



**THE DATASHEET OF  
ASPIAIG-S8050-101M-T**



# COMPACT SHIELDED SMD POWER INDUCTOR FOR AUTOMOTIVE



ASPIAIG-SXXXX SERIES

ASPIAIG-S6055: 6.0 x 6.0 x 5.5 mm  
ASPIAIG-S8050: 8.0 x 8.0 x 5.0 mm

RoHS/RoHS II Compliant

MSL = 1

## FEATURES

- High reliability wire-wound construction
- Shielded construction reduces EMI
- Automotive grade power inductor
- TS-16949 qualified production
- PPAP level 3 support
- AEC-Q200 qualified with -40°C to 125°C operation
- High inductance up to 470µH

## APPLICATIONS

- Height restricted applications
- Automotive body electronics and comfort system
- Automotive infotainment and entertainment
- Automotive navigation
- Transportation
- Lighting, LED ballasts
- Industrial Internet of Things (IIoT)
- Industrial applications
- Solar power
- DC/DC converters and switch mode power supplies

## STANDARD SPECIFICATIONS

|                       |                                |
|-----------------------|--------------------------------|
| Operating Temperature | -40°C ~ +125°C                 |
| Storage Condition     | -10°C ~ +40°C and R.H. 70% max |

| Part Number       | Inductance | Tolerance | Self-resonant | DC Resistance  | Saturation Current | Temperature Rise Current |
|-------------------|------------|-----------|---------------|----------------|--------------------|--------------------------|
|                   | 100kHz/1V  |           | Min           | Max Max (25°C) | Typ                | Typ                      |
| Units             | µH         | %         | MHz           | Ω              | A                  | A                        |
| Symbol            | L          | M         | SRF           | DCR            | Isat               | Irms                     |
| ASPIAIG-S6055-3R3 | 3.3        | 20        | 32            | 0.026          | 6.00               | 4.60                     |
| ASPIAIG-S6055-4R7 | 4.7        | 20        | 24            | 0.031          | 5.00               | 4.25                     |
| ASPIAIG-S6055-6R8 | 6.8        | 20        | 20            | 0.034          | 4.30               | 4.10                     |
| ASPIAIG-S6055-8R2 | 8.2        | 20        | 21            | 0.049          | 4.30               | 3.40                     |
| ASPIAIG-S6055-100 | 10         | 20        | 15            | 0.054          | 3.70               | 3.20                     |
| ASPIAIG-S6055-150 | 15         | 20        | 12            | 0.074          | 3.30               | 2.75                     |
| ASPIAIG-S6055-220 | 22         | 20        | 10            | 0.100          | 2.60               | 2.35                     |
| ASPIAIG-S6055-330 | 33         | 20        | 7.8           | 0.170          | 2.00               | 1.80                     |
| ASPIAIG-S6055-470 | 47         | 20        | 6.4           | 0.252          | 1.70               | 1.50                     |
| ASPIAIG-S6055-680 | 68         | 20        | 6.4           | 0.353          | 1.40               | 1.25                     |
| ASPIAIG-S6055-101 | 100        | 20        | 4.2           | 0.434          | 1.10               | 1.10                     |
| ASPIAIG-S6055-151 | 150        | 20        | 4.2           | 0.686          | 0.90               | 0.90                     |
| ASPIAIG-S6055-221 | 220        | 20        | 3.5           | 1.036          | 0.70               | 0.70                     |
| ASPIAIG-S6055-331 | 330        | 20        | 2.8           | 1.603          | 0.65               | 0.60                     |
| ASPIAIG-S8050-1R0 | 1.0        | 20        | 99            | 0.010          | 16.00              | 7.20                     |
| ASPIAIG-S8050-1R5 | 1.5        | 20        | 79            | 0.012          | 13.00              | 6.50                     |
| ASPIAIG-S8050-2R2 | 2.2        | 20        | 59            | 0.014          | 11.00              | 5.80                     |
| ASPIAIG-S8050-3R3 | 3.3        | 20        | 24            | 0.020          | 9.00               | 4.90                     |
| ASPIAIG-S8050-4R7 | 4.7        | 20        | 23            | 0.023          | 7.50               | 4.60                     |
| ASPIAIG-S8050-6R8 | 6.8        | 20        | 19            | 0.029          | 6.10               | 4.20                     |
| ASPIAIG-S8050-8R2 | 8.2        | 20        | 18            | 0.035          | 5.60               | 3.80                     |
| ASPIAIG-S8050-100 | 10         | 20        | 14            | 0.038          | 5.20               | 3.60                     |
| ASPIAIG-S8050-150 | 15         | 20        | 13            | 0.061          | 4.50               | 2.70                     |
| ASPIAIG-S8050-220 | 22         | 20        | 9.0           | 0.088          | 3.50               | 2.20                     |
| ASPIAIG-S8050-330 | 33         | 20        | 7.6           | 0.122          | 3.00               | 2.00                     |
| ASPIAIG-S8050-470 | 47         | 20        | 6.6           | 0.173          | 2.40               | 1.70                     |
| ASPIAIG-S8050-680 | 68         | 20        | 5.4           | 0.252          | 2.00               | 1.45                     |
| ASPIAIG-S8050-101 | 100        | 20        | 4.4           | 0.326          | 1.60               | 1.25                     |
| ASPIAIG-S8050-151 | 150        | 20        | 3.2           | 0.480          | 1.40               | 1.00                     |
| ASPIAIG-S8050-221 | 220        | 20        | 2.9           | 0.708          | 1.10               | 0.75                     |
| ASPIAIG-S8050-331 | 330        | 20        | 2.3           | 1.044          | 0.90               | 0.65                     |
| ASPIAIG-S8050-471 | 470        | M         | 1.9           | 1.540          | 0.80               | 0.55                     |

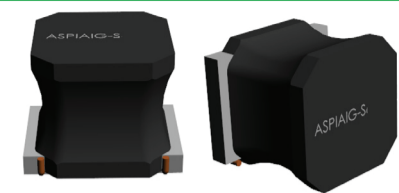


5101 Hidden Creek Ln Spicewood TX 78669  
Phone: 512-371-6159 | Fax: 512-351-8858  
For terms and conditions of sales, please visit:  
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REVISED: 01-16-20

ABRACON IS  
ISO9001-2015  
CERTIFIED

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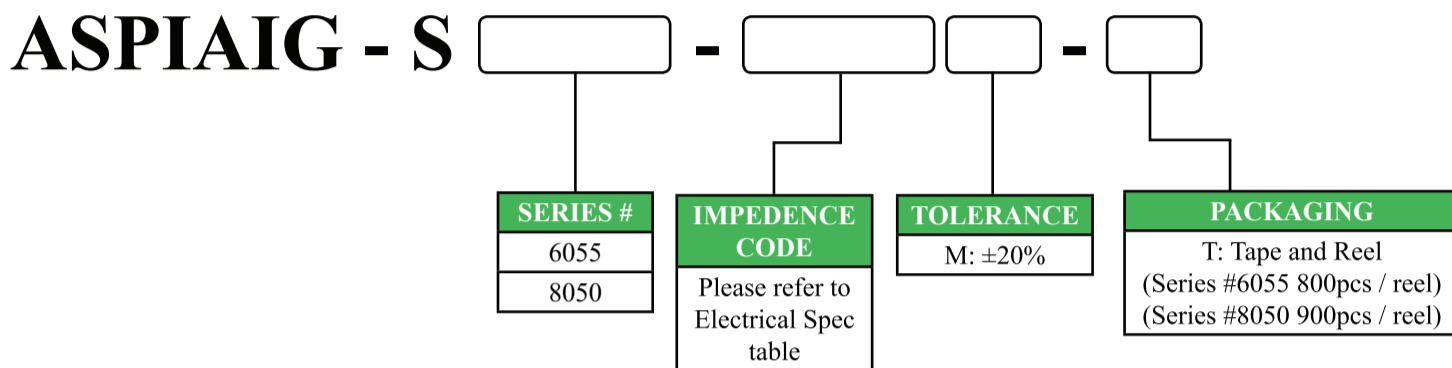
ASPIAIG-SXXXX SERIES

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ASPIAIG-S8050: 8.0 x 8.0 x 5.0 mm

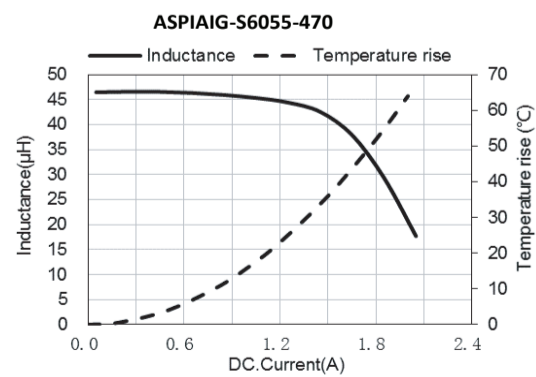
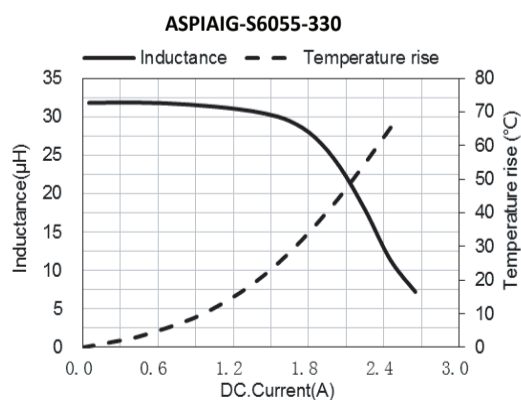
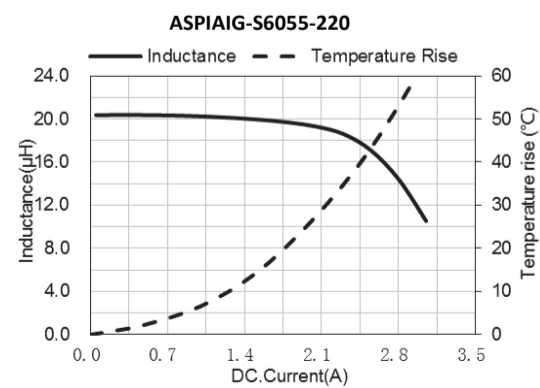
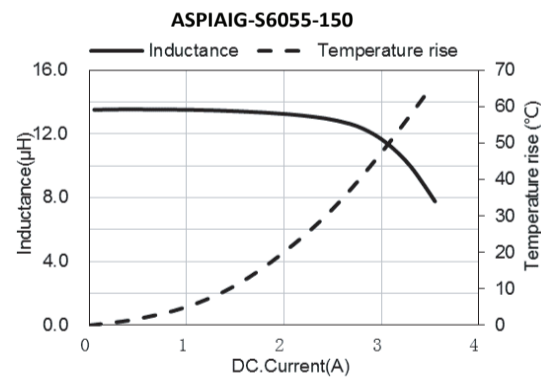
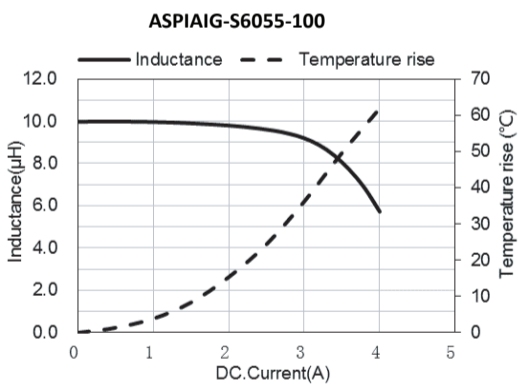
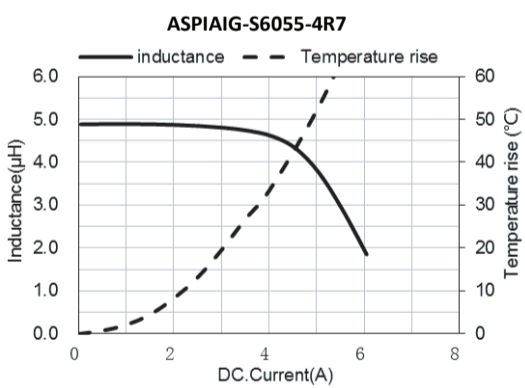
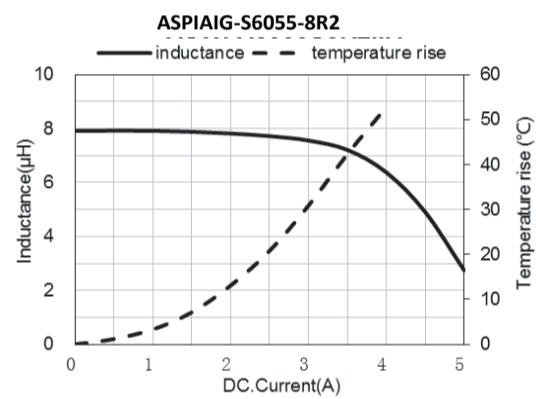
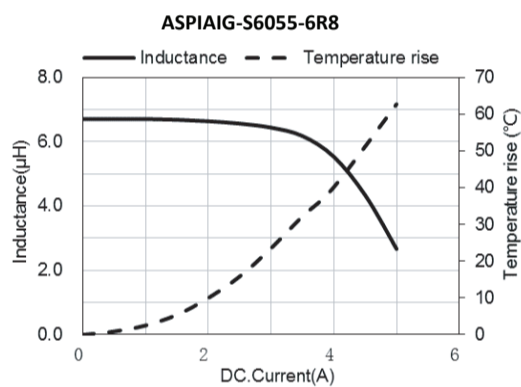
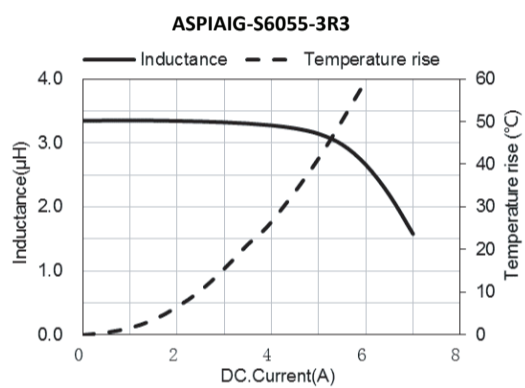
RoHS/RoHS II Compliant

MSL = 1

## PART NUMBER IDENTIFICATION



## ELECTRICAL CHARACTERISTICS

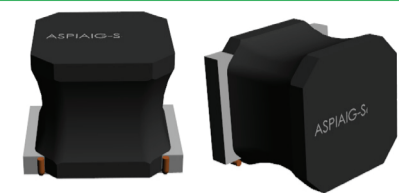


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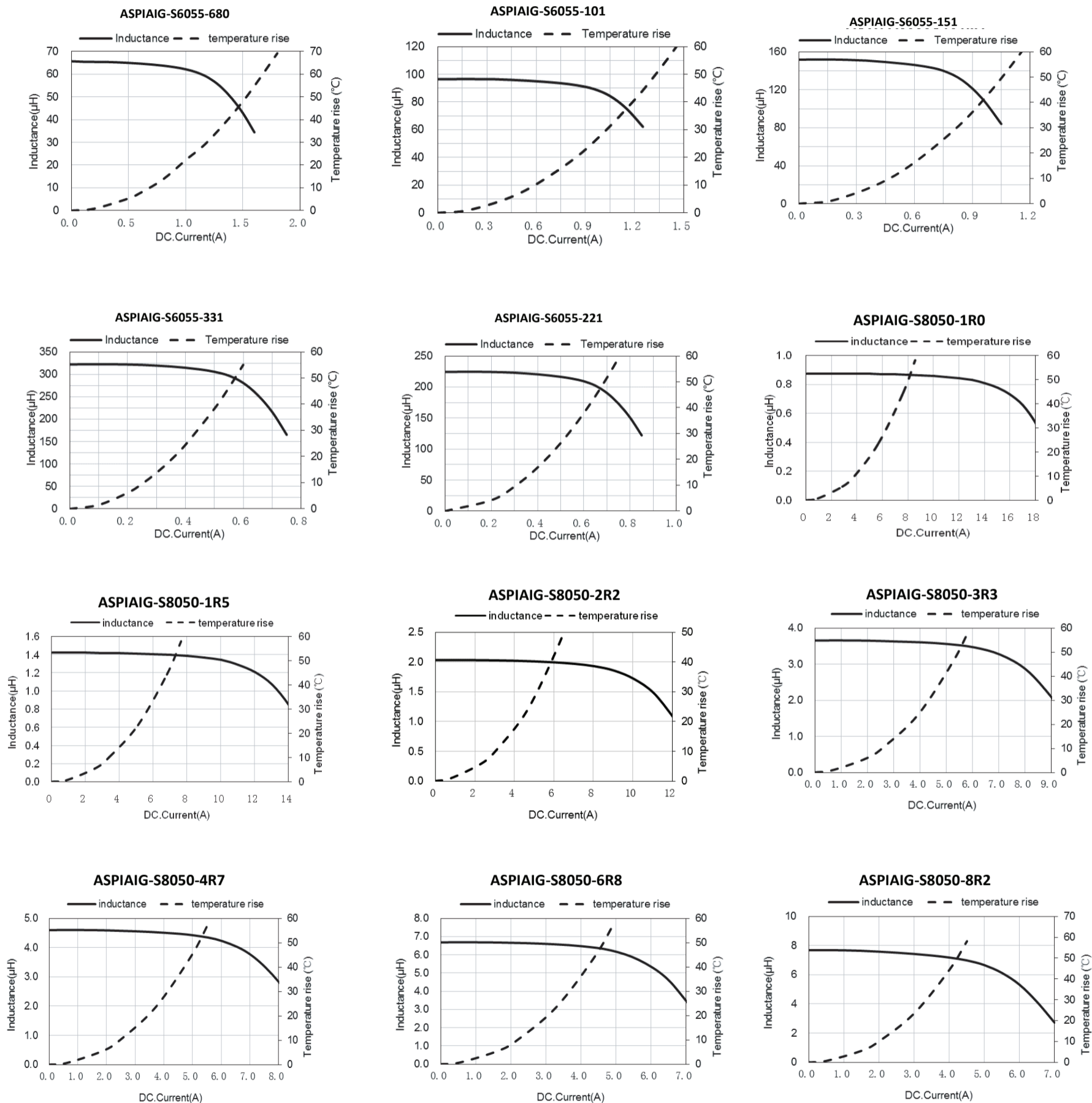
**ASPIAIG-SXXXX SERIES**

**ASPIAIG-S6055: 6.0 x 6.0 x 5.5 mm**  
**ASPIAIG-S8050: 8.0 x 8.0 x 5.0 mm**

**Pb** | **RoHS/RoHS II Compliant**

**MSL = 1**

## ELECTRICAL CHARACTERISTICS

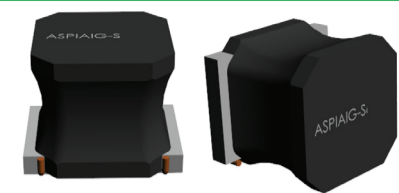


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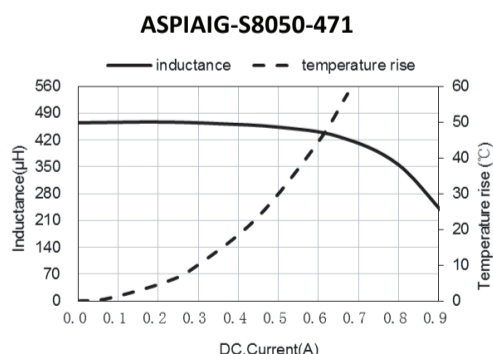
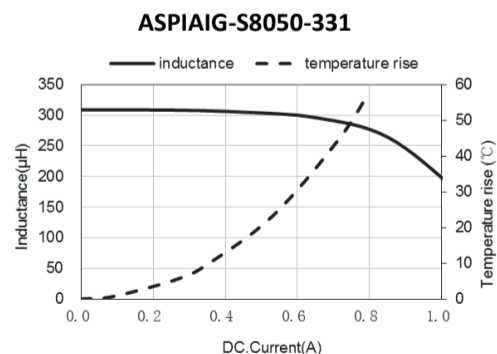
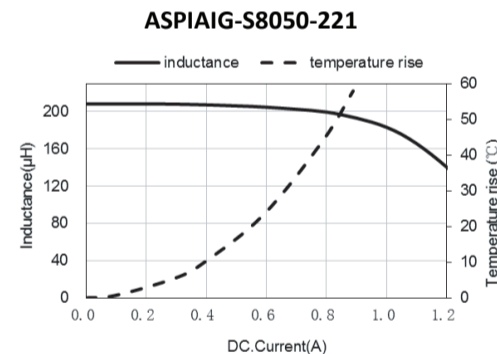
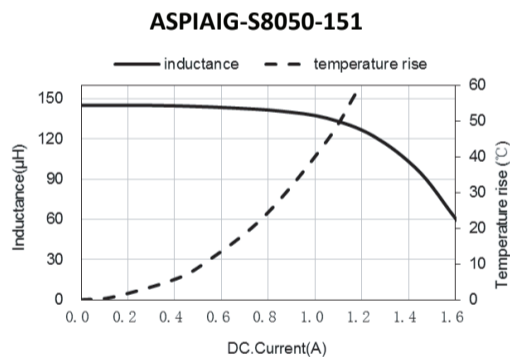
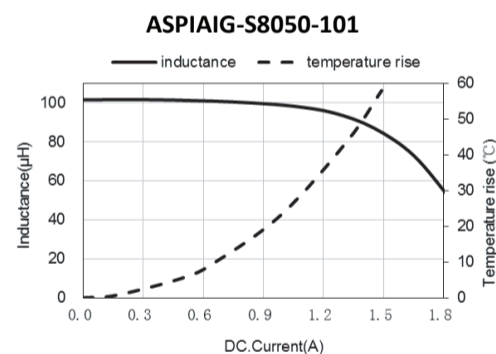
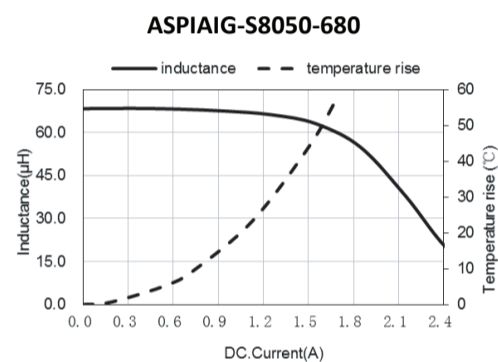
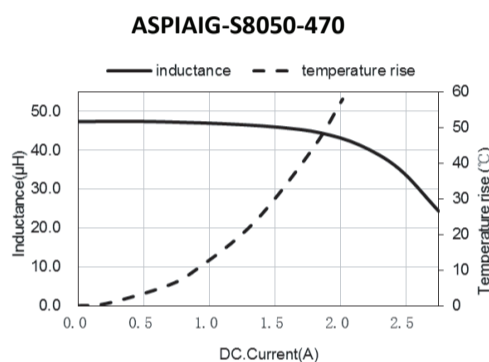
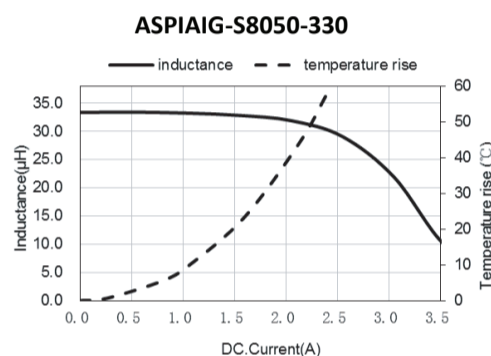
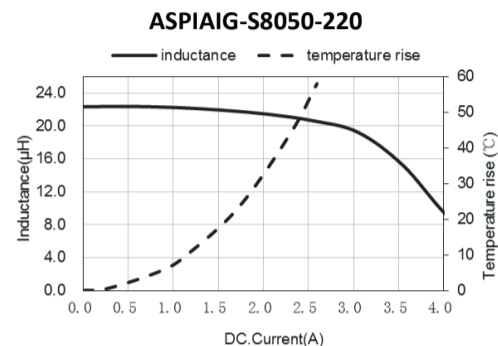
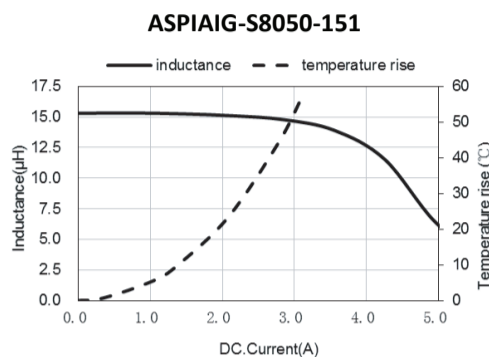
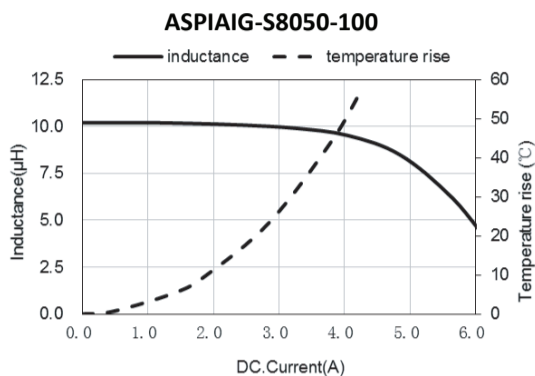
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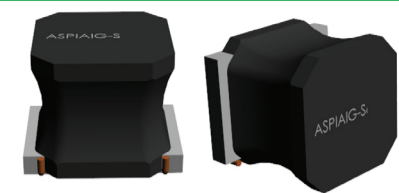
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## ELECTRICAL CHARACTERISTICS



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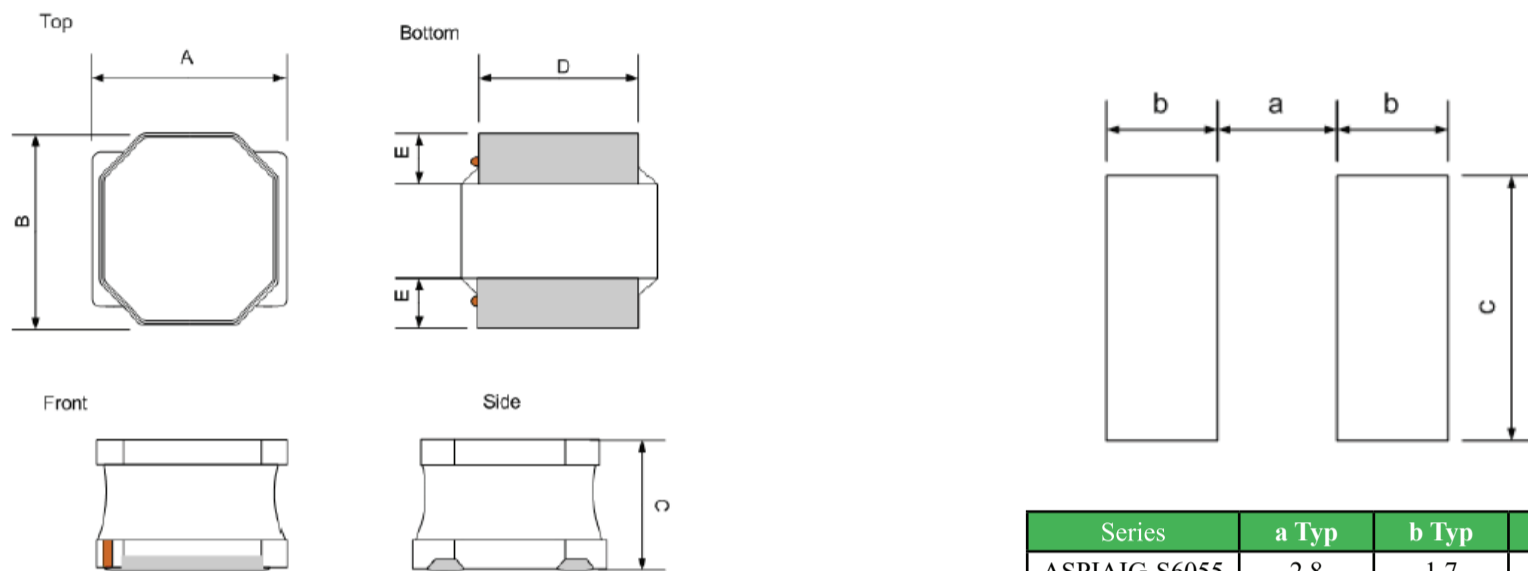
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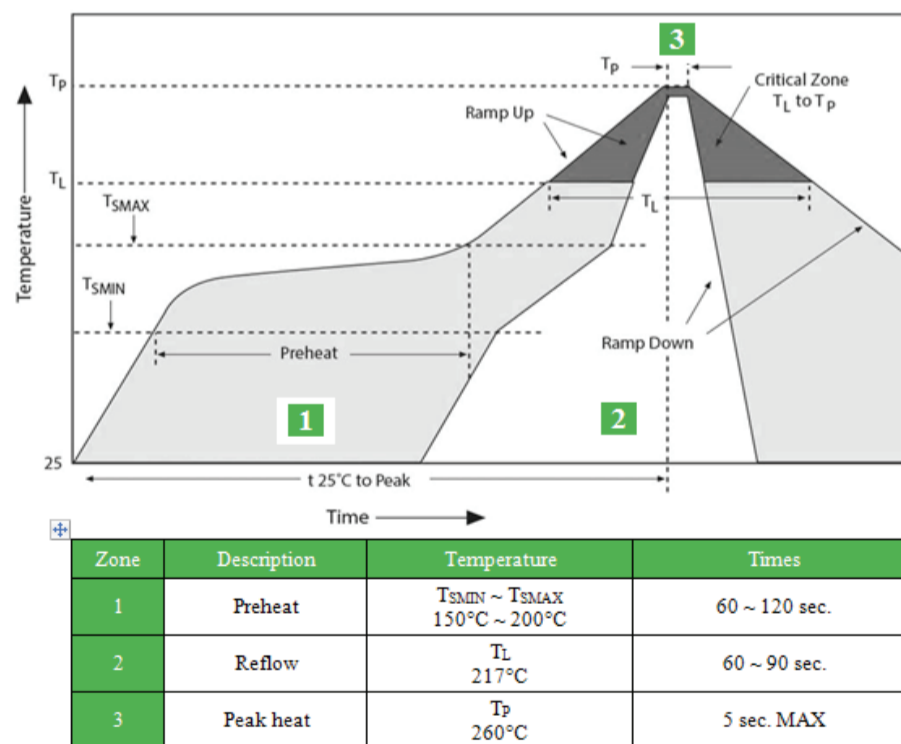
MSL = 1

## MECHANICAL DIMENSIONS

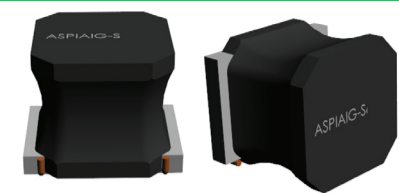


| Series        | A         | B         | C         | D         | E          |
|---------------|-----------|-----------|-----------|-----------|------------|
| ASPIAIG-S6055 | 6.0 ± 0.2 | 6.0 ± 0.2 | 5.5 ± 0.2 | 4.9 ± 0.2 | 1.55 ± 0.3 |
| ASPIAIG-S8050 | 8.0 ± 0.3 | 8.0 ± 0.3 | 5.0 ± 0.2 | 6.3 ± 0.3 | 2.0 ± 0.2  |

## REFLOW PROFILE



# COMPACT SHIELDED SMD POWER INDUCTOR FOR AUTOMOTIVE



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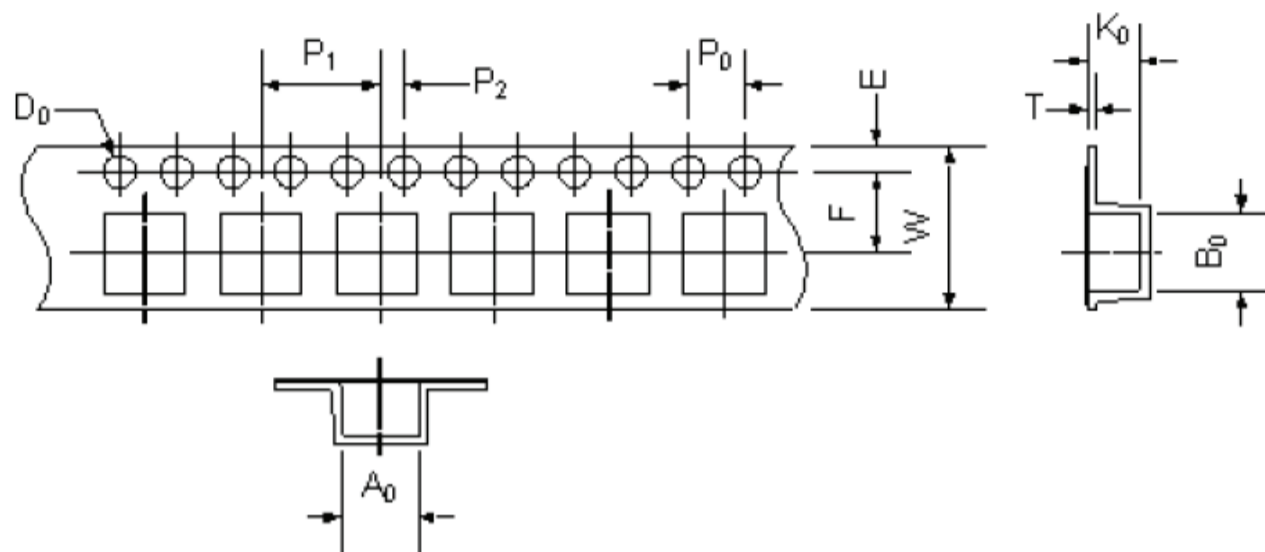
RoHS/RoHS II Compliant

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## PACKAGING

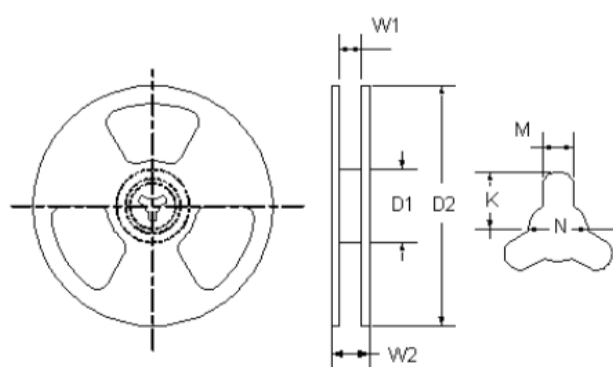
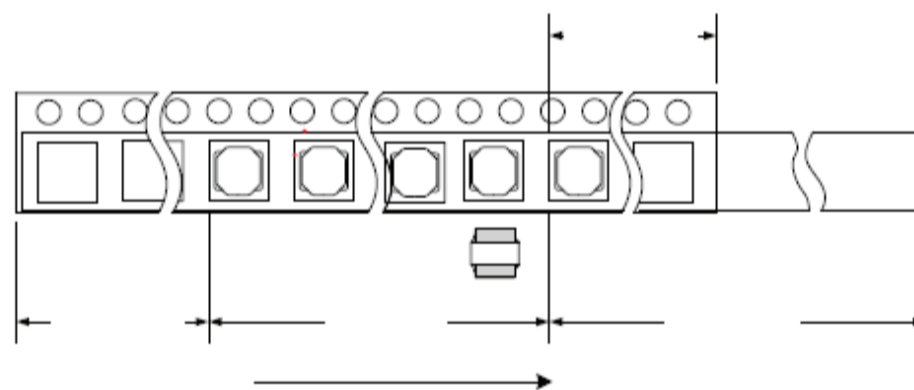
TAPE AND REEL: 800 PCS/REEL (S6055)

TAPE AND REEL: 900 PCS/REEL (S8050)



| SERIES#       | W        | E        | F       | P0      | P1       | P2      | D0           | A0      | B0      | T         | K0      |
|---------------|----------|----------|---------|---------|----------|---------|--------------|---------|---------|-----------|---------|
| ASPIAIG-S6055 | 16.0±0.3 | 1.75±0.1 | 7.5±0.1 | 4.0±0.1 | 8.0±0.1  | 2.0±0.1 | 1.5+0.1/-0.0 | 6.3±0.1 | 6.3±0.1 | 0.50±0.05 | 5.7±0.1 |
| ASPIAIG-S8050 | 16.0±0.3 | 1.75±0.1 | 7.5±0.1 | 4.0±0.1 | 12.0±0.1 | 2.0±0.1 | 1.5+0.1/-0.0 | 8.3±0.1 | 8.3±0.1 | 0.50±0.05 | 5.2±0.1 |

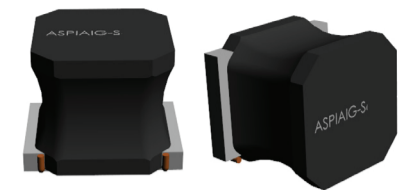
## PACKAGING: DIRECTION OF ROLLING



|    |                  |
|----|------------------|
| D1 | 100 ± 0.5        |
| D2 | 330 ± 0.1        |
| W1 | 16.4 +0.2 / -0.0 |
| W2 | 22.4 MAX         |
| K  | 10.75 ± 0.2      |
| M  | 2.3 ± 0.2        |
| N  | 13.0 +0.2 / -0.0 |

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ASPIAIG-S8050: 8.0 x 8.0 x 5.0 mm

 RoHS/RoHS II Compliant

MSL = 1

## NOTES

1. The parts are manufactured in accordance with this specification. If other conditions and specifications which are required for this specification, please contact ABRACON for more information.
2. ABRACON will supply the parts in accordance with this specification unless we receive a written request to modify prior to an order placement.
3. In no case shall ABRACON be liable for any product failure from in appropriate handling or operation of the item beyond the scope of this specification.
4. When changing your production process, please notify ABRACON immediately.
5. ABRACON LLC's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. ABRACON's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from ABRACON Corporation is required. Please contact ABRACON Corporation for more information.
6. All specifications and Marking will be subject to change without notice.

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- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management