PREMO
RFID Components

# 3DCoil11LP-AOI-XXXXJ
# 3DCoil11LP-AOIF-XXXXJ (foam option)
# 3DCoil11LP-AOIC-XXXXJ (cap option)
SMD 3D11 Coil Low Profile AOI 13x11.6x3.45 mm

RoHS COMPLIANT 2011/65/EU

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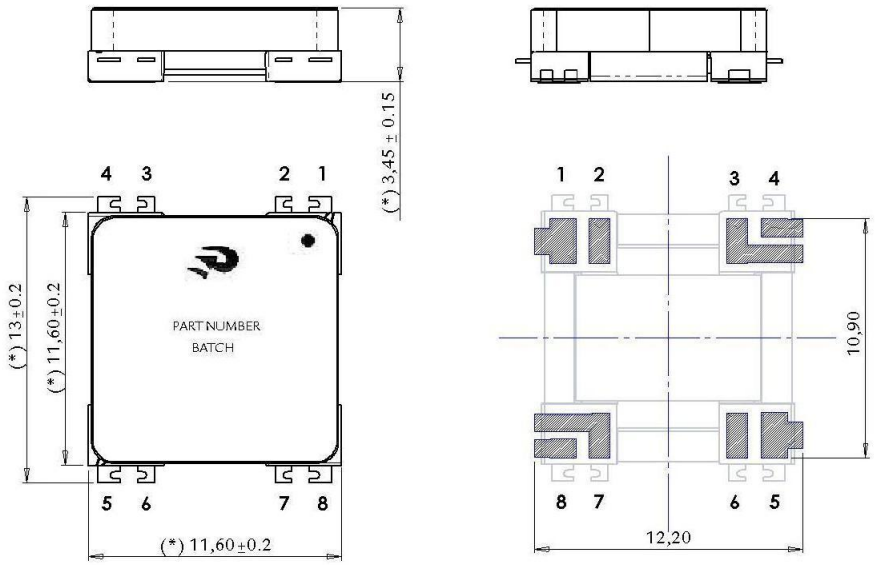
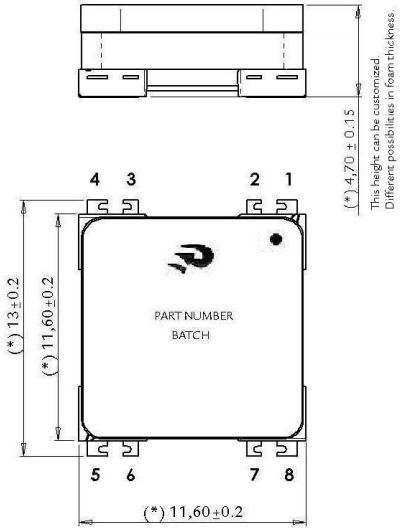
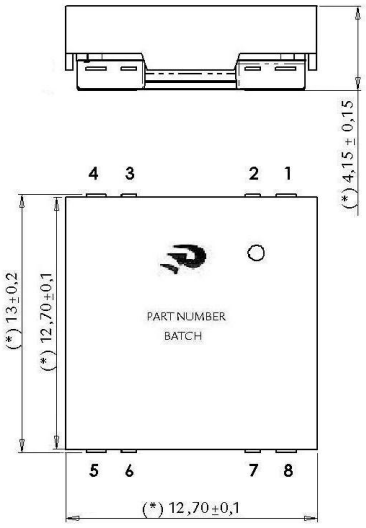
## 1. Dimensions and Pad Layout




All Dimensions in mm. Pins Coplanarity 0.10mm. General Tolerances unless indicated ±0.1mm
Contact PREMO for more detailed information about pad layout.




FOAM OPTION




CAP OPTION

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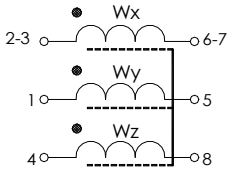
## 2. Schematic Diagram




Designed for AMS ICs like AS3932 series, TI Chipset like MSP430 series, NXP, MAXIM (SensorDynamics), ...etc

## 3. Materials

**Core:** Ferrite Core
**SMD Base:** LCP with lead frame
**Wires:** Enamell and Selfbonding copper wire
**Label:** Polyimide with acrylic adhesive (*)
**Pins:** Phosphor bronze with Sn100 finish
**Foam Label:** Acrylic foam with white polyimide and acrylic adhesive (*)
**Cap:** LCP

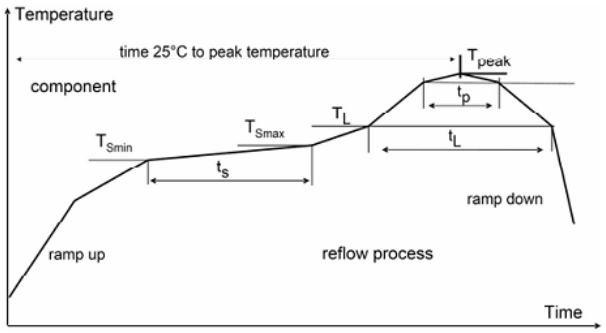
Remark : Products comply with RoHS requirements.
(*)Label for flat top and ID marking. Not for autoplacement.

## 4. General Specifications. Recommended Reflow Profile

Typical Operating Frequency 125KHz

Storage Temperature -40 °C → +85 °C

Operating Temperature -40 °C → +85 °C




Lead Free Reflow Profile: Equivalent to test condition K from MIL-STD-202G, method 210F

Component temperature 250±5 °C. Time 30 ± 5 s. Temperature ramp/inmersion and emersion rate: 1°C/s-4°C/s. Time above 183 °C: 90-120 s.

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## 5. Electrical Characteristics

### 3DC11LP-AOI

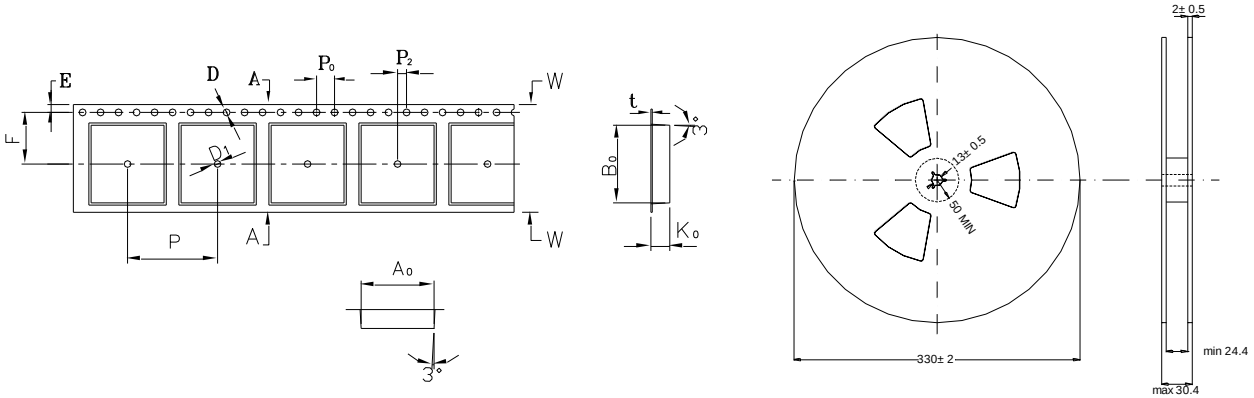
| Code | Lx,y,z (mH) | Qx,y nom | Qz nom | f(kHz) | SRFx,y (KHz) Min | SRFz (KHz) Min | DCRx (Ohm) Max | DCRy (Ohm) Max | DCRz (Ohm) Max | Cpxy (pF) Max | Cpxz (pF) Max | Cpyz (pF) Max | Sensitivity x,y (mV/A/m) Min (*) | Sensitivity z (mV/A/m) Min (*) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3DC11LP-AOI-0238J | 2.38 | 25 | 19 | 125 | 700 | 750 | 50 | 55 | 83 | 25 | 10 | 10 | 40 | 38 |
| 3DC11LP-AOI-0477J | 4.77 | 26 | 24 | 125 | 500 | 650 | 91 | 103 | 122 | 30 | 15 | 15 | 55 | 55 |
| 3DC11LP-AOI-0720J | 7.20 | 20 | 20 | 125 | 300 | 450 | 127 | 143 | 220 | 40 | 15 | 15 | 80 | 70 |
| 3DC11LPAOI-C-0720J | 7.20 | 20 | 20 | 134 | 300 | 450 | 127 | 143 | 220 | 40 | 15 | 15 | 80 | 70 |
| 3DC11LPAOI-A-3000J | 30 | 6 | 6 | 20 | 115 | 200 | 605 | 704 | 539 | 50 | 15 | 15 | 24 | 20.5 |

(*) Ask for sensitivity test set up and recommendations

For foam label and cap options, main electrical characteristics will not vary from the standard version.

## 6. Packaging Information

### TAPING SPECIFICATION (According to EIA481)




| Standard version | | Foam option | Cap option |
|---|---|---|---|
| Ao | 12.1mm | 12.5 mm | 13.2 mm |
| Bo | 13.5mm | 13.9 mm | 13.5 mm |
| Ko | 4.0mm | 5.6 mm | 4.5 mm |
| W | 24mm | 24 mm | 24 mm |
| Ppr | 1000 pcs | 600 pcs | 600 pcs |

MATERIAL LIST

| ITEM | MATERIAL |
|---|---|
| Reel | Shock-Proof Antistatic PS 330 mm Φ |
| Carrier tape | PS black colour 0.5 mm |
| Cover tape | Polyester |

Typical weight one piece 3DC11LP-AOI-0720J: 1.65 g
Typical weight one reel: 2 kg

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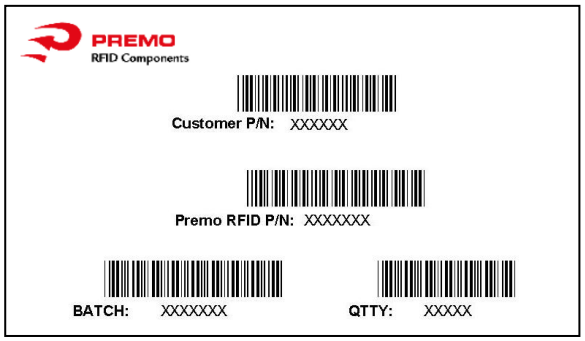
## 7. Marking

PART Marking


PACKAGE LABELLING




## 8. Reliability Tests

This part is qualified according to AEC-Q200 Revision D.
Withstands 1000 random drops from 1 m and 20 drops x 6 axis from 2 m over fine grained wash-out concrete floor and with an added weight to the key housing of 60 g (contact PREMO for specific TAG, Keyfob mechanical conditions for drop test).

| Edition | Revision Date |
|---|---|
| 2 | 30/01/14 |