

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

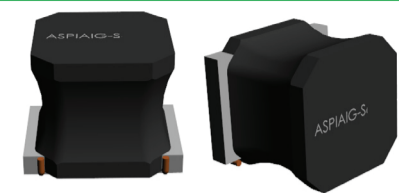
- Height restricted applications
- Automotive body electronics and comfort system
- Automotive infotainment and entertainment
- Automotive navigation
- Transportation
- Lighting, LED ballasts
- Industrial Internet of Things (IIoT)
- Industrial applications
- Solar power
- DC/DC converters and switch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

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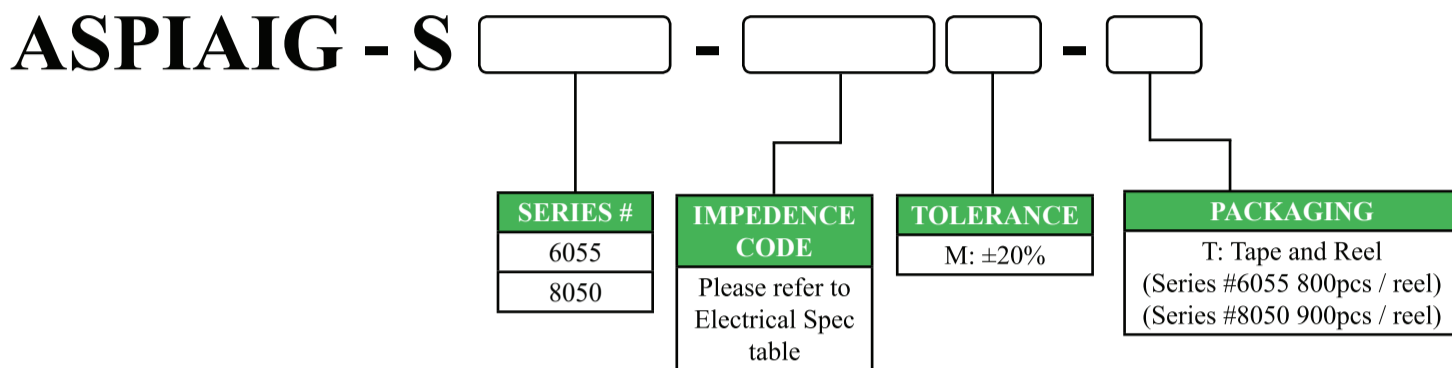
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ASPIAIG-S8050: 8.0 x 8.0 x 5.0 mm

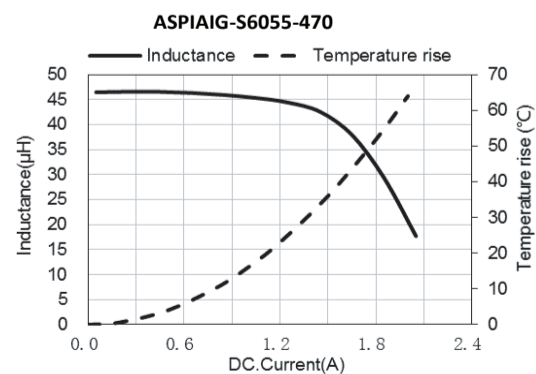
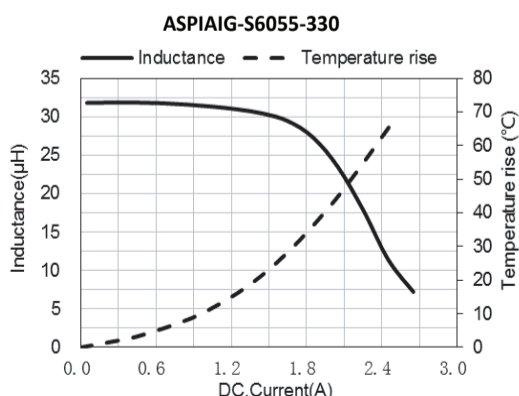
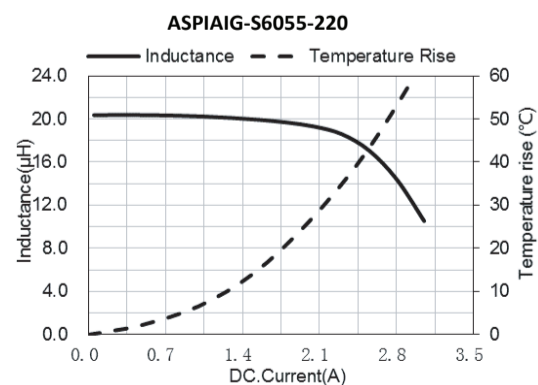
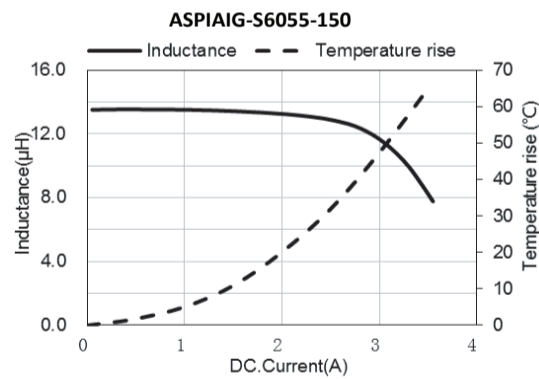
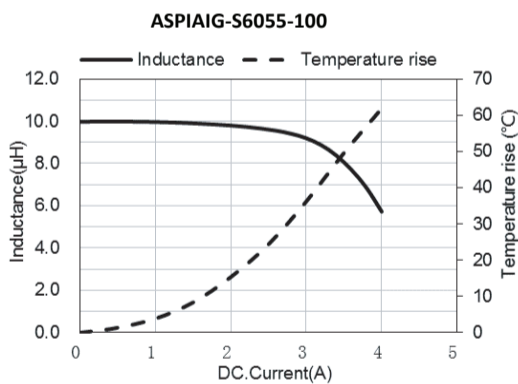
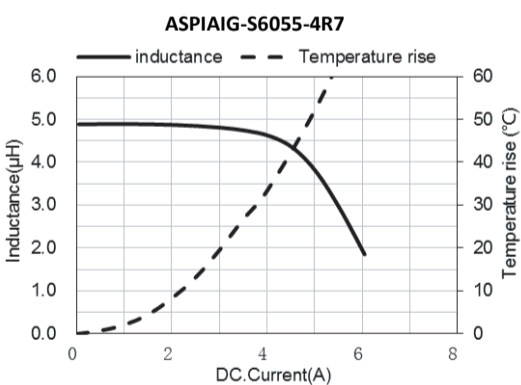
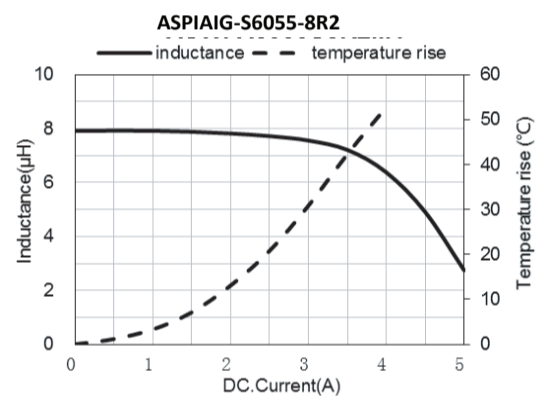
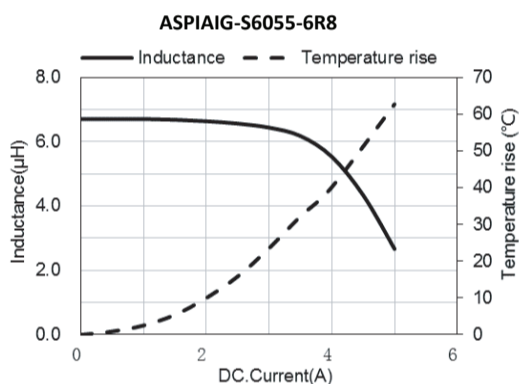
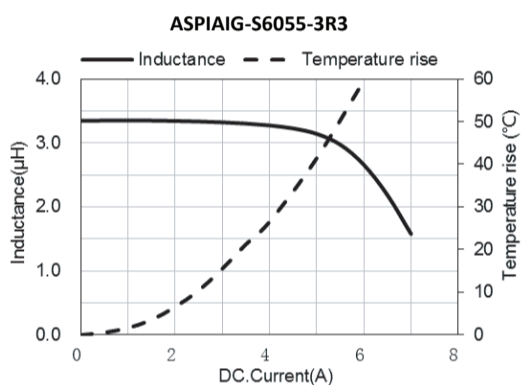
RoHS/RoHS II Compliant

MSL = 1

PART NUMBER IDENTIFICATION



ELECTRICAL CHARACTERISTICS

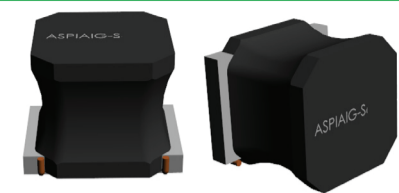


5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 01-16-20

ABRACON IS
ISO9001-2015
CERTIFIED

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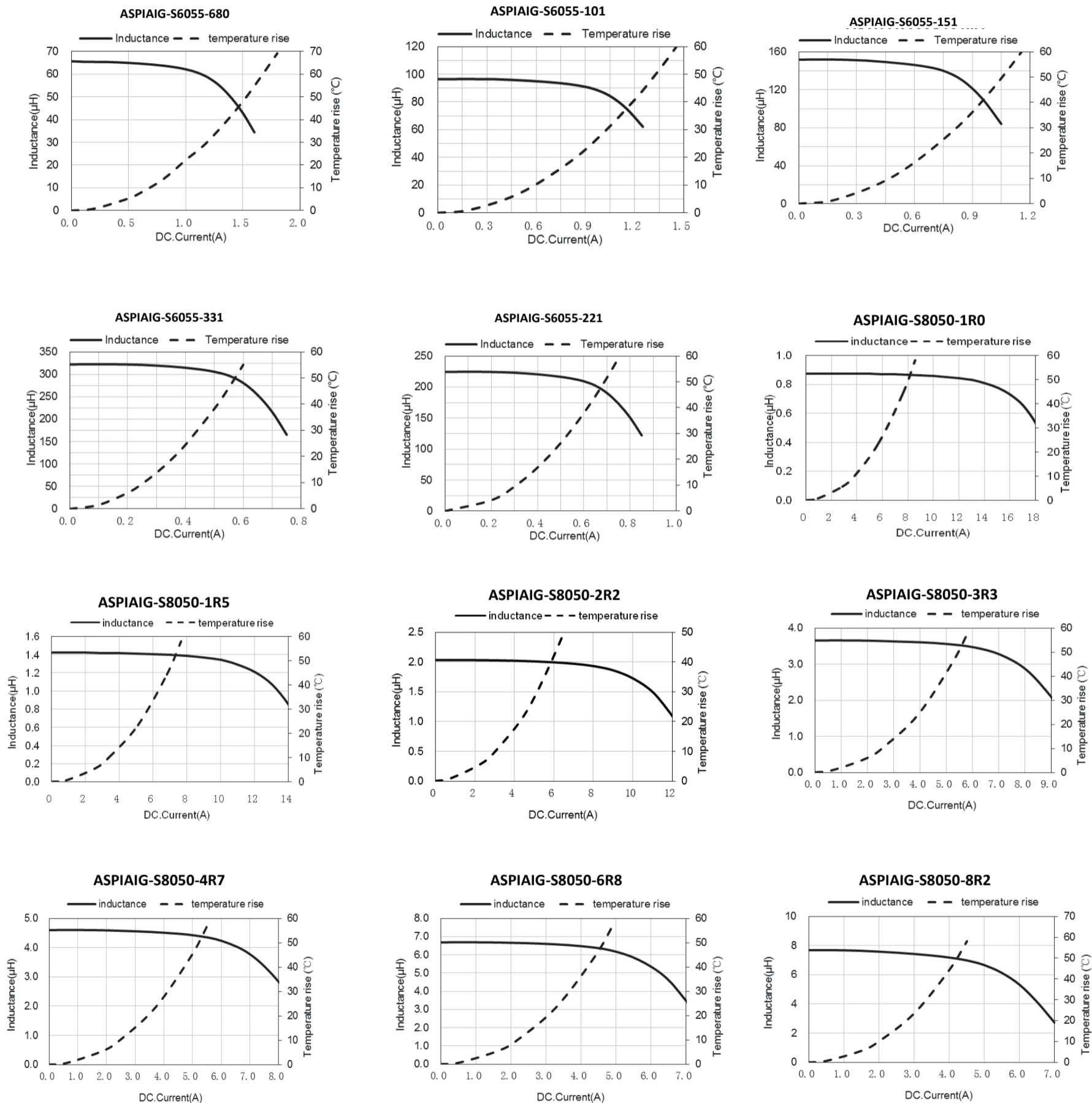
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Pb | **RoHS/RoHS II Compliant**

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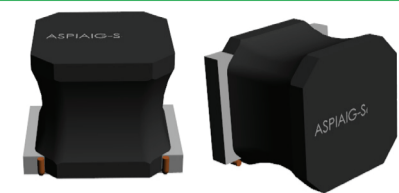


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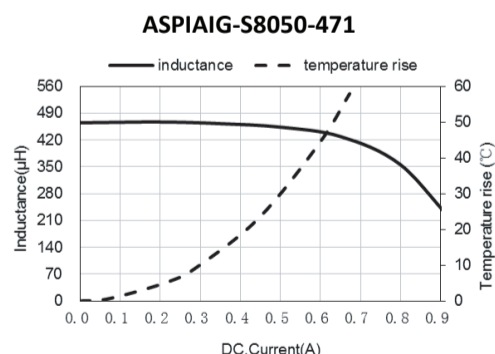
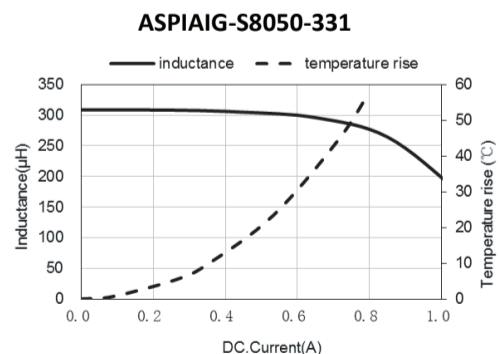
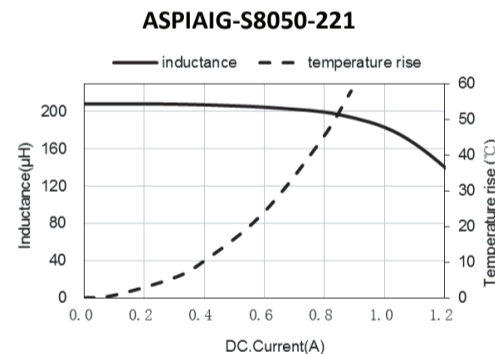
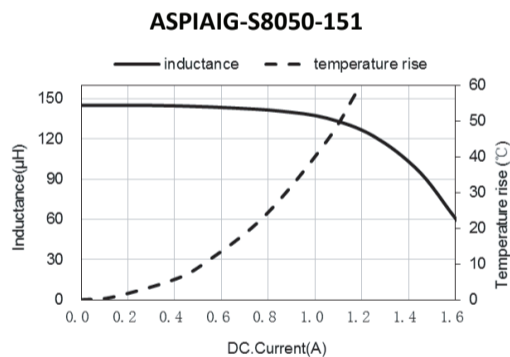
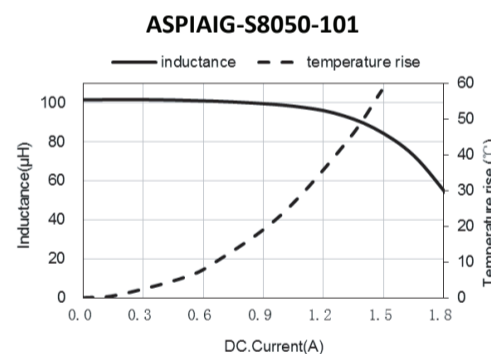
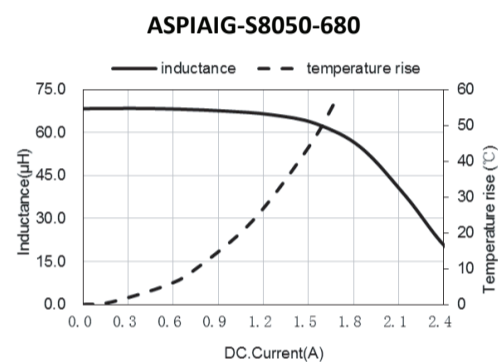
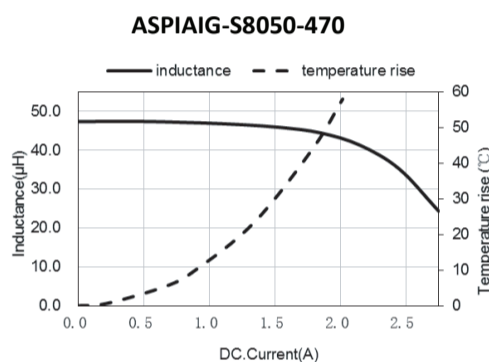
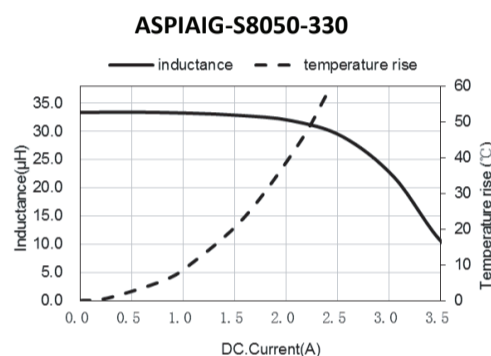
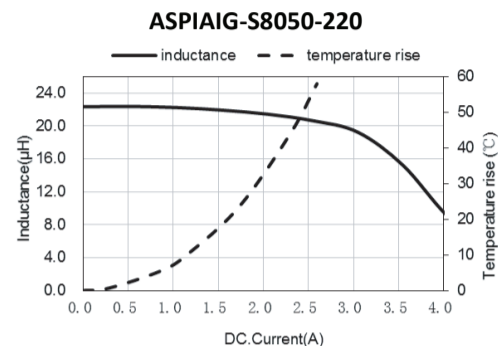
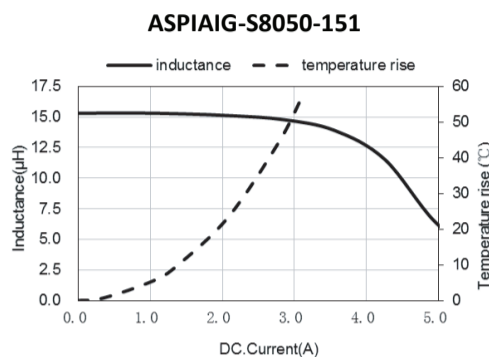
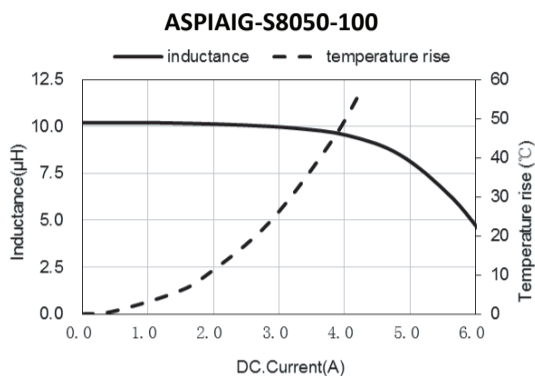
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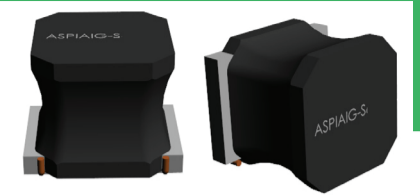
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ELECTRICAL CHARACTERISTICS



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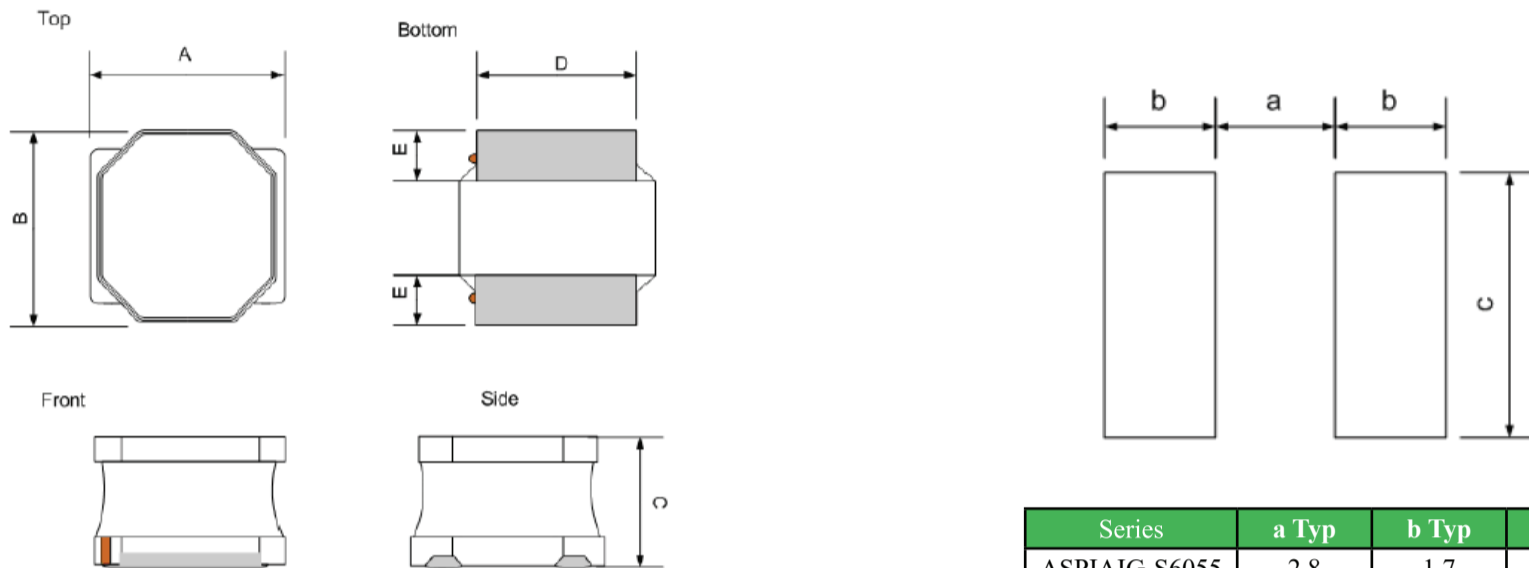
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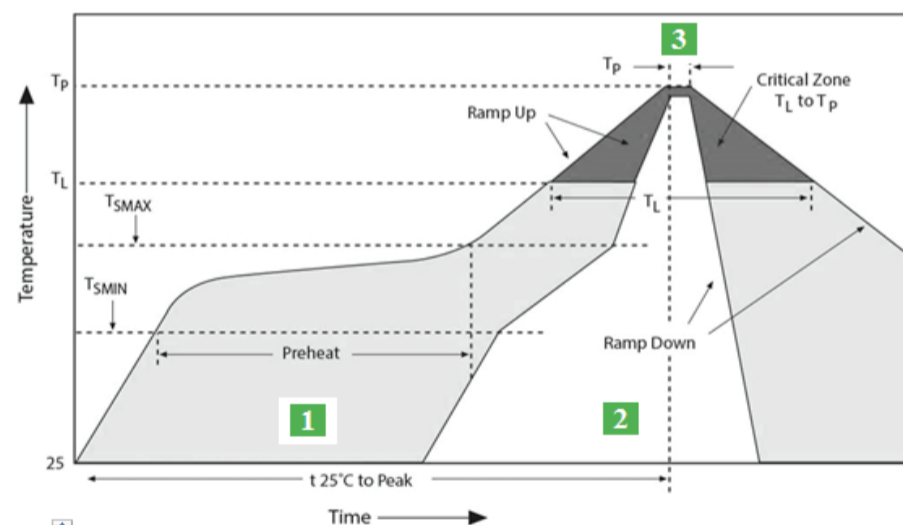
MECHANICAL DIMENSIONS



| Series | a Typ | b Typ | c Typ |
|---------------|-------|-------|-------|
| ASPIAIG-S6055 | 2.8 | 1.7 | 5.7 |
| ASPIAIG-S8050 | 3.8 | 2.2 | 7.5 |

| 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



| Zone | Description | Temperature | Times |
|------|-------------|--------------------------------|---------------|
| 1 | Preheat | TSMIN ~ TSMAX 150°C ~ 200°C | 60 ~ 120 sec. |
| 2 | Reflow | TL 217°C | 60 ~ 90 sec. |
| 3 | Peak heat | TP 260°C | 5 sec. MAX |

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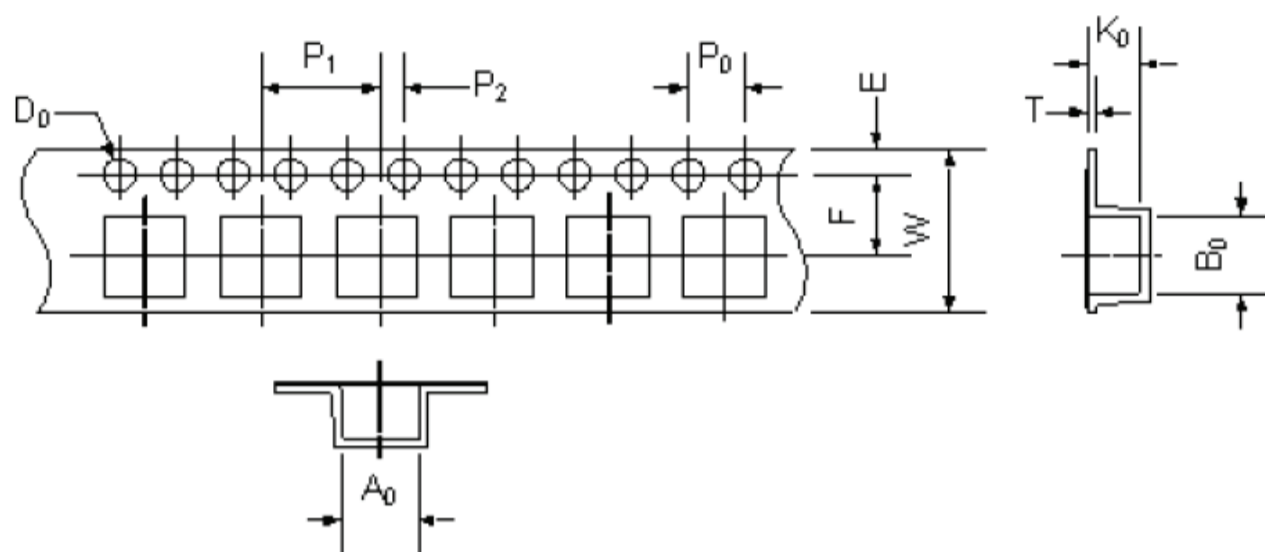
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PACKAGING

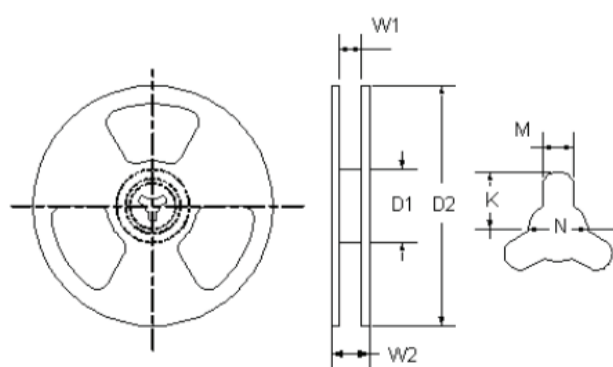
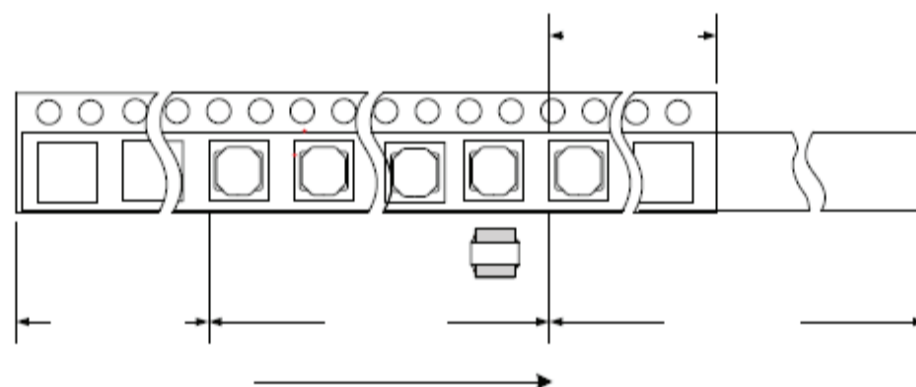
TAPE AND REEL: 800 PCS/REEL (S6055)

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 |

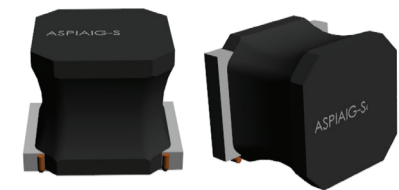
PACKAGING: DIRECTION OF ROLLING



| | |
|----|------------------|
| 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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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.