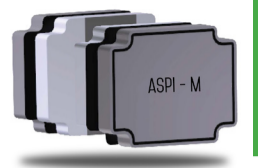


# MINIATURE LOW PROFILE HIGH CURRENT INDUCTORS



ASPI-M

2.5 x 2.0 x 1.2 mm  
3.0 x 3.0 x 1.5 mm  
MSL = 1

RoHS/RoHS II Compliant

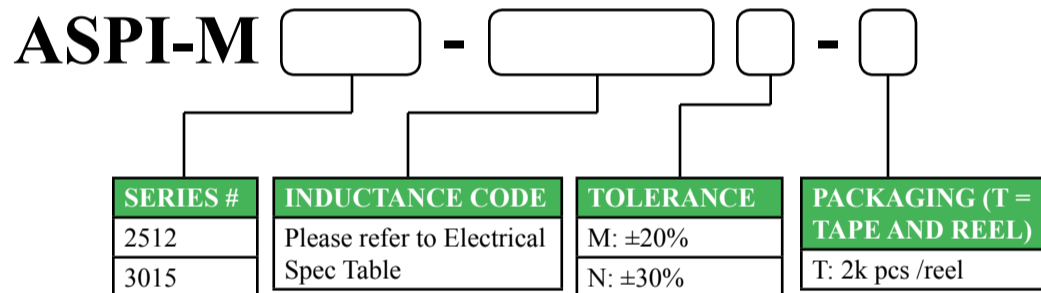
## FEATURES

- Space saving small footprint
  - ASPI-M2512—2.0x2.5mm (5mm<sup>2</sup>)
  - ASPI-M3015—3.0x3.0mm (9mm<sup>2</sup>)
- Low profile design
  - ASPI-M2512—1.2mm MAX
  - ASPI-M3015—1.5mm MAX
- High RMS current carrying
  - ASPI-M2512—up to 4.1A
  - ASPI-M3015—up to 5A
- High saturation current
  - ASPI-M2512—up to 6.8A
  - ASPI-M3015—up to 8A
- Low DCR minimizes heat dissipation
  - ASPI-M2512—as low as 23mΩ
  - ASPI-M3015—as low as 27mΩ
- Wide inductance range
  - ASPI-M2512—0.47 to 10μH
  - ASPI-M3015—0.24 to 10μH
- Wide -40°C to 125°C operating temperature range

## APPLICATIONS

- IoT/Industrial IoT
- Battery operated devices
- Drones and robotics
- Energy efficient lighting
- Audio and video
- Motor control
- Switch mode power supplies (SMPS)
- Instrumentation
- Medical and medical monitoring
- Class D amplifiers
- Handheld/ mobile devices
- DC/DC converter
- Set-top Boxes
- LED drivers and lighting
- POL Converters

## OPTIONS AND PART IDENTIFICATION



## ELECTRICAL SPECIFICATIONS: ASPI-M2512

| OPERATING TEMPERATURE                              | STORAGE CONDITION                |
|--|----------------------------------|
| -40°C - 125°C<br>(including self-temperature rise) | -40°C - +85°C<br>and R.H. 70%max |

| PART NUMBER    | INDUCTANCE  | TOLERANCE | DC RESISTANCE | SATURATION CURRENT | TEMPERATURE RISE CURRENT |
|----------------|-------------|-----------|---------------|--------------------|--------------------------|
|                | 0.1MHz/0.1V |           |               |                    |                          |
| UNITS          | μH          | %         | mΩ            | A                  | A                        |
| SYMBOL         | L           | M, N      | DCR           | Isat               | Irms                     |
| ASPI-M2512-R24 | 0.24        | 20%, 30%  | 23            | 6.8                | 4.1                      |
| ASPI-M2512-R33 | 0.33        | 20%, 30%  | 28            | 5.8                | 3.8                      |
| ASPI-M2512-R47 | 0.47        | 20%, 30%  | 35            | 5.0                | 3.5                      |
| ASPI-M2512-R68 | 0.68        | 20%, 30%  | 43            | 4.2                | 3.2                      |
| ASPI-M2512-1R0 | 1.00        | 20%, 30%  | 48            | 3.7                | 3.0                      |
| ASPI-M2512-1R5 | 1.50        | 20%, 30%  | 72            | 3.1                | 2.5                      |
| ASPI-M2512-2R2 | 2.20        | 20%, 30%  | 100           | 2.5                | 2.1                      |
| ASPI-M2512-3R3 | 3.30        | 20%, 30%  | 150           | 2.1                | 1.9                      |
| ASPI-M2512-4R7 | 4.70        | 20%, 30%  | 230           | 2.0                | 1.5                      |
| ASPI-M2512-100 | 10.0        | 20%, 30%  | 480           | 1.3                | 1.0                      |

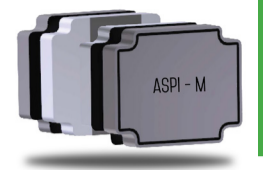
REVISED: 10.6.2017



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# MINIATURE LOW PROFILE HIGH CURRENT INDUCTORS



ASPI-M

2.5 x 2.0 x 1.2 mm  
3.0 x 3.0 x 1.5 mm  
MSL = 1

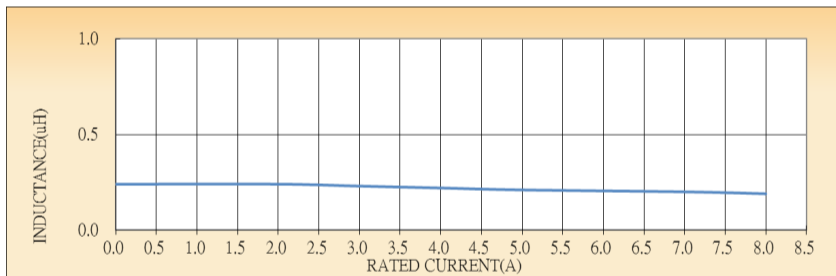
RoHS/RoHS II Compliant

## ELECTRICAL SPECIFICATIONS: ASPI-M3015

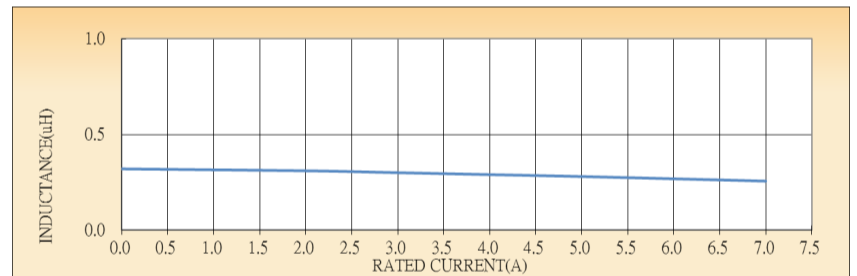
| PART NUMBER    | INDUCTANCE    | TOLERANCE | DC RESISTANCE    | SATURATION CURRENT | TEMPERATURE RISE CURRENT |
|----------------|---------------|-----------|------------------|--------------------|--------------------------|
|                | 0.1MHz/0.1V   |           | max              | max                | max                      |
| UNITS          | $\mu\text{H}$ | %         | $\text{m}\Omega$ | A                  | A                        |
| SYMBOL         | L             | M         | DCR              | $I_{\text{sat}}$   | $I_{\text{rms}}$         |
| ASPI-M3015-R47 | 0.47          | 20%       | 27               | 8.0                | 5.0                      |
| ASPI-M3015-R68 | 0.68          | 20%       | 35               | 8.0                | 4.1                      |
| ASPI-M3015-1R0 | 1.00          | 20%       | 42               | 5.8                | 3.8                      |
| ASPI-M3015-1R5 | 1.50          | 20%       | 46               | 4.4                | 3.5                      |
| ASPI-M3015-2R2 | 2.20          | 20%       | 85               | 3.6                | 2.4                      |
| ASPI-M3015-3R3 | 3.30          | 20%       | 120              | 3.3                | 2.1                      |
| ASPI-M3015-4R7 | 4.70          | 20%       | 150              | 3.0                | 1.8                      |
| ASPI-M3015-6R8 | 6.80          | 20%       | 200              | 2.5                | 1.6                      |
| ASPI-M3015-100 | 10.0          | 20%       | 270              | 2.2                | 1.5                      |

## CHARACTERISTICS

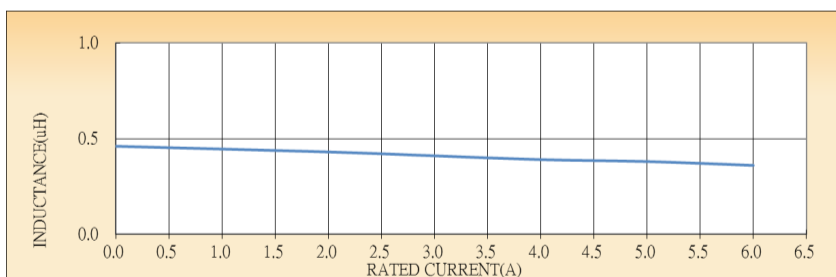
ASPI-M2512-R24



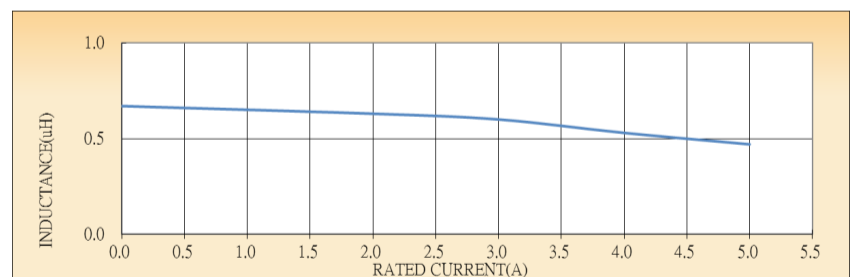
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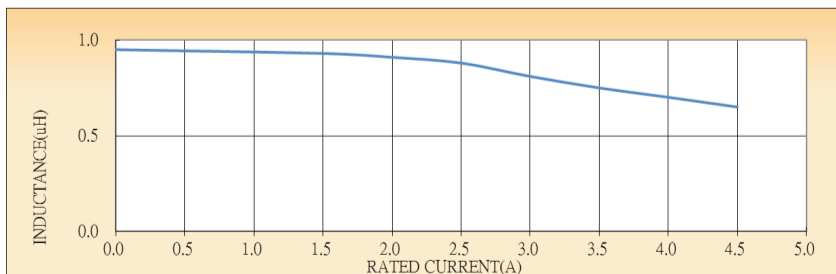
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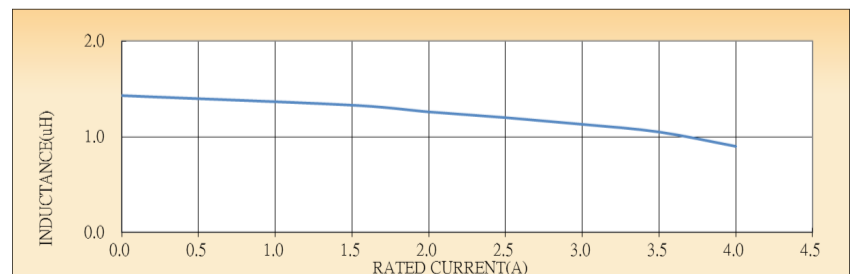
ASPI-M2512-R68



ASPI-M2512-1R0

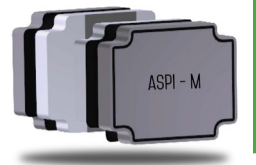


ASPI-M2512-1R5



REVISED: 10.6.2017

# MINIATURE LOW PROFILE HIGH CURRENT INDUCTORS



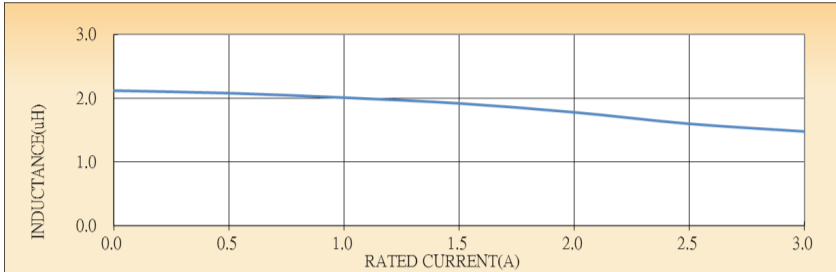
ASPI-M

2.5 x 2.0 x 1.2 mm  
3.0 x 3.0 x 1.5 mm  
MSL = 1

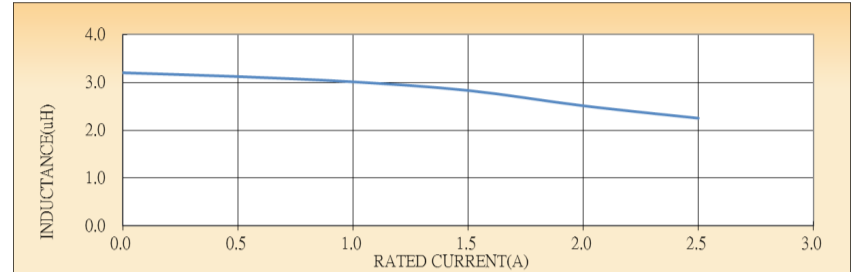
RoHS/RoHS II Compliant

## CHARACTERISTICS

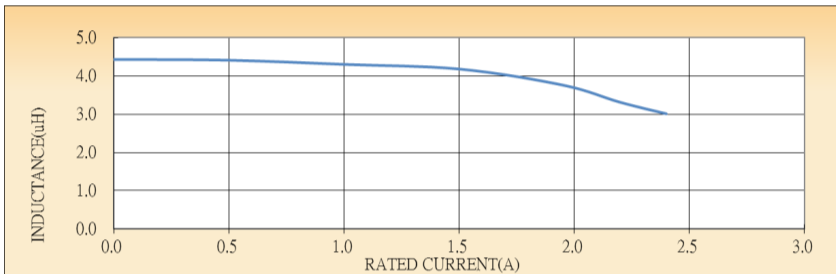
ASPI-M2512-2R2



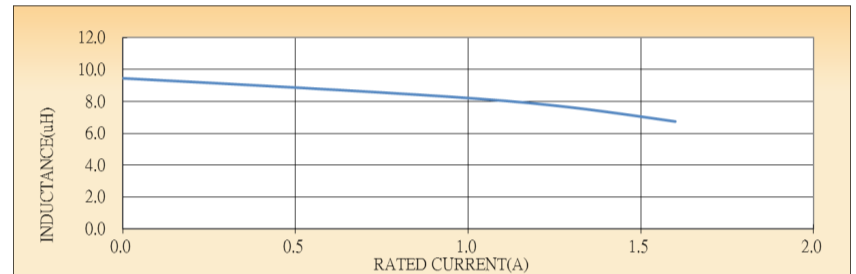
ASPI-M2512-3R3



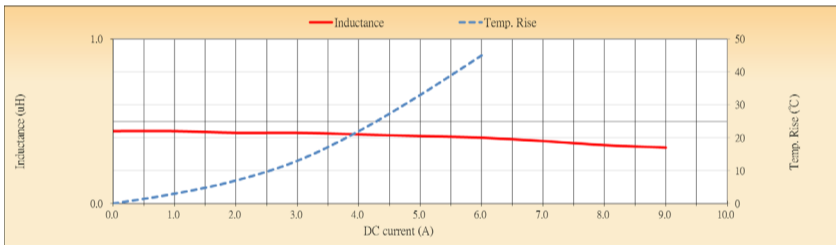
ASPI-M2512-4R7



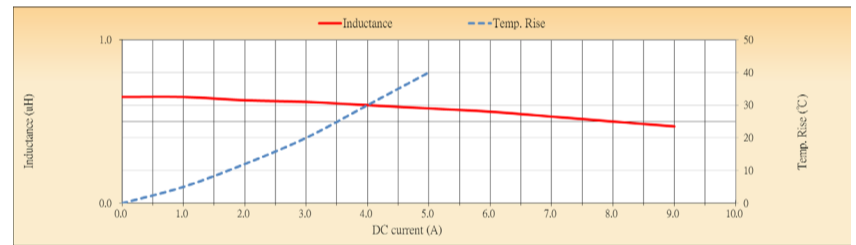
ASPI-M2512-100



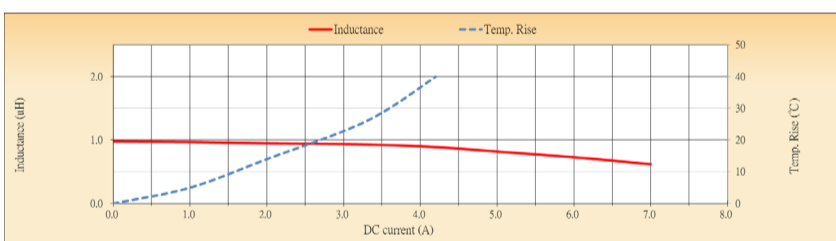
ASPI-M3015-R47



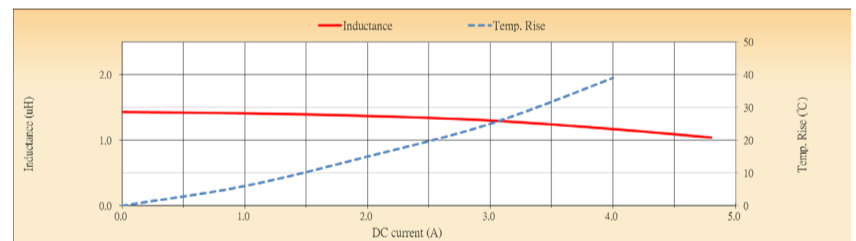
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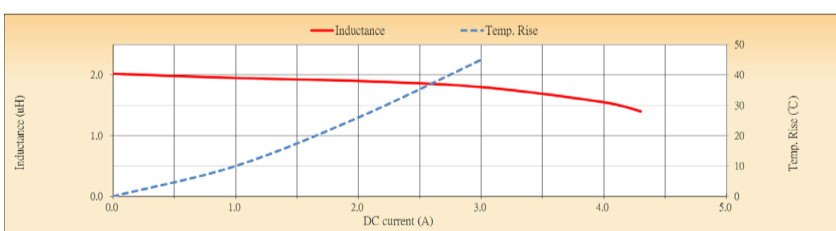
ASPI-M3015-1R0



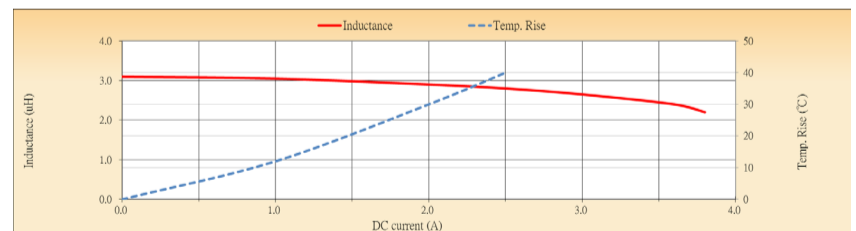
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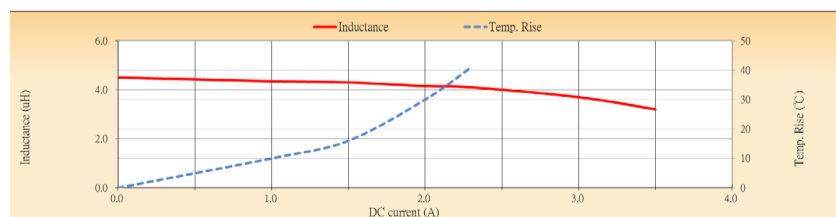
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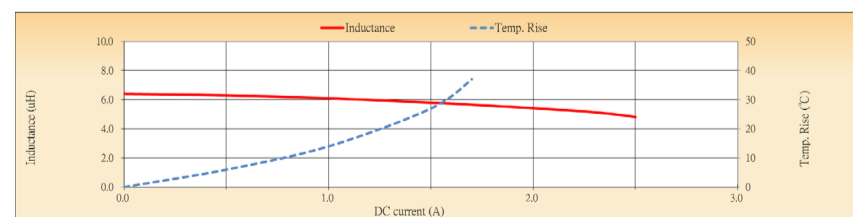
ASPI-M3015-3R3



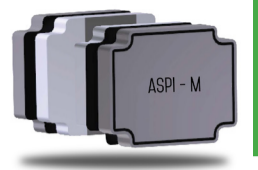
ASPI-M3015-4R7



ASPI-M3015-6R8



# MINIATURE LOW PROFILE HIGH CURRENT INDUCTORS



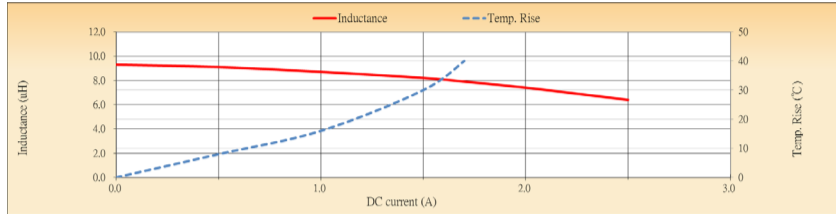
ASPI-M

2.5 x 2.0 x 1.2 mm  
3.0 x 3.0 x 1.5 mm  
MSL = 1

RoHS/RoHS II Compliant

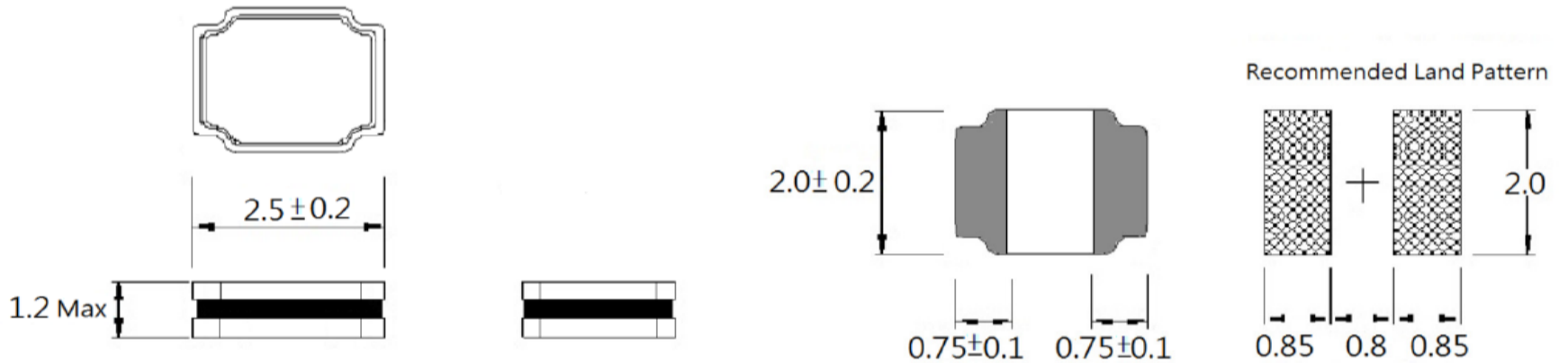
## CHARACTERISTICS

### ASPI-M3015-100

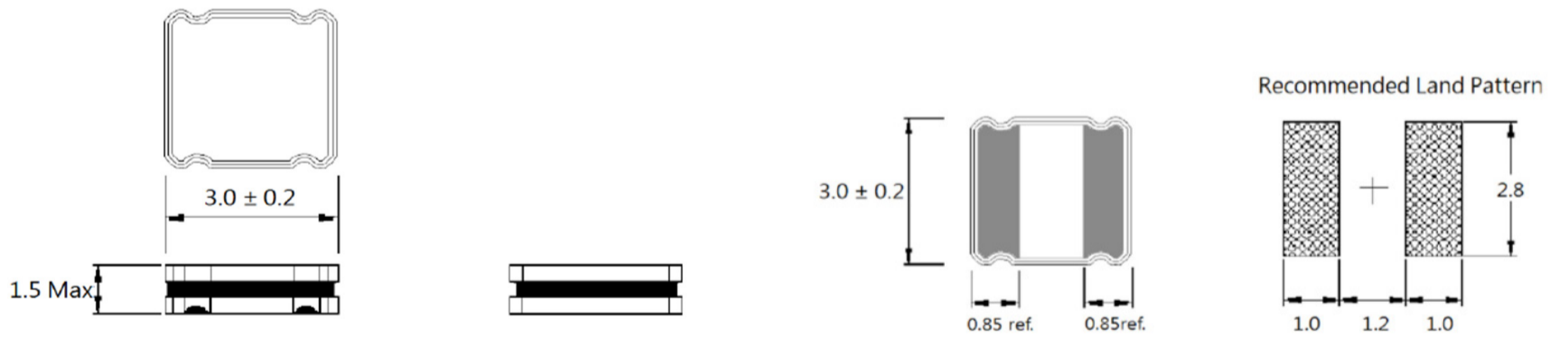


## MECHANICAL DIMENSIONS

### ASPI-M2512



### ASPI-M3015



Dimension: mm

# MINIATURE LOW PROFILE HIGH CURRENT INDUCTORS

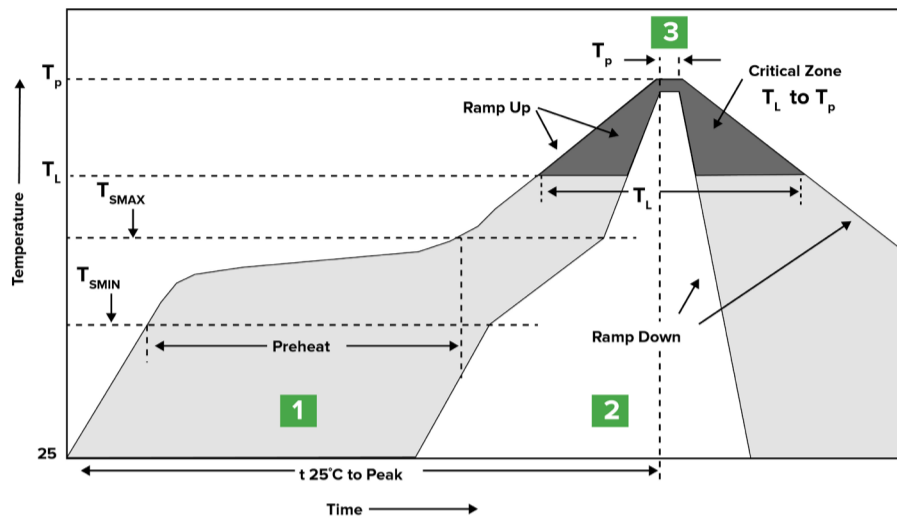


ASPI-M

2.5 x 2.0 x 1.2 mm  
3.0 x 3.0 x 1.5 mm  
MSL = 1

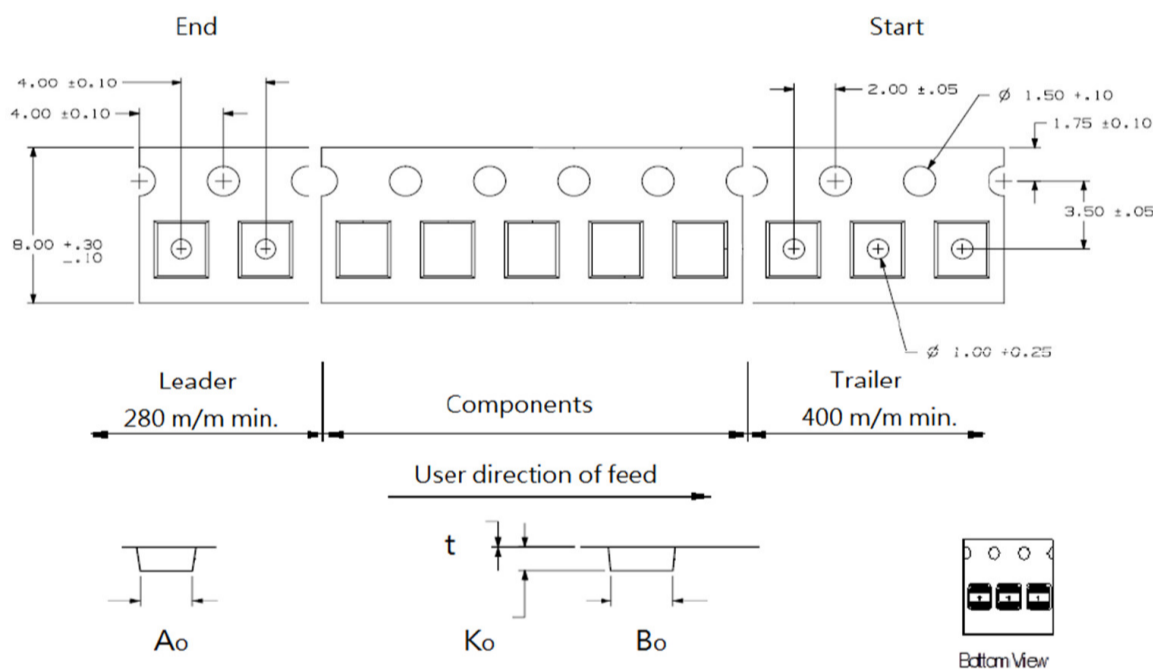
RoHS/RoHS II Compliant

## REFLOW

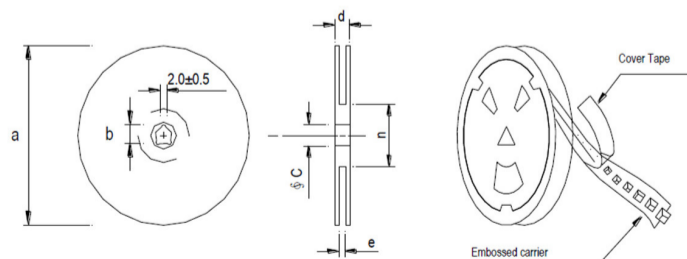


| Zone | Description | Temperature                                     | Times         |
|------|-------------|---|---------------|
| 1    | Preheat     | $T_{S_{MIN}} \sim T_{S_{MAX}}$<br>150°C ~ 200°C | 60 ~ 180 sec. |
| 2    | Reflow      | $T_L$<br>217°C                                  | 40 ~ 90 sec.  |
| 3    | Peak heat   | $T_P$<br>260°C                                  | 5 sec. MAX    |

## PACKING (TAPE & REEL: 2000 PCS/REEL)



| Series | A <sub>0</sub> | B <sub>0</sub> | t         | K <sub>0</sub> |
|--------|----------------|----------------|-----------|----------------|
| 2512   | 2.35±0.1       | 2.90 ±0.1      | 0.25±0.05 | 1.40±0.1       |
| 3015   | 3.15±0.1       | 3.15 ±0.1      | 0.25±0.05 | 1.60±0.1       |



| a           | b          | ΨC         | d        | E         | N      |
|-------------|------------|------------|----------|-----------|--------|
| 178.0 ± 2.0 | 21.0 ± 0.8 | 13.0 ± 0.8 | 12.5 MAX | 8.4 ± 1.0 | 50 MIN |

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