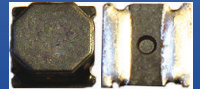


Low Profile Shielded SMD Chip Power Inductor



ASPI-0418FS



4.0 x 4.0 x 1.80mm
RoHS Compliant

Features

- Small size and low profile: 1.88mm max
- Small DCR and high rated current
- High reliability to mechanical strength
- Magnetically shielded by magnetic powder molding
- Suitable for RoHS reflow profile

Applications

- Mobile phones
- MP3 & other portable communication equipment
- Digital cameras

Electrical Specifications

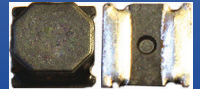
| | |
|-------------------------------|---|
| Operating Temperature: | -40°C to +125°C (Including self-generated heat) |
| Storage Temperature: | -40°C to +125°C |

| Part Number | Inductance | Inductance Tolerance | DCR | | DCR Tolerance | Self-Resonant Frequency | Saturation Current Max | Temp Rise Current Max |
|-----------------|------------|----------------------|------|------|---------------|-------------------------|------------------------|-----------------------|
| | | | mΩ | mΩ | | | | |
| Units | μH | % | mΩ | mΩ | % | MHz | A | A |
| Symbol | L | M, N | Max | Typ | | SRF | Isat | Irms |
| ASPI-0418FS-R33 | 0.33 | N | 16 | 12 | ±30% | 230 | 6.50 | 4.20 |
| ASPI-0418FS-R47 | 0.47 | N | 20 | 17 | | 220 | 6.50 | 3.50 |
| ASPI-0418FS-1R0 | 1.0 | N | 32 | 27 | | 90 | 4.00 | 3.20 |
| ASPI-0418FS-1R5 | 1.5 | N | 37 | 31 | | 70 | 3.60 | 2.95 |
| ASPI-0418FS-2R2 | 2.2 | M | 50 | 42 | ±20% | 60 | 3.00 | 2.20 |
| ASPI-0418FS-3R3 | 3.3 | M | 66 | 55 | | 45 | 2.30 | 2.00 |
| ASPI-0418FS-4R7 | 4.7 | M | 84 | 70 | | 35 | 2.00 | 1.70 |
| ASPI-0418FS-6R8 | 6.8 | M | 118 | 98 | | 30 | 1.60 | 1.45 |
| ASPI-0418FS-100 | 10 | M | 180 | 150 | | 25 | 1.30 | 1.20 |
| ASPI-0418FS-150 | 15 | M | 252 | 210 | | 18 | 1.10 | 0.85 |
| ASPI-0418FS-220 | 22 | M | 348 | 290 | | 15 | 0.90 | 0.70 |
| ASPI-0418FS-330 | 33 | M | 552 | 460 | | 12 | 0.70 | 0.55 |
| ASPI-0418FS-470 | 47 | M | 744 | 620 | | 11 | 0.57 | 0.50 |
| ASPI-0418FS-680 | 68 | M | 972 | 810 | | 7.1 | 0.53 | 0.40 |
| ASPI-0418FS-101 | 100 | M | 1560 | 1300 | | 5.2 | 0.49 | 0.40 |
| ASPI-0418FS-151 | 150 | M | 3120 | 2600 | | 5.1 | 0.41 | 0.28 |
| ASPI-0418FS-221 | 220 | M | 3840 | 3200 | | 4.2 | 0.33 | 0.25 |
| ASPI-0418FS-331 | 330 | M | 5880 | 4900 | | 3.2 | 0.26 | 0.20 |

Test Conditions

1. Inductance is measured in HP-4285A Precision LCR Meter
2. RDC is measured in DU-5011 milli ohm meter (or equivalent)
3. Isat: Based on inductance change ($\Delta L/L_0$: $\leq -30\%$)
4. Irms: Based on temperature rise (ΔT : 40°C TYP.)
5. Test Freq: 100KHz, 1Vrms

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ASPI-0418FS



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RoHS Compliant

Part Number Identification

ASPI-0418FS--

Inductance Code
Please refer to the
Electrical Spec Table

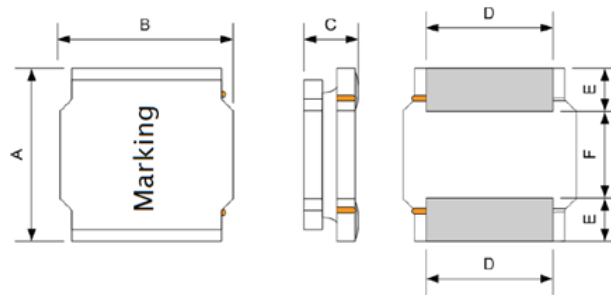
Tolerance
N: $\pm 30\%^*$
M: $\pm 20\%^*$

Packaging
T3: Tape and Reel (3kpcs / reel)

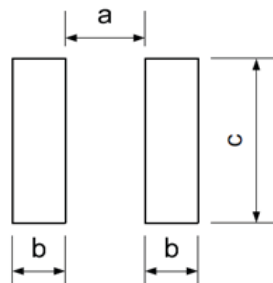
*N for L = 0.33 ~ 1.5 μ H

*M for L = 2.2 ~ 330 μ H

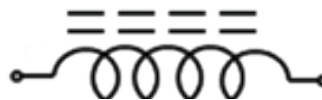
Mechanical Information



Recommended Land Pattern



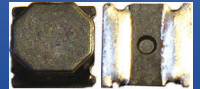
| A | B | C Max | D | E | F | a typ. | b typ. | c typ. |
|---------------|---------------|-------|---------------|----------------|---------------|--------|--------|--------|
| 4.0 \pm 0.2 | 4.0 \pm 0.2 | 1.8 | 3.3 \pm 0.2 | 0.95 \pm 0.2 | 2.1 \pm 0.2 | 1.9 | 1.1 | 3.7 |



No Polarity

Dimensions: mm

Low Profile Shielded SMD Chip Power Inductor

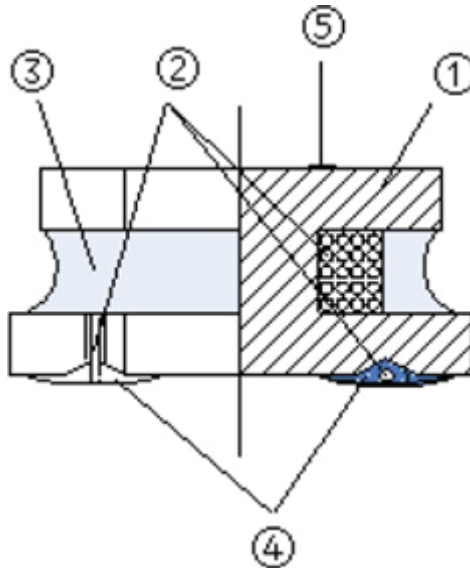


ASPI-0418FS



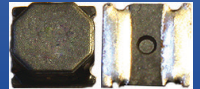
4.0 x 4.0 x 1.80mm
RoHS Compliant

Materials



| # | Part Name | Material |
|---|---------------|--|
| 1 | Ferrite Core | Ni-Zn Ferrite |
| 2 | Wire | Polyurethane system enameled copper wire |
| 3 | Magnetic Glue | Epoxy resin and magnetic powder |
| 4 | Electrodes | Ag/Ni/Sn or FeNiCu + Sn Alloy |
| 5 | Marking | Nitrocellulose |

Low Profile Shielded SMD Chip Power Inductor

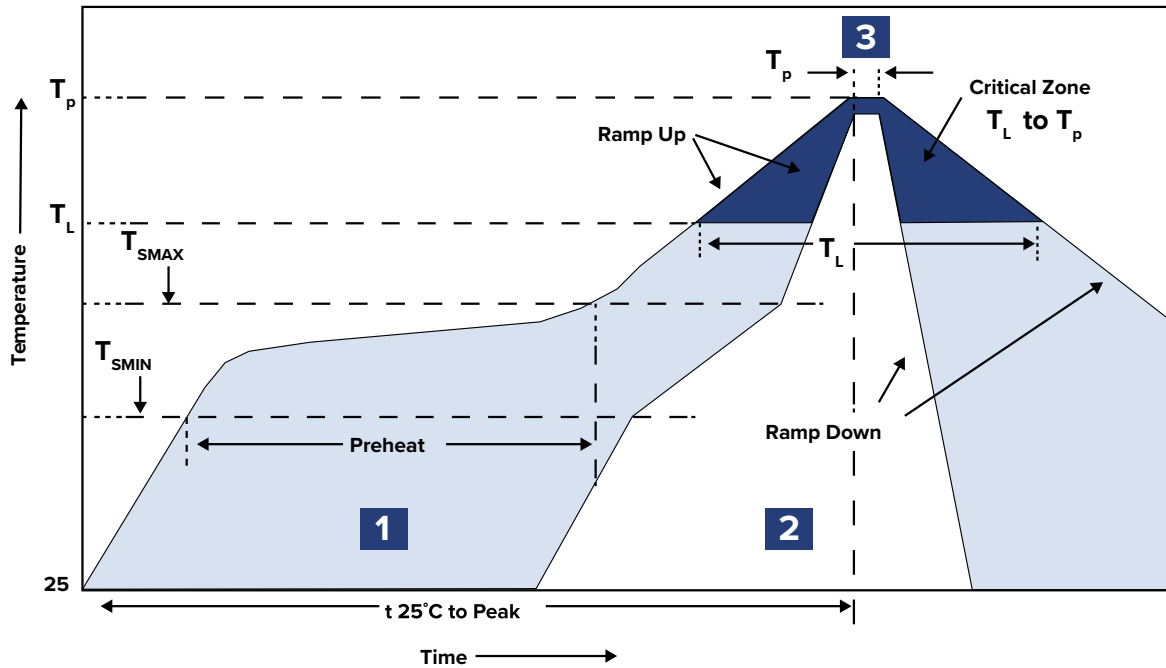


ASPI-0418FS



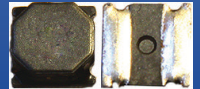
4.0 x 4.0 x 1.80mm
RoHS Compliant

Reflow Profile



| Zone | Description | Temperature | Time |
|------|----------------|---|---------------|
| 1 | Preheat / Soak | $T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C | 60 ~ 120 sec. |
| 2 | Reflow | T_L 217°C | 60 ~ 90 sec. |
| 3 | Peak heat | T_P 260°C | 10 sec. MAX |

Low Profile Shielded SMD Chip Power Inductor



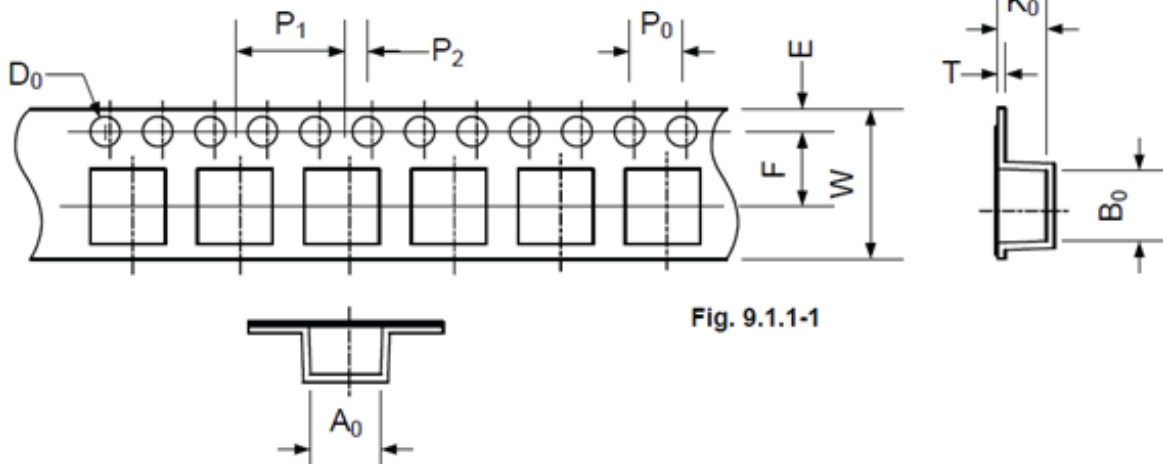
ASPI-0418FS



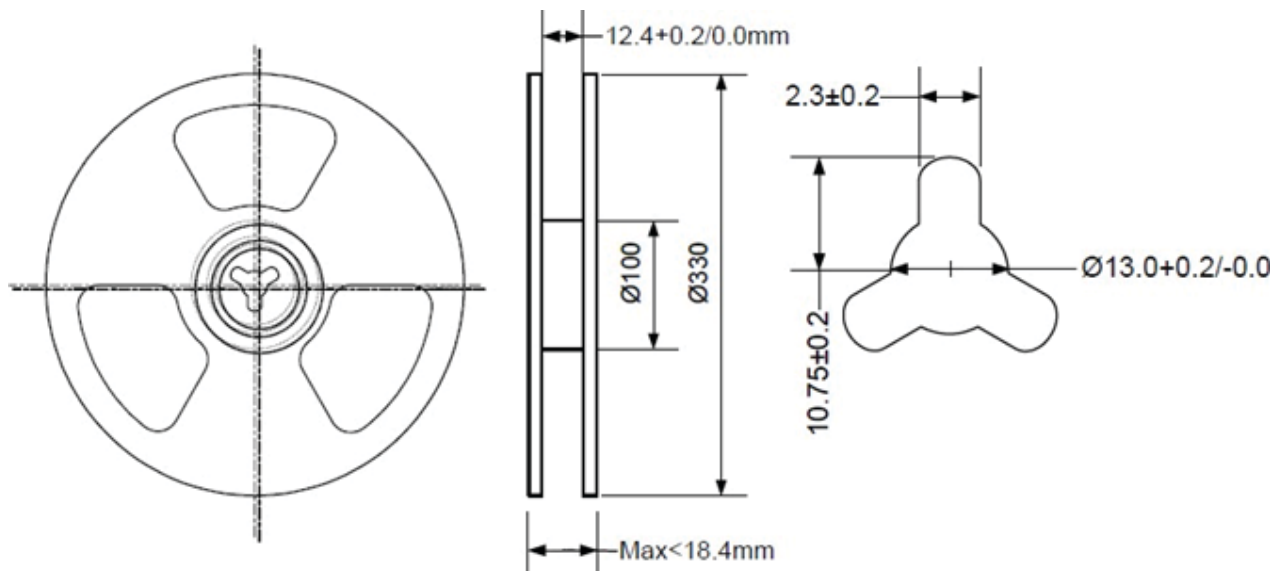
4.0 x 4.0 x 1.80mm
RoHS Compliant

Packaging

T3= Tape and Reel (3,000pcs/reel)



| A_0 | B_0 | W | E | F | P_0 | P_1 | P_2 | D_0 | T |
|---------|---------|----------|----------|---------|---------|---------|----------|--------------|-----------|
| 4.3±0.1 | 4.3±0.1 | 12.0±0.3 | 1.75±0.1 | 5.5±0.1 | 4.0±0.1 | 8.0±0.1 | 2.0±0.05 | 1.5+0.1/-0.0 | 0.35±0.03 |



Dimensions: mm

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