

SMD SHIELDED POWER INDUCTORS

ASPI-0428S



RoHS
Compliant



4.7 x 4.7 x 3.0mm

FEATURES:

- Superior to be high saturation for surface mounting
- Very thin & compact
- With large permissible DC current & low DC resistance
- Magnetic shielding surface mount inductor with high rating

APPLICATIONS:

- PDA's flash memory
- Step-up, step-down converters
- Communications
- Hard disk, notebook computer

ELECTRICAL SPECIFICATIONS:

PARAMETERS

ABRACON P/N: ASPI-0428S-XXX

Operating temperature: -40°C to +125°C (including self-generated heat)

Storage temperature: -40°C to +125°C

| Part# | Inductance (μ H) | Testing Conditions | Tol. (%) | RDC max. (Ω) | IDC max. (A) |
|----------------|--------------------------|-----------------------|-------------|--------------------------|-----------------|
| ASPI-0428S-1R0 | 1.0 | 100KHz/0.25V | N | 0.026 | 2.70 |
| ASPI-0428S-1R2 | 1.2 | 100KHz/0.1V | N | 0.024 | 2.56 |
| ASPI-0428S-1R8 | 1.8 | 100KHz/0.1V | N | 0.028 | 2.20 |
| ASPI-0428S-2R2 | 2.2 | 100KHz/0.25V | N | 0.034 | 1.80 |
| ASPI-0428S-2R7 | 2.7 | 100KHz/0.1V | N | 0.043 | 1.60 |
| ASPI-0428S-3R0 | 3.0 | 100KHz/0.25V | N | 0.048 | 1.55 |
| ASPI-0428S-3R3 | 3.3 | 100KHz/0.1V | N | 0.049 | 1.57 |
| ASPI-0428S-3R9 | 3.9 | 100KHz/0.25V | N | 0.048 | 1.50 |
| ASPI-0428S-4R7 | 4.7 | 100KHz/0.25V | N | 0.052 | 1.35 |
| ASPI-0428S-5R6 | 5.6 | 100KHz/0.25V | N | 0.059 | 1.21 |
| ASPI-0428S-6R8 | 6.8 | 100KHz/0.25V | N | 0.088 | 1.15 |
| ASPI-0428S-8R2 | 8.2 | 100KHz/0.1V | N | 0.118 | 1.04 |
| ASPI-0428S-100 | 10 | 1KHz/0.25V | M | 0.120 | 1.00 |
| ASPI-0428S-120 | 12 | 1KHz/0.25V | M | 0.140 | 0.84 |
| ASPI-0428S-150 | 15 | 1KHz/0.25V | M | 0.156 | 0.75 |
| ASPI-0428S-180 | 18 | 100KHz/0.1V | M, N | 0.166 | 0.72 |
| ASPI-0428S-220 | 22 | 1KHz/0.25V | M | 0.247 | 0.70 |
| ASPI-0428S-270 | 27 | 1KHz/0.25V | M | 0.299 | 0.58 |
| ASPI-0428S-330 | 33 | 1KHz/0.25V | M | 0.325 | 0.57 |
| ASPI-0428S-390 | 39 | 1KHz/0.25V | M | 0.351 | 0.52 |
| ASPI-0428S-430 | 43 | 1KHz/0.25V | M | 0.377 | 0.51 |
| ASPI-0428S-470 | 47 | 1KHz/0.25V | M | 0.442 | 0.50 |
| ASPI-0428S-560 | 56 | 1KHz/0.25V | M | 0.468 | 0.41 |
| ASPI-0428S-680 | 68 | 1KHz/0.25V | M | 0.546 | 0.35 |
| ASPI-0428S-820 | 82 | 1KHz/0.25V | M | 0.780 | 0.32 |

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Storage temperature: -40°C to +125°C

| Part# | Inductance (μ H) | Testing Conditions | Tol. (%) | RDC max. (Ω) | IDC max. (A) |
|----------------|--------------------------|-----------------------|-------------|--------------------------|-----------------|
| ASPI-0428S-101 | 100 | 1KHz/0.25V | M | 0.858 | 0.29 |
| ASPI-0428S-121 | 120 | 1KHz/0.25V | M | 1.30 | 0.27 |
| ASPI-0428S-151 | 150 | 1KHz/0.25V | M | 1.50 | 0.24 |
| ASPI-0428S-181 | 180 | 1KHz/0.25V | M | 1.60 | 0.22 |
| ASPI-0428S-221 | 220 | 100KHz/0.1V | M, N | 2.00 | 0.21 |
| ASPI-0428S-271 | 270 | 1KHz/0.25V | M | 2.86 | 0.185 |
| ASPI-0428S-331 | 330 | 1KHz/0.25V | M | 3.25 | 0.170 |
| ASPI-0428S-391 | 390 | 1KHz/0.25V | M | 4.55 | 0.155 |
| ASPI-0428S-471 | 470 | 1KHz/0.25V | M | 5.07 | 0.140 |
| ASPI-0428S-561 | 560 | 1KHz/0.25V | M | 5.46 | 0.130 |
| ASPI-0428S-681 | 680 | 1KHz/0.25V | M | 6.11 | 0.120 |

Note:

Test Conditions

- 100KHz/0.25V, 1KHz/0.25V, 100KHz/0.1V

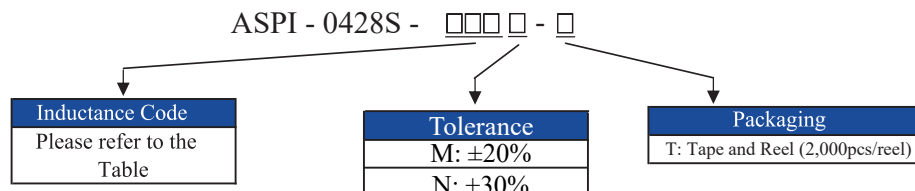
- Tolerance: N=±30%; M=±20%, M tolerance is standard

- Rated DC Current: The current when the inductance becomes 35% lower than its initial value or the current when the temperature of coil increases to $\Delta 40^\circ\text{C}$. The smaller one is defined as Rated DC Current.

($T_a=25^\circ\text{C}$)

- DCR & IDC listed are all Max. value.

OPTIONS AND PART IDENTIFICATION



SMD SHIELDED POWER INDUCTORS



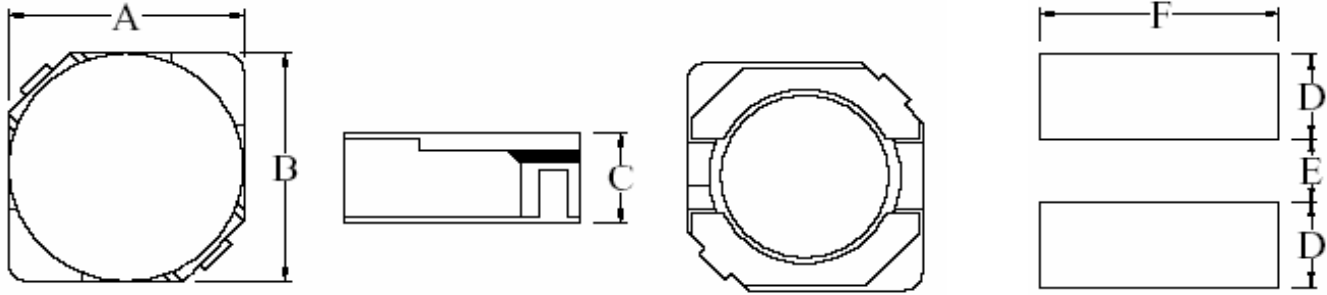
4.7 x 4.7 x 3.0mm

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OUTLINE DRAWING:

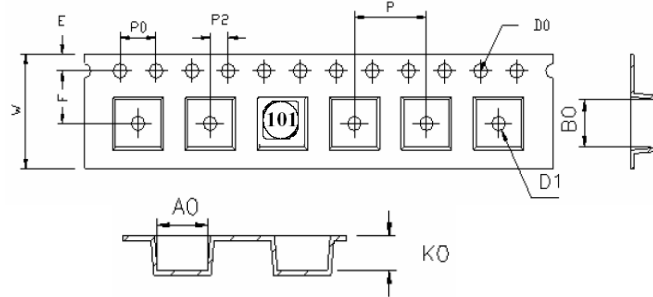


| Part# | A | B | C | D | E | F |
|----------------|---------------------------|---------------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| ASPI-0428S-xxx | 0.185±0.012 (4.7± 0.3) | 0.185±0.012 (4.7± 0.3) | 0.118 Max (3.0) max. | 0.075 ref. (1.9) ref. | 0.059 ref. (1.5) ref. | 0.209 ref. (5.3) ref. |

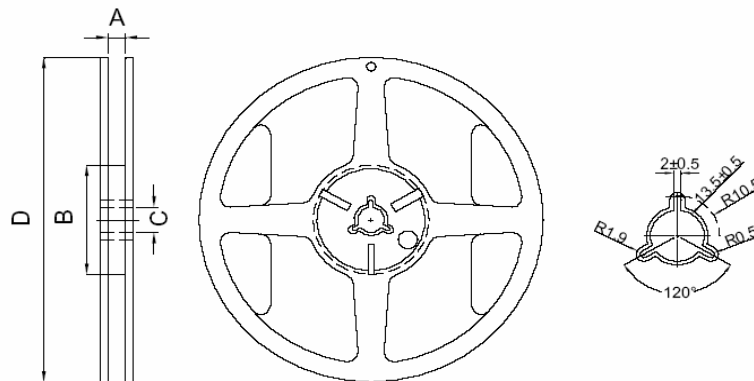
Dimension : Inches (mm)

PACKAGING

T: 2,000pcs/reel



| Part# | A0 | B0 | K0 | P | P0 | P2 |
|----------------|----------|-----------|----------|----------|----------|----------|
| ASPI-0428S-xxx | 5.2± 0.1 | 5.2± 0.1 | 3.2± 0.1 | 8.0± 0.1 | 4.0± 0.1 | 2.0± 0.1 |
| | W | F | E | D0 | D1 | |
| | 12± 0.3. | 5.5± 0.05 | 1.75±0.1 | 1.5 min. | 1.5 min. | |



| Part# | A | B | C | D |
|----------------|-----------|----------|-----------|----------|
| ASPI-0428S-xxx | 12.5± 0.5 | 100± 0.5 | 13.5± 0.3 | 330± 1.0 |

Dimension : mm

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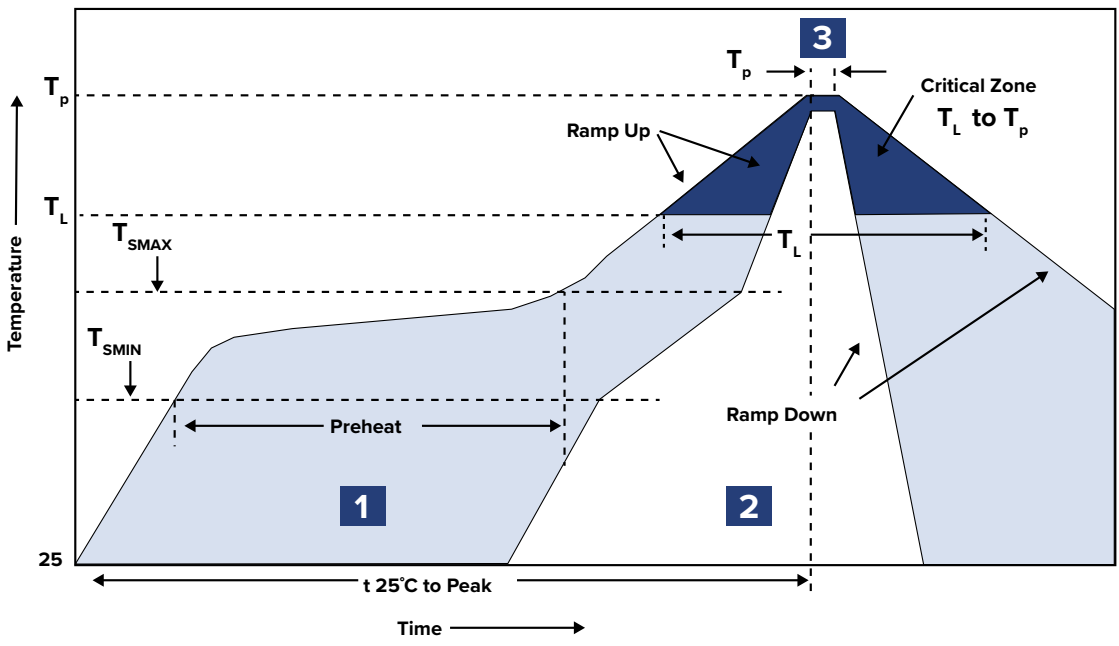


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REFLOW PROFILE:



| Zone | Description | Temperature | Time |
|------|----------------|-----------------------------|------------------|
| 1 | Preheat / Soak | T_{SMAX} 120°C ~ 180°C | 50 ~ 150 sec. |
| 2 | Reflow | T_L 217°C | 70 sec. |
| 3 | Peak heat | T_P 250°C ~ 260°C | 10 - 30 sec. MAX |

Dimension: mm

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