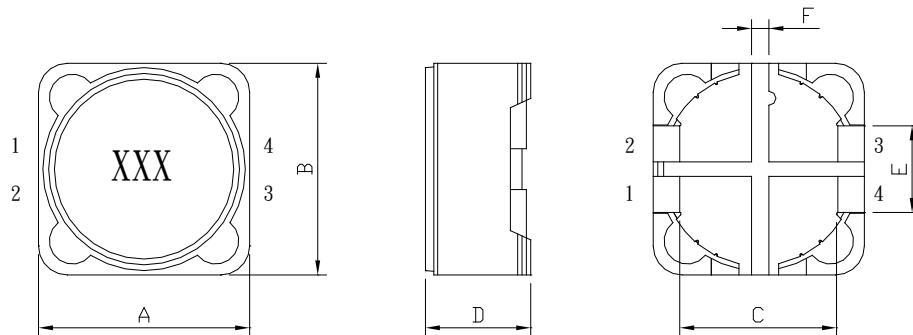
RoHS Compliant

### PART NUMBERING SYSTEM

|            |                |   |                |   |           |
|------------|----------------|---|----------------|---|-----------|
| <b>SDS</b> | <b>1 2 7 Q</b> | — | <b>1 0 0 M</b> | — | <b>LF</b> |
| TYPE       | DIMENSIONS     |   | INDUCTANCE     |   | LEAD FREE |

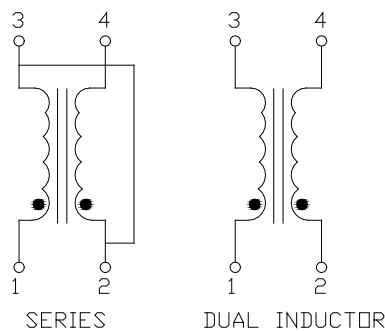
### SHAPES AND DIMENSIONS

UNIT : mm

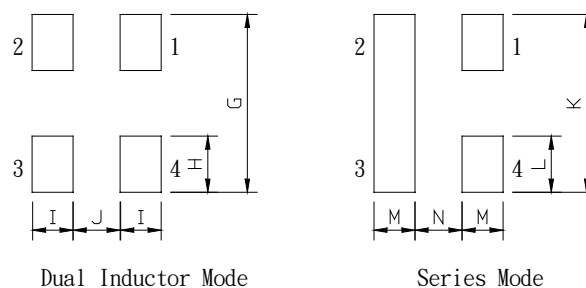


**A=12.5 Max. B=12.5 Max. C=7.8 Ref. D=8.0 Max. E=5.0 Ref. F=2.0 Ref.**

### SCHEMATIC DRAWING



### PCB PATTERN



**G=13.8 H=3.85 I=2.5 J=0.5 K=13.8 L=3.85 M=2.5 N=0.5**

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### SPECIFICATION TABLE

| TYPE            |                          | Parallel Ratings            |              |              |                            | Series ratings              |              |              |                            |
|-----------------|--------------------------|-----------------------------|--------------|--------------|----------------------------|-----------------------------|--------------|--------------|----------------------------|
| PART NUMBER     | INDUCTANCE<br>( $\mu$ H) | OCL $\pm$ 20%<br>( $\mu$ H) | I rms<br>(A) | I sat<br>(A) | DCR ( $\Omega$ )<br>(Max.) | OCL $\pm$ 25%<br>( $\mu$ H) | I rms<br>(A) | I sat<br>(A) | DCR ( $\Omega$ )<br>(Max.) |
| SDS127Q-R47M-LF | 0.47                     | 0.419                       | 17.9         | 56.0         | 0.00244                    | 1.676                       | 8.94         | 28           | 0.0098                     |
| SDS127Q-1R0M-LF | 1.00                     | 0.821                       | 15.5         | 40.0         | 0.00326                    | 3.284                       | 7.74         | 20           | 0.0130                     |
| SDS127Q-1R5M-LF | 1.50                     | 1.357                       | 13.5         | 31.1         | 0.00426                    | 5.428                       | 6.77         | 15.6         | 0.0171                     |
| SDS127Q-2R2M-LF | 2.20                     | 2.027                       | 12.5         | 25.5         | 0.00466                    | 8.108                       | 6.23         | 12.7         | 0.0201                     |
| SDS127Q-3R3M-LF | 3.30                     | 2.831                       | 10.4         | 21.5         | 0.00709                    | 11.32                       | 5.23         | 10.8         | 0.0286                     |
| SDS127Q-4R7M-LF | 4.70                     | 4.841                       | 8.25         | 16.5         | 0.01146                    | 19.36                       | 4.13         | 8.24         | 0.0459                     |
| SDS127Q-6R8M-LF | 6.80                     | 7.387                       | 7.34         | 13.3         | 0.0145                     | 29.55                       | 3.67         | 6.67         | 0.0581                     |
| SDS127Q-8R2M-LF | 8.20                     | 8.861                       | 6.32         | 12.2         | 0.0196                     | 35.44                       | 3.16         | 6.09         | 0.0784                     |
| SDS127Q-100M-LF | 10.0                     | 10.47                       | 6.04         | 11.2         | 0.0215                     | 41.88                       | 3.02         | 5.60         | 0.0858                     |
| SDS127Q-150M-LF | 15.0                     | 14.09                       | 5.03         | 9.66         | 0.0309                     | 56.36                       | 2.51         | 4.83         | 0.1238                     |
| SDS127Q-220M-LF | 22.0                     | 22.93                       | 4.00         | 7.57         | 0.0489                     | 91.72                       | 2.00         | 3.78         | 0.1963                     |
| SDS127Q-330M-LF | 33.0                     | 33.92                       | 3.23         | 6.22         | 0.0750                     | 135.7                       | 1.61         | 3.11         | 0.3013                     |
| SDS127Q-470M-LF | 47.0                     | 47.05                       | 2.95         | 5.28         | 0.0899                     | 188.2                       | 1.47         | 2.64         | 0.3600                     |
| SDS127Q-680M-LF | 68.0                     | 66.48                       | 2.44         | 4.44         | 0.1313                     | 265.9                       | 1.22         | 2.22         | 0.5263                     |
| SDS127Q-820M-LF | 82.0                     | 79.75                       | 2.09         | 4.06         | 0.1788                     | 319.0                       | 1.04         | 2.03         | 0.7163                     |
| SDS127Q-101M-LF | 100                      | 99.31                       | 1.96         | 3.64         | 0.2038                     | 397.2                       | 0.980        | 1.82         | 0.8163                     |
| SDS127Q-151M-LF | 150                      | 144.9                       | 1.59         | 3.01         | 0.3088                     | 579.6                       | 0.796        | 1.51         | 1.2363                     |
| SDS127Q-221M-LF | 220                      | 221.5                       | 1.29         | 2.43         | 0.4700                     | 866.0                       | 0.645        | 1.22         | 1.88                       |
| SDS127Q-331M-LF | 330                      | 323.6                       | 1.04         | 2.01         | 0.7175                     | 1294                        | 0.522        | 1.01         | 2.88                       |
| SDS127Q-471M-LF | 470                      | 467.1                       | 0.85         | 1.68         | 1.0763                     | 1868                        | 0.427        | 0.838        | 4.30                       |
| SDS127Q-681M-LF | 680                      | 676.7                       | 0.76         | 1.39         | 1.3500                     | 2707                        | 0.380        | 0.697        | 5.40                       |
| SDS127Q-821M-LF | 820                      | 818.1                       | 0.65         | 1.27         | 1.8376                     | 3272                        | 0.325        | 0.633        | 7.35                       |
| SDS127Q-102M-LF | 1000                     | 1005                        | 0.61         | 1.14         | 2.0750                     | 4020                        | 0.307        | 0.571        | 8.30                       |

- Inductors tolerance M= $\pm$ 20%.
- I sat : DC current at which the inductance drops 30% (typ) from its value without current.
- Operating temperature range -40°C to +125°C .
- Electrical specifications at 20°C .

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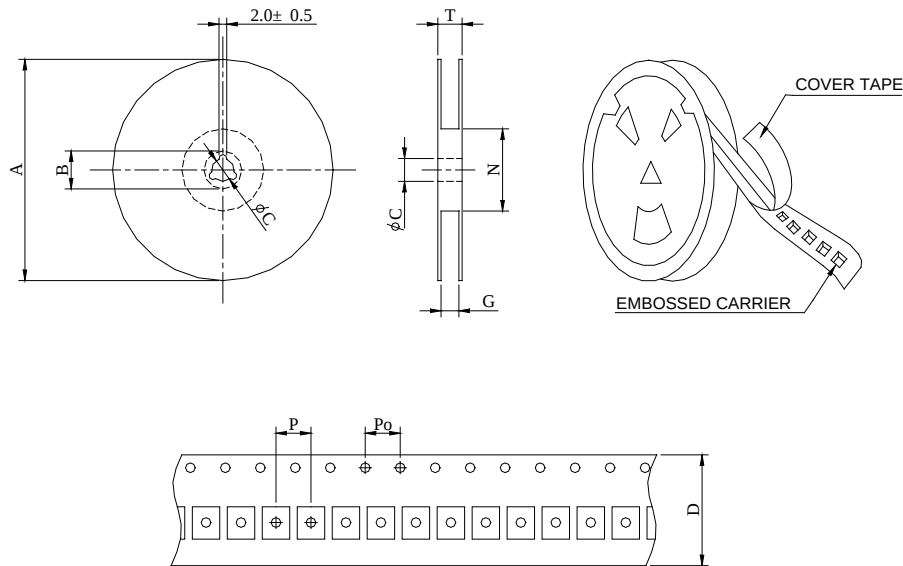
### Description

- 125°C maximum total temperature operation .
- Dual winding inductors that can be used as either a single inductor , or in coupled inductor/ transformer Application ( 1 : 1 turns ratio )
- Winding can be connected in series or parallel , offering a broad range of inductance and current ratings .
- 200 VAC isolation between windings
- RoHS compliant

### Applications

- As a transformer : SEPIC , flyback
- DC/DC converters
- As an inductor : Buck, boost , coupled inductor .
- VRM inductor for CPU and DDR power supplies .
- Input and output filter chokes .

### PACKAGING SPECIFICATION



| SERIES  | STAYLE | Q' TY<br>(PCS) | DIMENSIONS (m/m) |       |       |    |                 |                 |    |    |      |
|---------|--------|----------------|------------------|-------|-------|----|-----------------|-----------------|----|----|------|
|         |        |                | A                | B±0.8 | C±0.5 | D  | G <sup>+0</sup> | N <sup>-0</sup> | P  | Po | T    |
| SDS127Q | 13-24  | 400            | 330              | 21    | 13    | 24 | 26              | 50              | 20 | 4  | 30.4 |