

**AEC-Q200**

### Power Choke Coil VAMV1009AA MM2 type (Mylar Cap)

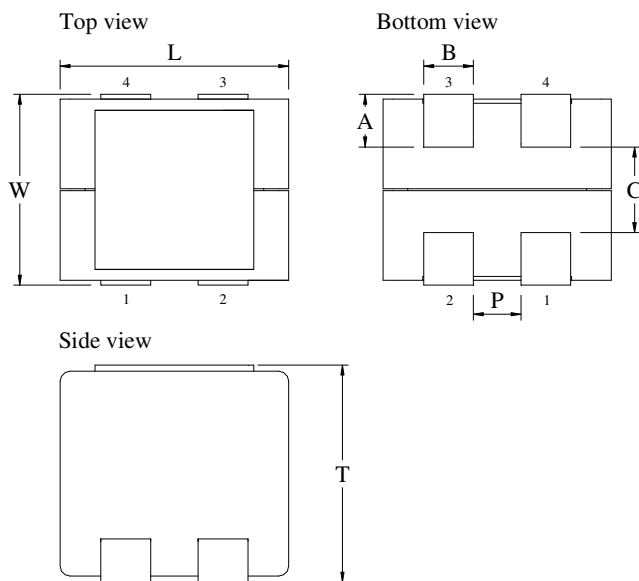
#### ■ Features

- High performance (Isat) realized by metal dust core.
- Low profile : Thickness max. 11.05mm
- Low loss realized with low DCR
- Capable of corresponding high frequency (1MHz)
- Compliance with RoHS and Halogen Free
- AEC-Q200 qualified

#### ■ Application

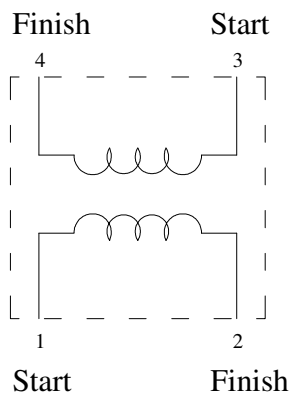
Automotive applications

#### ■ Outline Dimensions



| Code | Dimensions (mm) |
|------|-----------------|
| L    | 10.2 ± 0.2      |
| W    | 9.2 ± 0.2       |
| T    | 10.85 ± 0.20    |
| A    | 2.65 ± 0.20     |
| B    | 2.5 ± 0.2       |
| C    | 4.3 typ.        |
| P    | 2.4 ± 0.2       |

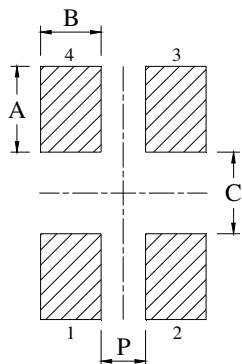
#### ■ Schematic



### Recommend Land Pattern Dimensions

The customer shall determine the land dimensions shown below after confirming and safety.

Top View



|   |      |
|---|------|
| A | 4.05 |
| B | 2.85 |
| C | 3.84 |
| P | 2.1  |

Unit : mm

### Marking and Date Code

#### (1) Marking

The inductor is marked with a 3-digit code

Example -- 10.0 $\mu$ H → 100

#### (2) Date Code

X      XX

(1)      (2)

XXX

(3)

Where (1)Year Code

Ex : 2018 = 8

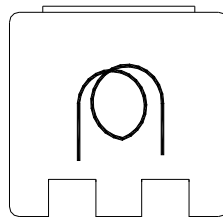
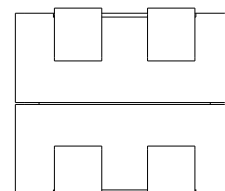
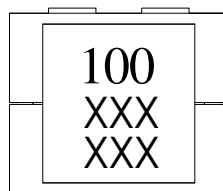
(2)Weekly Code

Serial number : 01 ~ 53

(3)Taping No.

Serial number : 001 ~ ZZZ

Upside of Choke



### ■ Specifications

| Part Number       | L0 ◇<br>Inductance<br>( $\mu$ H)<br>@ (0A) | R <sub>dc</sub> (m $\Omega$ ) ◇ |         | Heat Rating Current<br>DC Amps. Idc ( A ) |         | Saturation Current<br>DC Amps. Isat ( A ) |         |
|-------------------|--------------------------------------------|---------------------------------|---------|-------------------------------------------|---------|-------------------------------------------|---------|
|                   |                                            | Typical                         | Maximum | Typical                                   | Maximum | Typical                                   | Maximum |
| VAMV1009AA-1R0MM2 | 1.0                                        | 3.3                             | 4.0     | 13.0                                      | 12.0    | 50.0                                      | 43.0    |
| VAMV1009AA-2R2MM2 | 2.2                                        | 5.0                             | 6.0     | 10.0                                      | 9.0     | 32.0                                      | 27.5    |
| VAMV1009AA-3R3MM2 | 3.3                                        | 7.5                             | 8.6     | 9.0                                       | 8.0     | 26.0                                      | 23.4    |
| VAMV1009AA-5R6MM2 | 5.6                                        | 14.0                            | 16.8    | 6.4                                       | 5.8     | 19.0                                      | 16.0    |
| VAMV1009AA-8R2MM2 | 8.2                                        | 17.4                            | 20.0    | 6.0                                       | 5.4     | 14.0                                      | 12.0    |
| VAMV1009AA-100MM2 | 10.0                                       | 18.0                            | 22.0    | 5.8                                       | 5.2     | 12.0                                      | 10.0    |
| VAMV1009AA-150MM2 | 15.0                                       | 34.0                            | 40.8    | 4.5                                       | 4.0     | 9.0                                       | 7.7     |
| VAMV1009AA-220MM2 | 22.0                                       | 46.0                            | 56.0    | 3.6                                       | 3.2     | 8.5                                       | 7.3     |

◇ : Significant Characteristic

\* : If you require another part number please contact with us.

\*\* : Inductance Tolerance  $\pm$  20%

Note 1. : All test data is referenced to 25°C ambient.

Note 2. : MS Level: Level 1.

Note 3. : Test Condition: 100KHz, 1.0Vrms

Note 4. : Idc : DC current (A) that will cause an approximate  $\Delta$ T of 40°C

Note 5. : Isat : DC current (A) that will cause L0 to drop approximately 25%

Note 6. : Operating Temperature Range -55°C to + 125°C

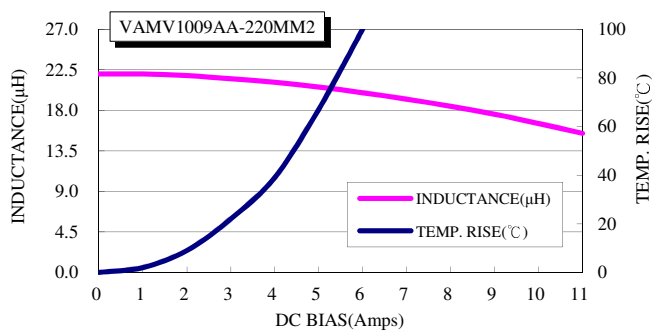
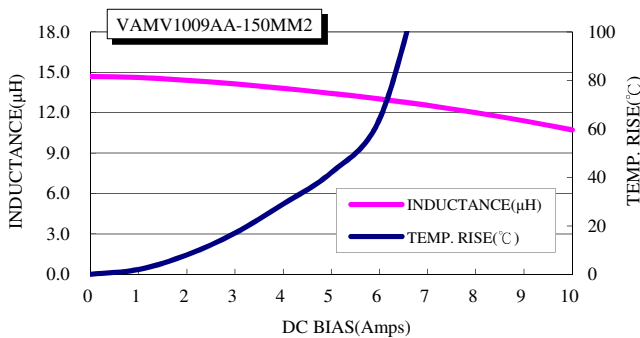
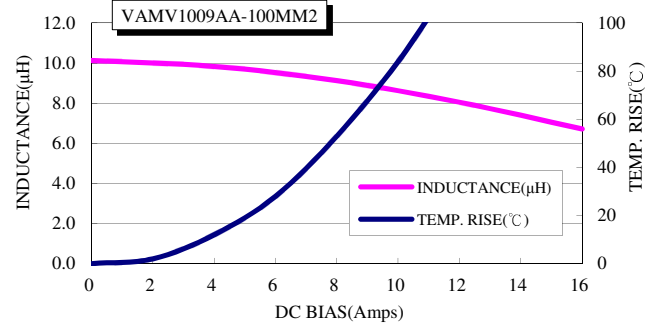
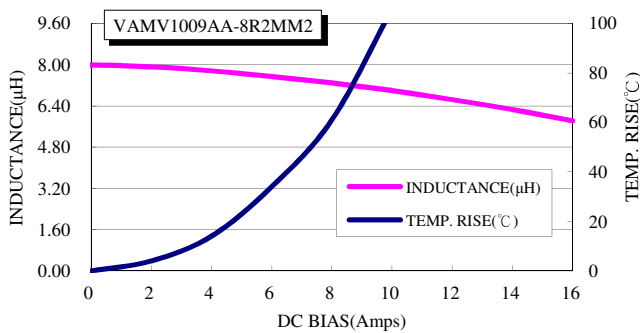
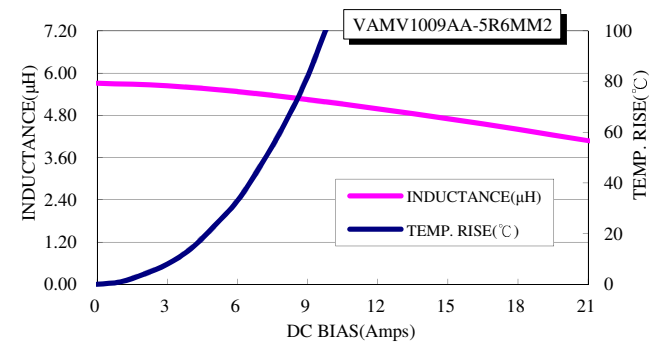
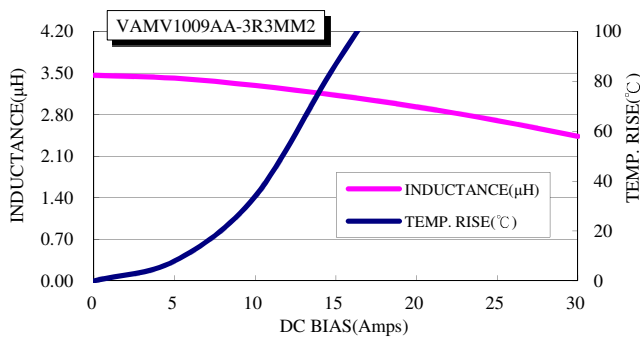
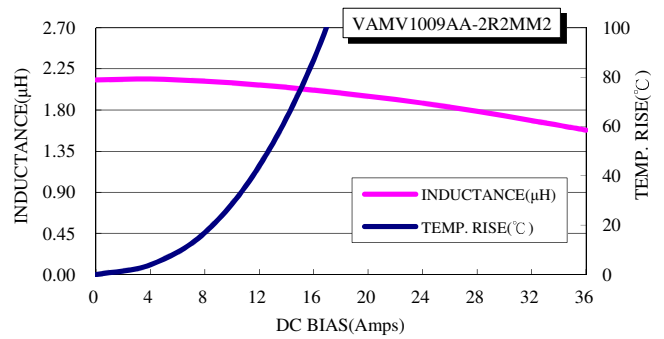
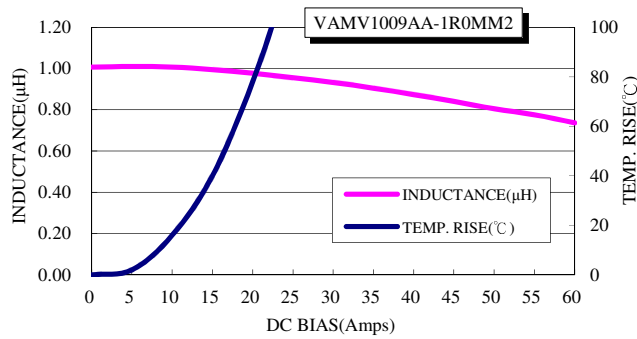
Note 7. : The part temperature (ambient + temp rise) should not exceed 125°C under the worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the end application.

Note 8. : The rated current as listed is either the saturation current or the heating current depending on which value is lower.

Note 9. : Cleaning Process Note

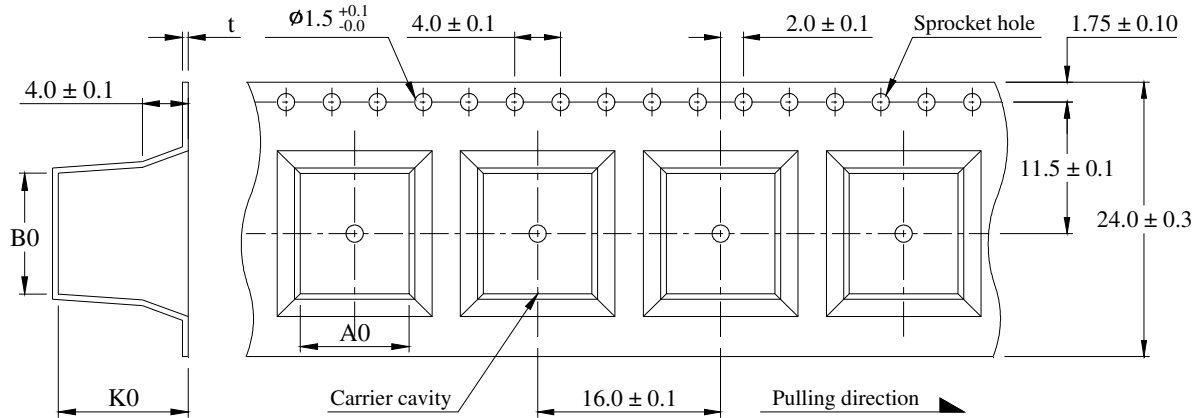
- (a) If this power choke is dipped in the cleaning agent, such as toluene, xylene, ketone, and ether system, there is a possibility that the performance decreases greatly
- (b) The high power ultrasonic washing may damage the choke body.
- (c) Please contact us if you need the cleaning via the above agents or ultrasonic washing.

### Current Characteristic



### ■ Packaging

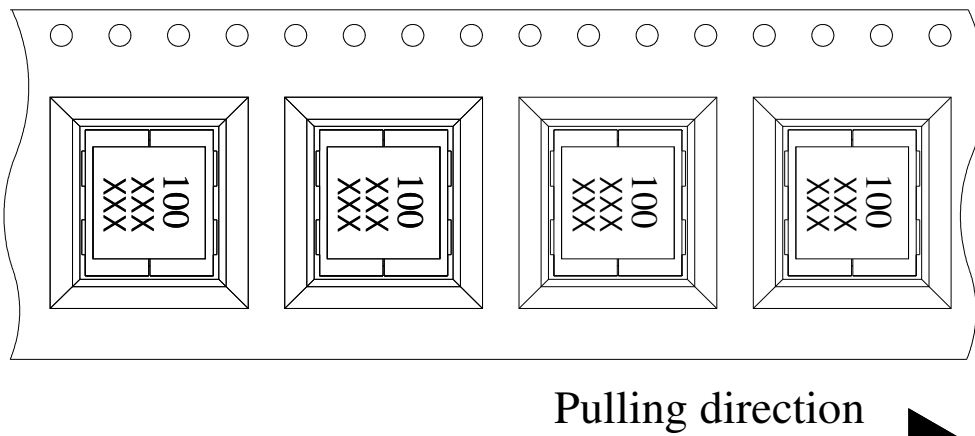
#### (1) Tape packaging dimensions



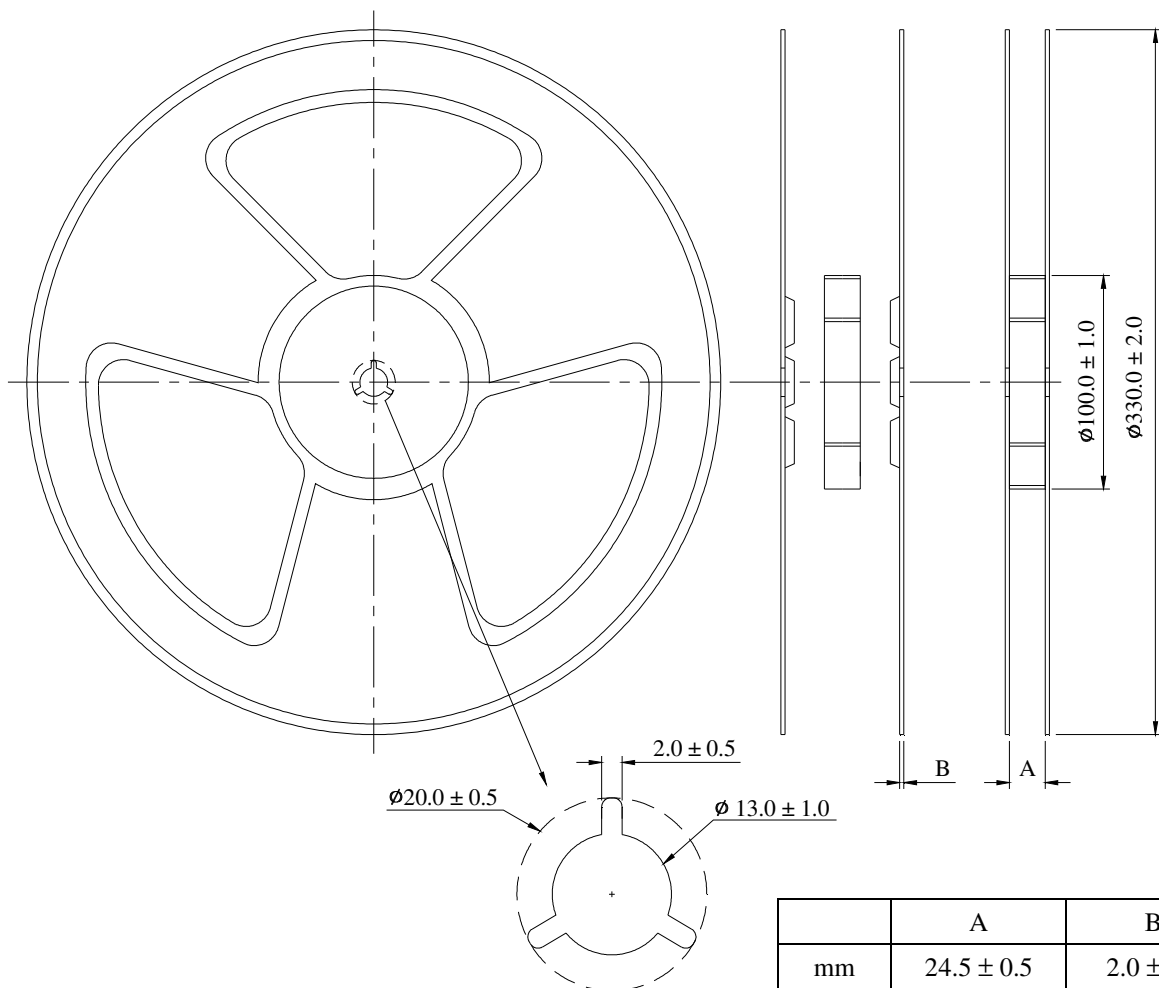
| Dimensions Code (mm) |            |              |             | UNITS/REEL |
|----------------------|------------|--------------|-------------|------------|
| A0                   | B0         | K0           | t           |            |
| 9.5 ± 0.1            | 10.5 ± 0.1 | 11.35 ± 0.10 | 0.50 ± 0.05 | 300        |

#### (2) Tape Direction

The direction shall be seen from the top cover tape side.



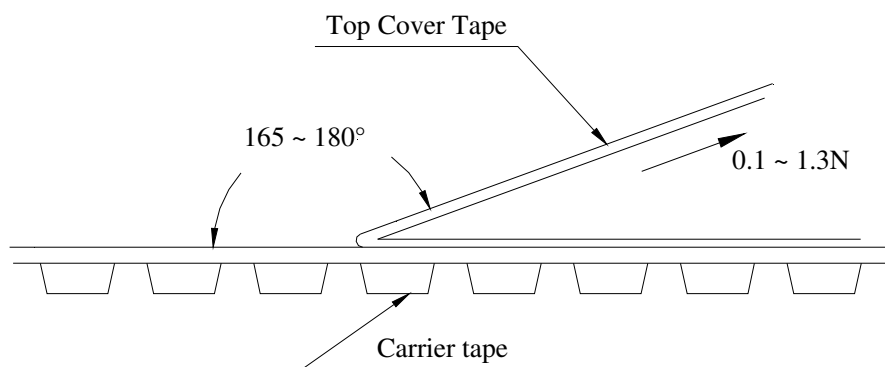
(3) Reel dimensions



(4) Peel force of top cover tape

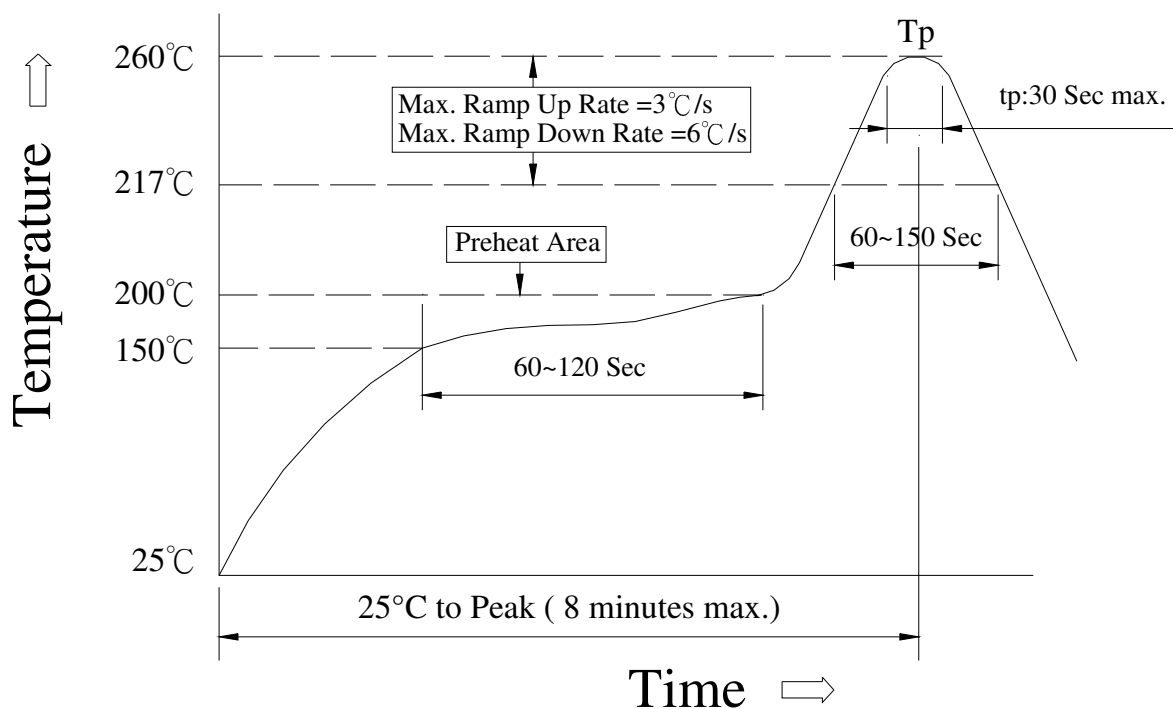
The peel speed shall be about 300 mm/minute

The peel force of top cover tape shall be between 0.1 to 1.3N



■ Reflow Profile

Power Choke Coil Type



(1) Reflow Soldering Method :

|                               |                |                       |
|-------------------------------|----------------|-----------------------|
| Reflow Soldering              | Tp:255~260°C   | Max.30 seconds ( tp ) |
|                               | 217°C          | 60~150 seconds        |
| Pre-Heat                      | 150 ~ 200°C    | 60~120 seconds        |
| Time 25°C to peak temperature | 8 minutes max. |                       |

(2) Soldering iron Method : 350± 5°C max.3 seconds