
# High Current SMD Power Inductors

# STR8052B Series

## Features

- Current rating up to 22.7 A
- Toroidal core
- RoHS compliant*

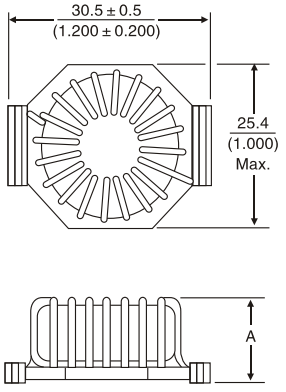
## Applications

- Input/output of DC/DC converters
- Industrial electronics
- Power supplies for:
  - Portable communications equipment
  - Camcorders
  - LCD Tvs
  - Car radios

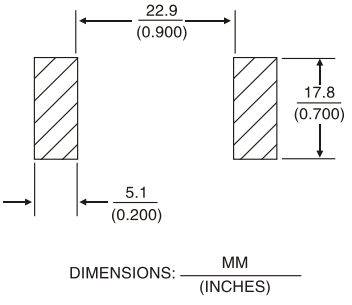
## Electrical Specifications

| Part No | Inductance 1kHz | | DCR Max. (mΩ) | Idc (A) | Dim,A Max. mm/(in.) |
|---|---|---|---|---|---|
| | (μH) | Tol.(%) | | | |
| STR8052B-1R0M | 1.0 | ±20 | 2 | 22.7 | 14.48/(0.57) |
| STR8052B-1R2M | 1.2 | ±20 | 2 | 20.3 | 14.48/(0.57) |
| STR8052B-1R5M | 1.5 | ±20 | 2 | 20.3 | 14.48/(0.57) |
| STR8052B-1R8M | 1.8 | ±20 | 3 | 18.5 | 14.48/(0.57) |
| STR8052B-2R2M | 2.2 | ±20 | 3 | 17.2 | 14.48/(0.57) |
| STR8052B-2R7M | 2.7 | ±20 | 4 | 16.0 | 14.48/(0.57) |
| STR8052B-3R3M | 3.3 | ±20 | 4 | 16.0 | 14.48/(0.57) |
| STR8052B-3R9M | 3.9 | ±20 | 4 | 15.1 | 14.48/(0.57) |
| STR8052B-4R7M | 4.7 | ±20 | 4 | 14.4 | 14.48/(0.57) |
| STR8052B-5R6M | 5.6 | ±20 | 5 | 13.7 | 14.48/(0.57) |
| STR8052B-6R8M | 6.8 | ±20 | 5 | 13.1 | 14.48/(0.57) |
| STR8052B-8R2M | 8.2 | ±20 | 6 | 12.6 | 14.48/(0.57) |
| STR8052B-100K | 10 | ±10 | 7 | 11.7 | 14.48/(0.57) |
| STR8052B-120K | 12 | ±10 | 7 | 11.3 | 14.48/(0.57) |
| STR8052B-150K | 15 | ±10 | 8 | 10.7 | 14.48/(0.57) |
| STR8052B-180K | 18 | ±10 | 9 | 10.2 | 14.48/(0.57) |
| STR8052B-220K | 22 | ±10 | 10 | 9.7 | 14.48/(0.57) |
| STR8052B-270K | 27 | ±10 | 14 | 8.2 | 13.72/(0.54) |
| STR8052B-330K | 33 | ±10 | 19 | 7.0 | 13.21/(0.52) |
| STR8052B-390K | 39 | ±10 | 20 | 6.8 | 15.75/(0.62) |
| STR8052B-470K | 47 | ±10 | 22 | 6.5 | 15.75/(0.62) |
| STR8052B-560K | 56 | ±10 | 24 | 6.2 | 15.75/(0.62) |
| STR8052B-680K | 68 | ±10 | 27 | 5.9 | 15.75/(0.62) |
| STR8052B-820K | 82 | ±10 | 29 | 5.6 | 15.75/(0.62) |
| STR8052B-101K | 100 | ±10 | 32 | 5.4 | 15.75/(0.62) |
| STR8052B-121K | 120 | ±10 | 35 | 5.1 | 15.75/(0.62) |
| STR8052B-151K | 150 | ±10 | 49 | 4.3 | 14.99/(0.59) |
| STR8052B-181K | 180 | ±10 | 66 | 3.7 | 13.46/(0.53) |
| STR8052B-221K | 220 | ±10 | 74 | 3.5 | 15.24/(0.60) |
| STR8052B-271K | 270 | ±10 | 82 | 3.4 | 15.24/(0.60) |
| STR8052B-331K | 330 | ±10 | 90 | 3.2 | 15.24/(0.60) |
| STR8052B-391K | 390 | ±10 | 98 | 3.1 | 15.24/(0.60) |
| STR8052B-471K | 470 | ±10 | 133 | 2.6 | 14.48/(0.57) |
| STR8052B-561K | 560 | ±10 | 146 | 2.5 | 14.48/(0.57) |
| STR8052B-681K | 680 | ±10 | 202 | 2.1 | 13.72/(0.54) |
| STR8052B-821K | 820 | ±10 | 221 | 2.0 | 15.24/(0.60) |
| STR8052B-102K | 1000 | ±10 | 244 | 1.9 | 15.24/(0.60) |

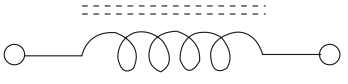
## Product Dimensions




## Pecommended Layout



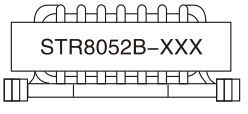

## Electrical Schematic



## General Specifications

Test Voltage 0.1V Reflow Soldering 245℃; 5 seconds Operating Temperature,–55℃ to +105℃ (Temperature rise included) Storage Temperature..–55℃ to +105 ℃ Resistance to Soldering Heat 260℃, 10 sec.max.

## Typical Part Marking




## Materials

Core Iron Wire Enameled copper Adhesive Epoxy resin Terminal Sn/Ag/Cu Rated Durrent See "Inductance vs.Current" table Temperature Rise 30℃ typical at Idc Packaning 77 pcs.per box

* RoHS Directive 2002/95/EC Jan 27 2003 Including Annes Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

# High Current SMD Power Inductors

# STR8052B Series

## Inductance vs.Current

| L ( μ H) | Idc (A) to decrease L by 10% | Idc (A) to decrease L by 20% | Idc (A) to decrease L by 30% | Idc (A) to decrease L by 40% | Idc (A) to decrease L by 50% |
|---|---|---|---|---|---|
| 1 | 17.0 | 22.7 | 37.0 | 50.0 | 66.0 |
| 1.2 | 13.5 | 21.2 | 30.0 | 40.0 | 53.0 |
| 1.5 | 13.2 | 21.0 | 29.9 | 39.8 | 52.8 |
| 1.8 | 11.1 | 17.9 | 25.0 | 33.5 | 44.5 |
| 2.2 | 9.50 | 15.4 | 21.9 | 28.6 | 38.1 |
| 2.7 | 8.30 | 13.5 | 18.8 | 25.1 | 33.5 |
| 3.3 | 8.30 | 13.4 | 18.8 | 25.0 | 33.4 |
| 3.9 | 7.40 | 11.9 | 16.6 | 22.4 | 29.8 |
| 4.7 | 6.70 | 10.7 | 15.0 | 20.1 | 26.8 |
| 5.6 | 6.10 | 9.70 | 13.6 | 18.2 | 24.4 |
| 6.8 | 5.55 | 8.90 | 12.5 | 16.7 | 22.3 |
| 8.2 | 5.15 | 8.25 | 11.5 | 15.5 | 20.6 |
| 10 | 4.45 | 7.05 | 9.95 | 13.4 | 17.8 |
| 12 | 4.15 | 6.70 | 9.35 | 12.6 | 16.7 |
| 15 | 3.70 | 5.95 | 8.30 | 11.2 | 14.9 |
| 18 | 3.35 | 5.35 | 7.50 | 10.1 | 13.4 |
| 22 | 2.80 | 4.84 | 6.80 | 9.15 | 12.1 |
| 27 | 2.65 | 4.17 | 5.97 | 8.02 | 10.7 |
| 33 | 2.40 | 3.80 | 5.35 | 7.25 | 9.55 |
| 39 | 2.20 | 3.53 | 5.00 | 6.70 | 8.90 |
| 47 | 2.05 | 3.25 | 4.54 | 6.05 | 8.10 |
| 56 | 1.85 | 2.98 | 4.15 | 5.55 | 7.50 |
| 68 | 1.67 | 2.67 | 3.75 | 5.02 | 6.70 |
| 82 | 1.51 | 2.43 | 3.40 | 4.45 | 6.08 |
| 100 | 1.39 | 2.23 | 3.11 | 4.18 | 5.58 |
| 120 | 1.26 | 2.02 | 2.82 | 3.78 | 5.05 |
| 150 | 1.13 | 1.81 | 2.54 | 3.40 | 4.54 |
| 180 | 1.03 | 1.64 | 2.30 | 3.08 | 4.12 |
| 220 | 0.93 | 1.45 | 2.08 | 2.79 | 3.70 |
| 270 | 0.83 | 1.34 | 1.86 | 2.51 | 3.35 |
| 330 | 0.76 | 1.21 | 1.70 | 2.28 | 3.04 |
| 390 | 0.69 | 1.11 | 1.56 | 2.07 | 2.79 |
| 470 | 0.64 | 1.02 | 1.42 | 1.91 | 2.55 |
| 560 | 0.58 | 0.93 | 1.30 | 1.74 | 2.33 |
| 680 | 0.53 | 0.84 | 1.17 | 1.58 | 2.11 |
| 820 | 0.48 | 0.77 | 1.07 | 1.44 | 1.93 |
| 1000 | 0.43 | 0.69 | 0.97 | 1.30 | 1.74 |

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.


# High Current SMD Power Inductors

# STR8052C Series

## Features

- Current rating up to 25.4 A
- Toroidal core
- RoHS compliant*

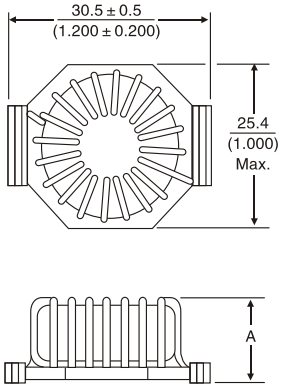
## Applications

- Input/output of DC/DC converters
- Industrial electronics
- Power supplies for:
  - Portable communications equipment
  - Camcorders
  - LCD Tvs
  - Car radios

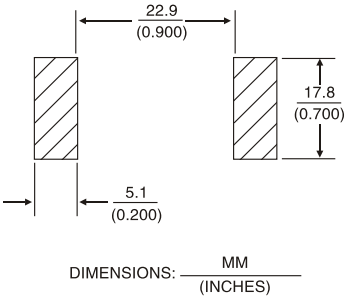
## Electrical Specifications

| Part No | Inductance 1kHz | | DCR Max. (mΩ) | Idc (A) | Dim,A Max. mm/(in.) |
|---|---|---|---|---|---|
| | (μH) | Tol.(%) | | | |
| STR8052C-1R0M | 1.0 | ±20 | 2 | 25.4 | 20.83/(0.82) |
| STR8052C-1R2M | 1.2 | ±20 | 2 | 25.4 | 20.83/(0.82) |
| STR8052C-1R5M | 1.5 | ±20 | 3 | 22.0 | 20.83/(0.82) |
| STR8052C-1R8M | 1.8 | ±20 | 3 | 22.0 | 20.83/(0.82) |
| STR8052C-2R2M | 2.2 | ±20 | 3 | 19.7 | 20.83/(0.82) |
| STR8052C-2R7M | 2.7 | ±20 | 3 | 19.7 | 20.83/(0.82) |
| STR8052C-3R3M | 3.3 | ±20 | 4 | 18.0 | 20.83/(0.82) |
| STR8052C-3R9M | 3.9 | ±20 | 4 | 18.0 | 20.83/(0.82) |
| STR8052C-4R7M | 4.7 | ±20 | 5 | 16.6 | 20.83/(0.82) |
| STR8052C-5R6M | 5.6 | ±20 | 5 | 15.6 | 20.83/(0.82) |
| STR8052C-6R8M | 6.8 | ±20 | 6 | 14.7 | 20.83/(0.82) |
| STR8052C-8R2M | 8.2 | ±20 | 6 | 14.7 | 20.83/(0.82) |
| STR8052C-100K | 10 | ±10 | 7 | 13.9 | 20.83/(0.82) |
| STR8052C-120K | 12 | ±10 | 8 | 12.7 | 20.83/(0.82) |
| STR8052C-150K | 15 | ±10 | 9 | 12.2 | 20.83/(0.82) |
| STR8052C-180K | 18 | ±10 | 9 | 11.8 | 20.83/(0.82) |
| STR8052C-220K | 22 | ±10 | 11 | 11.0 | 20.83/(0.82) |
| STR8052C-270K | 27 | ±10 | 12 | 10.4 | 20.83/(0.82) |
| STR8052C-330K | 33 | ±10 | 13 | 10.1 | 20.83/(0.82) |
| STR8052C-390K | 39 | ±10 | 14 | 9.6 | 20.83/(0.82) |
| STR8052C-470K | 47 | ±10 | 19 | 8.2 | 20.07/(0.79) |
| STR8052C-560K | 56 | ±10 | 21 | 7.9 | 20.07/(0.79) |
| STR8052C-680K | 68 | ±10 | 29 | 6.7 | 19.56/(0.77) |
| STR8052C-820K | 82 | ±10 | 32 | 6.4 | 20.10/(0.87) |
| STR8052C-101K | 100 | ±10 | 35 | 6.1 | 20.10/(0.87) |
| STR8052C-121K | 120 | ±10 | 39 | 5.8 | 20.10/(0.87) |
| STR8052C-151K | 150 | ±10 | 43 | 5.5 | 20.10/(0.87) |
| STR8052C-181K | 180 | ±10 | 47 | 5.3 | 20.08/(0.83) |
| STR8052C-221K | 220 | ±10 | 52 | 5.0 | 20.08/(0.83 |
| STR8052C-271K | 270 | ±10 | 72 | 4.2 | 20.32/(0.80) |
| STR8052C-331K | 330 | ±10 | 100 | 3.6 | 19.81/(0.78) |
| STR8052C-391K | 390 | ±10 | 108 | 3.5 | 19.81/(0.78) |
| STR8052C-471K | 470 | ±10 | 119 | 3.3 | 21.59/(0.85) |
| STR8052C-561K | 560 | ±10 | 130 | 3.2 | 21.59/(0.85) |
| STR8052C-681K | 680 | ±10 | 142 | 3.0 | 21.59/(0.85) |
| STR8052C-821K | 820 | ±10 | 157 | 2.9 | 21.59/(0.85) |
| STR8052C-102K | 1000 | ±10 | 215 | 2.5 | 20.83/(0.82) |

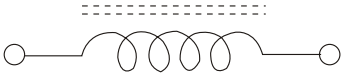
## Product Dimensions




## Pecommended Layout



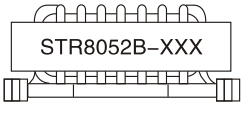

## Electrical Schematic



## General Specifications

Test Voltage 0.1V Reflow Soldering 245℃; 5 seconds Operating Temperature,–55℃ to +105℃ (Temperature rise included) Storage Temperature..–55℃ to +105 ℃ Resistance to Soldering Heat 260℃, 10 sec.max.

## Typical Part Marking




## Materials

Core Iron Wire Enameled copper Adhesive Epoxy resin Terminal Sn/Ag/Cu Rated Durrent See "Inductance vs.Current" table Temperature Rise 30℃ typical at Idc Packaning 77 pcs.per box

* RoHS Directive 2002/95/EC Jan 27 2003 Including Annes Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

# High Current SMD Power Inductors

# STR8052C Series

## Inductance vs.Current

| L ( μ H) | Idc (A) to decrease L by 10% | Idc (A) to decrease L by 20% | Idc (A) to decrease L by 30% | Idc (A) to decrease L by 40% | Idc (A) to decrease L by 50% |
|---|---|---|---|---|---|
| 1 | 15.3 | 24.5 | 34.4 | 45.9 | 61.3 |
| 1.2 | 17.4 | 27.9 | 39.2 | 52.2 | 69.7 |
| 1.5 | 15.8 | 25.3 | 35.6 | 47.4 | 63.3 |
| 1.8 | 14.6 | 23.4 | 32.9 | 43.8 | 58.5 |
| 2.2 | 13.1 | 21.0 | 29.5 | 39.3 | 52.5 |
| 2.7 | 11.7 | 18.7 | 26.3 | 35.1 | 46.9 |
| 3.3 | 15.1 | 24.2 | 34.0 | 45.3 | 60.5 |
| 3.9 | 9.70 | 15.5 | 21.8 | 29.1 | 38.9 |
| 4.7 | 8.90 | 14.3 | 20.0 | 26.7 | 35.7 |
| 5.6 | 8.10 | 13.0 | 18.2 | 24.3 | 32.4 |
| 6.8 | 7.40 | 11.9 | 16.7 | 22.2 | 29.6 |
| 8.2 | 6.70 | 10.7 | 15.1 | 20.1 | 26.8 |
| 10 | 6.10 | 9.77 | 13.7 | 18.3 | 24.4 |
| 12 | 5.60 | 8.97 | 12.6 | 16.8 | 22.4 |
| 15 | 4.90 | 7.85 | 11.0 | 14.7 | 19.6 |
| 18 | 4.60 | 7.37 | 10.4 | 13.8 | 18.4 |
| 22 | 4.10 | 6.57 | 9.23 | 12.3 | 16.4 |
| 27 | 3.70 | 5.93 | 8.33 | 11.1 | 14.8 |
| 33 | 3.35 | 5.37 | 7.54 | 10.1 | 13.4 |
| 39 | 3.10 | 4.97 | 6.98 | 9.30 | 12.4 |
| 47 | 2.80 | 4.49 | 6.30 | 8.40 | 11.2 |
| 56 | 2.55 | 4.09 | 5.74 | 7.65 | 10.2 |
| 68 | 2.35 | 3.76 | 5.29 | 7.05 | 9.41 |
| 82 | 2.15 | 3.44 | 4.84 | 6.45 | 8.61 |
| 100 | 1.92 | 3.08 | 4.32 | 5.76 | 7.69 |
| 120 | 1.75 | 2.80 | 3.94 | 5.25 | 7.01 |
| 150 | 1.58 | 2.53 | 3.56 | 4.74 | 6.33 |
| 180 | 1.43 | 2.29 | 3.22 | 4.29 | 5.73 |
| 220 | 1.30 | 2.08 | 2.93 | 3.90 | 5.21 |
| 270 | 1.18 | 1.89 | 2.66 | 3.54 | 4.73 |
| 330 | 1.11 | 1.78 | 2.50 | 3.33 | 4.45 |
| 390 | 0.97 | 1.55 | 2.18 | 2.91 | 3.89 |
| 470 | 0.89 | 1.43 | 2.00 | 2.67 | 3.57 |
| 560 | 0.81 | 1.30 | 1.82 | 2.43 | 3.24 |
| 680 | 0.74 | 1.19 | 1.67 | 2.22 | 2.96 |
| 820 | 0.67 | 1.07 | 1.51 | 2.01 | 2.68 |
| 1000 | 0.61 | 0.98 | 1.37 | 1.83 | 2.44 |

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.