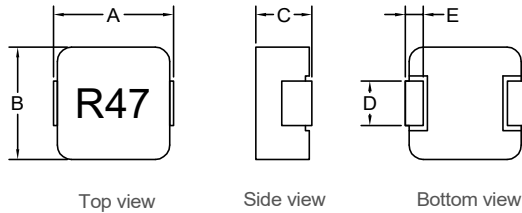


P/N: FAMPI0530-R47M16R0



Outline Dimensions(Unit:mm)



| A     | B     | C     | D    | E    |
|-------|-------|-------|------|------|
| ±0.35 | ±0.30 | ±0.20 | REF  | REF  |
| 5.70  | 5.20  | 2.80  | 2.20 | 1.20 |

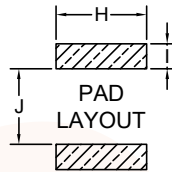
List of UL Certificate:

| Part Name | Material              | Specification | Supplier | UL |
|-----------|-----------------------|---------------|----------|----|
| Core      | Carbonyl material     |               |          |    |
| Wire      | Enamelled copper wire |               |          |    |

Electronical Schematic



Suggested Pad layout



|   |          |
|---|----------|
| H | 2.70 REF |
| I | 2.00 REF |
| J | 2.20 REF |

Recommended Soldering Temperature Graph.



Electrical Characteristics(@25°C)

| Inductance<br>100KHz,1V | DC Resistor | Isat<br>(A)      | Irms<br>(A) ΔT≤40°C |
|-------------------------|-------------|------------------|---------------------|
| 0.47uH±20%              | 7.40mΩ Max  | L(16.0A)≥70%*LOA | 12.0A               |

- \*\*\*Operating Temperature: -40°C~+125°C (Including temperature rise)
- \*\*\*Storage Temperature: -40°C~+125°C
- \*\*\*Storage Humidity:RH10%~70%.
- \*\*\*Weight:Approximately 0.45g.

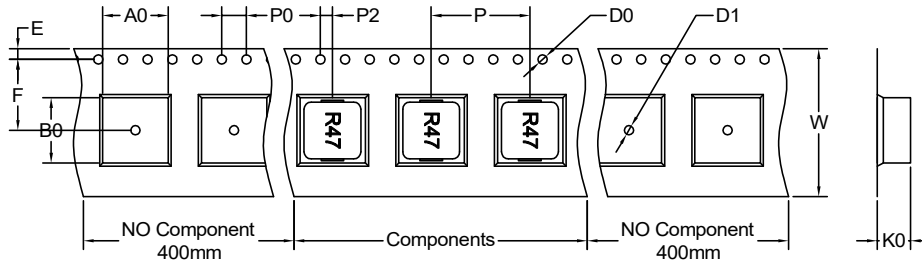
|                  | Standard Profile    | Standard Profile    |
|------------------|---------------------|---------------------|
| Pre-heating      | 150~180°C,90s±30s   |                     |
| Heating          | above 220°C,30s-60s | above 240°C,30s Max |
| Peak temperature | 245°C±3°C           | 260°C,10s           |
| Cycle of reflow  | 2 times             | 2 times             |

|     |             |      |      |   |   |                       |   |                                   |
|-----|-------------|------|------|---|---|-----------------------|---|-----------------------------------|
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|     |             |      |      |   |   | Checked: Beson. zhan  |   | Document/Rev: 00                  |
|     |             |      |      |   |   | Approved: Anson. zhan |   | Specification Sheet: 1 of 4       |
|     |             |      |      |   |   |                       |   | Date of Recognition: Mar./28/2020 |

P/N: FAMPI0530-R47M16R0



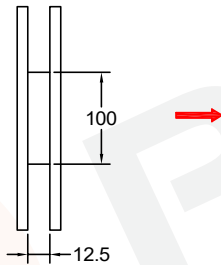
Packing Specifications(Unit:mm):



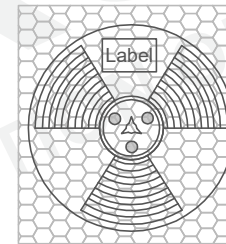
|    |      |    |      |
|----|------|----|------|
| A0 | 5.40 | F  | 5.50 |
| B0 | 5.90 | D0 | 1.50 |
| P  | 8.00 | D1 | 1.50 |
| P0 | 4.00 | K0 | 3.30 |
| P2 | 2.00 | W  | 12.0 |
| E  | 1.75 |    |      |



Quantity:2000pcs/Reel



Quantity: 2000pcs



PE bag



Outer cases: 20000pcs/box  
Insufficient boxes filled with inner boxes or fillers



Inner box  
Quantity: 10000 pcs/box

|     |             |      |      |
|-----|-------------|------|------|
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Unit of measurement: mm

Make: Qiumei.Liu  
Checked: Beson. zhan  
Approved: Anson. zhan

**DRAWING TITLE**  
CARBONYL MATERIAL  
SMD POWER INDUCTORS  
Material Number: A340530XS190

Customer Name:  
Document/Rev: 00  
Specification Sheet: 2 of 4  
Date of Recognition: Mar./28/2020



Reliability Testing:

| Ltem  | Specified value   | Test methods   |
|---|---|--|
| High temperature Storage test<br>Reference documents:<br>MIL-STD-202G Method 108A | 1.No case deformation or change in appearance.<br>2. $\Delta L/L \leq 10\%$ .<br>3. $\Delta Q/Q \leq 30\%$ .<br>4. $\Delta DCR/DCR \leq 10\%$ . | Temperature: $85 \pm 2^\circ\text{C}$ Time: $96 \pm 2$ hours.<br><br>Tested not less than 1 hour, not more than 2 hours at room temperature.<br>  |
| Low temperature Storage test.<br>Referencedocuments:<br>IEC 68-2-1A 6.1 6.2       | 1.No case deformation or change in appearance.<br>2. $\Delta L/L \leq 10\%$ .<br>3. $\Delta Q/Q \leq 30\%$ .<br>4. $\Delta DCR/DCR \leq 10\%$ . | Temperature: $25 \pm 2^\circ\text{C}$ Time: $96 \pm 2$ hours.<br><br>Tested not less than 1 hour, not more than 2 hours at room temperature.<br>  |
| Humidity test Reference Documents:<br>MIL-STD-202G Method 103B                    | 1.No case deformation or change in appearance.<br>2. $\Delta L/L \leq 10\%$ .<br>3. $\Delta Q/Q \leq 30\%$ .<br>4. $\Delta DCR/DCR \leq 10\%$ . | 1.Dry oven at a temperature of $40^\circ \pm 5^\circ\text{C}$ for 24 hours.<br>2.Measurements At the end of this period<br>3.Exposure:Temperature: $40 \pm 2^\circ\text{C}$ ,Humidity: $93 \pm 3\% \text{RH}$ Time: $96 \pm 2$ hours.<br>4.Tested while the specimens are still in the chamber.<br>5. Tested not less than 1 hour, nor more than 2 hours at room temperature.<br> |
| Heat endurance of Reflow soldering  | 1.No case deformation or change in appearance.<br>2. $\Delta L/L \leq 10\%$ .<br>3. $\Delta Q/Q \leq 30\%$ .<br>4. $\Delta DCR/DCR \leq 10\%$ . | Preheat: $150^\circ\text{C}$ ,60 second.<br>Solder:Sn/Ag/Cu.<br>Solder:Temperature: $260 \pm 5^\circ\text{C}$ .<br>Flux:Rosin flux.<br>Reflow peak time 10 second at $260^\circ\text{C}$<br>  |

| Ltem   | Specified value   | Test methods   |
|--|---|--|
| Thermal shock test<br>Reference documents:<br>MIL-STD-202G Method 107G                   | 1.No case deformation or change in appearance.<br>2. $\Delta L/L \leq 10\%$ .<br>3. $\Delta Q/Q \leq 30\%$ .<br>4. $\Delta DCR/DCR \leq 10\%$ .<br>For T:weiges $\leq 28\text{g}$ :15 Min<br>28g $\geq$ weights $\leq 136\text{g}$ :30 Min  | First- $40^\circ\text{C}$ for T time,next+ $125^\circ\text{C}$ Ttime as 1 cycle. Go through 20 cycles.<br>    |
| Solderability test<br>Reference documents:<br>MIL-STD-202G Method 208H<br>IPC J-STD-002B | Terminals area must have 95% Min. Solder coverage.  | Dip pads in flux then dip in solder pot at $245 \pm 5^\circ\text{C}$ for 5 second.<br>Soler:Sn(93.5)Ag(3.5).<br>Flux:Rosin flux.   |
| Vibration test<br>Reference documents:<br>MIL-STD-202G Method 201A                       | 1.No case deformation or change in appearance.<br>2. $\Delta L/L \leq 10\%$ .<br>3. $\Delta Q/Q \leq 30\%$ .<br>4. $\Delta DCR/DCR \leq 10\%$ .   | Apply frequency 10~55Hz. 0.75mm amplitude in each of perpendicular direction for 2 hours.(total 6 hours).<br> |
| Drop test<br>Reference documents:<br>MIL-STD-202G Method 203G                            | 1.No case deformation or change in appearance.<br>2. $\Delta L/L \leq 10\%$ .<br>3. $\Delta Q/Q \leq 30\%$ .<br>4. $\Delta DCR/DCR \leq 10\%$ .<br>For T:weiges $\leq 28\text{g}$ :15 Min<br>28g $\geq$ weights $\leq 136\text{g}$ :30 Min  | Packaged & Drop down from 1m with $981\text{m/s}^2$ (100G)attitude in 1 angle 1 ridges & 2 surfaces orientations.  |
| Terminal strength push test<br>Reference documents:<br>JIS C 5321:1997                   | Pulling test:<br>DEFINE:A:sectional area of terminal<br>$A \leq 8(\text{Sq M})$<br>$8(\text{Sq M}) < A \leq 20(\text{Sq M})$<br>Force $\geq 5\text{N}$ time:30sec<br>$8(\text{Sq M}) < A \leq 20(\text{Sq M})$<br>Force $\geq 10\text{N}$ time:10sec<br>$20(\text{Sq M}) < A$ force $\geq 20\text{N}$ time:10sec<br>Bending test:<br>Soldering the products on PCB,after the pulling testand bending test, terminal should not pull off | Bend the testing PCB at middle point, the deflection shall be 2mm<br>                                       |

|     |             |      |      |   |   |   |   |  |
|-----|-------------|------|------|---|---|---|---|--|
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|-----|-------------|------|------|---|---|---|---|--|

P/N: FAMPI0530-R47M16R0



| Ltem   | Specified value   | Test methods   |
|--|---|--|
| Resistance to solvent test<br>Reference documents:<br>IEC 68-2-45:1993 | No case deformation or change in appearance, or obliteration of marking | To dip parts into IPA solvent for 5±0.5Min, then drying them at room temp for 5 Min, at last, to brushing making 10 times. |
| Electronic characteristic test of major products                       | Refer to catalogue of specific products                                 | Refer to catalogue of specific products  |
| Overload test<br>Reference documents:                                  | 1. During the test no smoke, no peculiar, smell, no fire                | Apply twice as rated current for 5 minutes.  |

Recommended solderability temperature profile:



Use rosin-based flux  
Don't use high acidic flux with halide content exceeding 0.2(wt)% (chlorine conversion value).  
Use lead-free solder, use Sn-3.0Ag-0.5Cu solder  
Standard thickness of solder paste: 0.12-0.15mm

|     |             |      |      |   |   |   |   |  |
|-----|-------------|------|------|---|---|---|---|--|
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| REV | DESCRIPTION | APPD | DATE |   |   |   |   |  |