# SMT Power Inductor

*High Current Molded Power Inductor - PA4342.XXXNLT & PM4342.XXXNLT Series*

Pulse
a YAGEO company


- ***Height:*** *4.0mm Max*
- ***Footprint:*** *11.5mm x 10.3mm Max*
- ***Current Rating:*** *up to 43.0A*
- ***Inductance Range:*** *0.15uH to 68.0uH*
- *Shielded construction and compact design*
- *High current, low DCR, and high efficiency*
- *Minimized acoustic noise and minimized leakage flux*
- *200Vdc Isolation between terminal and core*

| Electrical Specifications @ 25°C - Operating Temperature -55°C to +125°C | | | | | | |
|---|---|---|---|---|---|---|
| Commercial[6,7] | Automotive[6,7] | Inductance[5] 100KHz, 1V | Rated[3] Current | DC Resistance | | Saturation[2] Current |
| | | | | TYP. | MAX. | |
| | | uH | A | mΩ | mΩ | A |
| **PA4342.151NLT** | PM4342.151NLT | **0.15*** | **43** | **0.5** | **0.6** | **75** |
| **PA4342.221NLT** | PM4342.221NLT | **0.22** | **35** | **0.8** | **1.0** | **60** |
| **PA4342.271NLT** | PM4342.271NLT | **0.27** | **33** | **0.82** | **1.0** | **60** |
| PA4342.331NLT | PM4342.331NLT | 0.33 | 31 | 1.0 | 1.2 | 60 |
| **PA4342.361NLT** | PM4342.361NLT | **0.36** | **31** | **1.05** | **1.2** | **60** |
| **PA4342.391NLT** | PM4342.391NLT | **0.39** | **30** | **1.1** | **1.3** | **60** |
| **PA4342.451NLT** | PM4342.451NLT | **0.45** | **29** | **1.3** | **1.5** | **45** |
| **PA4342.471NLT** | PM4342.471NLT | **0.47** | **28** | **1.3** | **1.5** | **43** |
| **PA4342.561NLT** | PM4342.561NLT | **0.56** | **25** | **1.6** | **1.8** | **40** |
| **PA4342.681NLT** | PM4342.681NLT | **0.68** | **22** | **2.4** | **2.7** | **39** |
| PA4342.881NLT | PM4342.881NLT | 0.88 | 20 | 2.5 | 2.9 | 38 |
| **PA4342.102NLT** | PM4342.102NLT | **1.00** | **18** | **3.0** | **3.3** | **36** |
| **PA4342.122NLT** | PM4342.122NLT | **1.20** | **17** | **3.3** | **3.8** | **33** |
| **PA4342.152NLT** | PM4342.152NLT | **1.50** | **16** | **4.0** | **4.6** | **33** |
| **PA4342.222NLT** | PM4342.222NLT | **2.20** | **12** | **6.5** | **7.0** | **27** |
| **PA4342.252NLT** | PM4342.252NLT | **2.50** | **11.5** | **7.9** | **8.7** | **23** |
| **PA4342.332NLT** | PM4342.332NLT | **3.30** | **11** | **10.8** | **11.8** | **20** |
| **PA4342.402NLT** | PM4342.402NLT | **4.00** | **10.2** | **13** | **15** | **18** |
| **PA4342.472NLT** | PM4342.472NLT | **4.70** | **10** | **15** | **15.5** | **17** |
| **PA4342.562NLT** | PM4342.562NLT | **5.60** | **9.0** | **17** | **19.3** | **14** |
| **PA4342.682NLT** | PM4342.682NLT | **6.80** | **8.5** | **17.5** | **23.3** | **13.5** |

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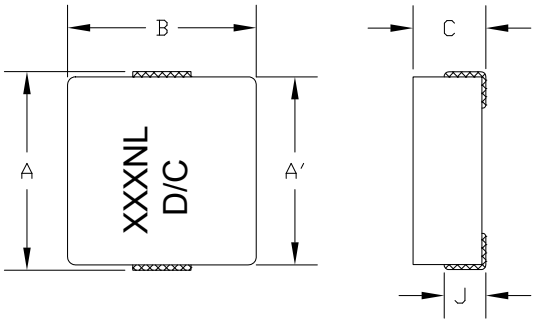
| Electrical Specifications @ 25°C - Operating Temperature -55°C to +125°C | | | | | | |
|---|---|---|---|---|---|---|
| Commercial[6] | Automotive[6] | ▽ Inductance[5] 100KHz, 1V | Rated[3] Current | DC Resistance | | Saturation[2] Current |
| | | | | TYP. | MAX. | |
| | | uH | A | mΩ | mΩ | A |
| PA4342.822NLT | PM4342.822NLT | 8.2 | 8.0 | 20 | 25.5 | 12.5 |
| PA4342.103NLT | PM4342.103NLT | 10 | 7.5 | 27 | 30 | 12 |
| PA4342.153NLT | PM4342.153NLT | 15 | 6.25 | 40 | 45 | 10 |
| PA4342.223NLT | PM4342.223NLT | 22 | 5.0 | 64 | 74 | 7.0 |
| PA4342.273NLT | PM4342.273NLT | 27 | 4.0 | 86 | 100 | 6.0 |
| PA4342.333NLT | PM4342.333NLT | 33 | 3.5 | 92 | 112 | 5.0 |
| PA4342.473NLT | PM4342.473NLT | 47 | 3.0 | 145 | 167 | 4.5 |
| PA4342.683NLT | PM4342.683NLT | 68 | 2.0 | 205 | 240 | 3.0 |

**Notes:**

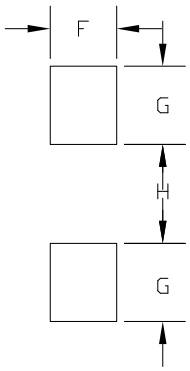
1. Actual temperature of the component during system operation (ambient plus temperature rise) must be within the standard operating range.
2. The saturation current is the current at which the initial inductance drops approximately 30% at the stated ambient temperature. This current is determined by placing the compnent in the specified ambient environment and applying a short duration pulse current (to eliminate self-heating effect) to the component.
3. The rated current is the DC current required to raise the component temperature by approximately 40˚C. Take note that the components' performanc varies depending on the system condition. It is suggested that the component be tested at the system level, to verify the temperature rise of the component during system operation.
4. The part temperature (ambient+temp rise) should not exceed 125˚C under worst case operating conditions. Circuit design, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
5. Please note that the inductance tolerance of all parts are +/-20% except those indicated with a * which are +/-30%.
6. Parts shown in bold are standard catalog parts and are available through sample stock and distribution. Parts in lighter font are available but are not necessarily held in sample stock or distribution and lead times may be longer. Please contact Pulse for availablity.
7. Both the PA and PM part numbers are AEC-Q200 qualified parts. The PM part numbers have full automotive IATF16949 certification. The PM part number dimensions are 100% tested in production but do not necessarily meet a product capability index (Cpk)> 1.33 and therefore may not strictly conform to PPAP.
8. Special Characteristics ▽

## Mechanical

### PA4342/PM4342




Final Layout

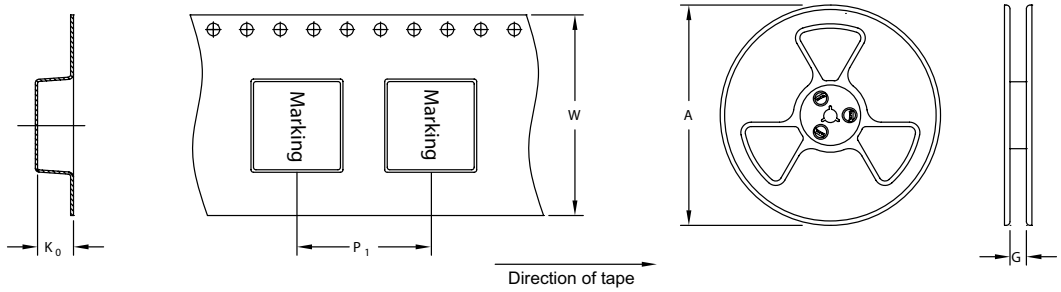



SUGGESTED PAD LAYOUT

| Series | Mechanical | A | A' | B | C | D | E | F | J | K | G | H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PA4342/PM4342 | Footprint 2 | 11.5 Max | 10.3 Max | 10.3 Max | 4.0 Max | (3.0) | (6.4) | (3.5) | 2.4 Max | 2.6 Max | (4.1) | (5.4) |

All Dimensions in mm.

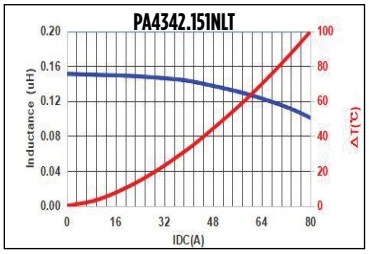
## TAPE & REEL INFO

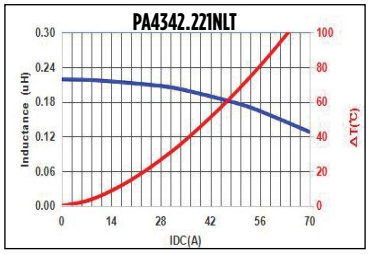


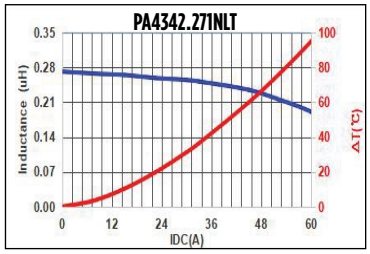

| SURFACE MOUNTING TYPE, REEL/TAPE LIST | | | | | | |
|---|---|---|---|---|---|---|
| | REEL SIZE (mm) | | TAPE SIZE (mm) | | | QTY |
| | A | G | $P_1$ | W | $K_0$ | PCS/REEL |
| PA4342/PM4342 | Ø330 | 24 | 16 | 24 | 4.5 | 500 |

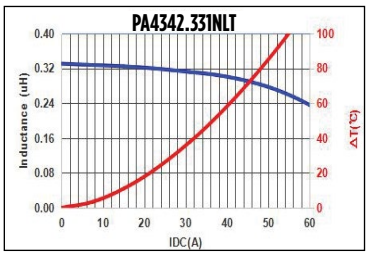
## Typical Performance Curves

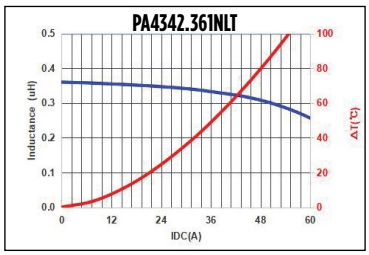
### PA4342.XXXNLT and PM4342.XXXNLT

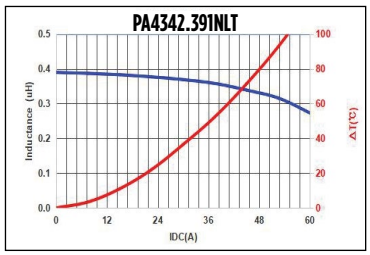


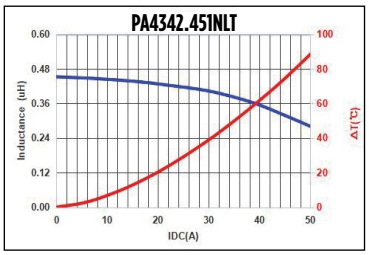



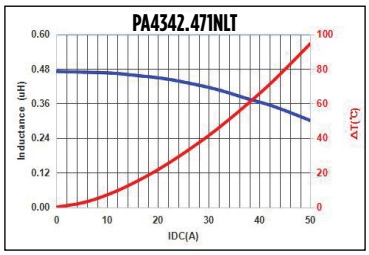



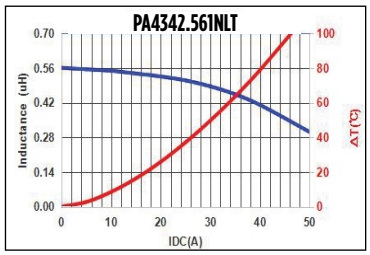



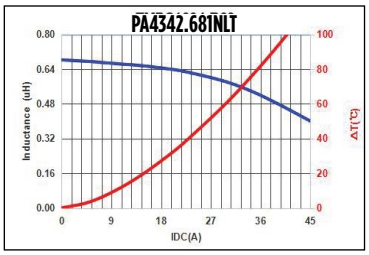



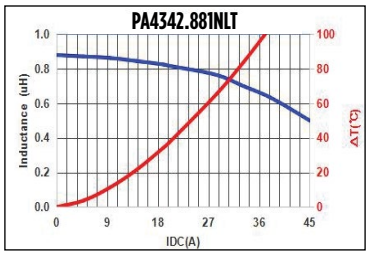



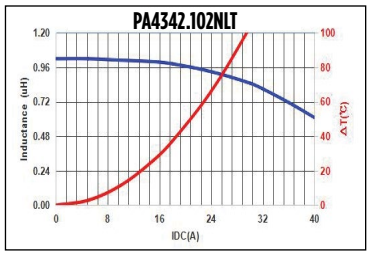



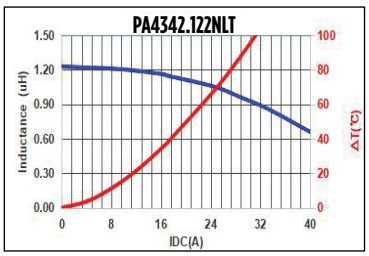



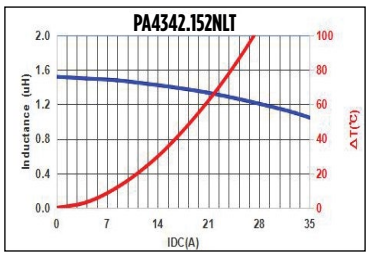



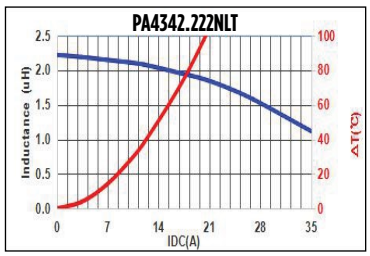

PA4342.681NLT
Inductance (uH)
ΔT(°C)
IDC(A)

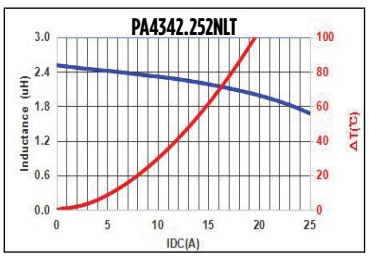

PA4342.881NLT
Inductance (uH)
ΔT(°C)
IDC(A)

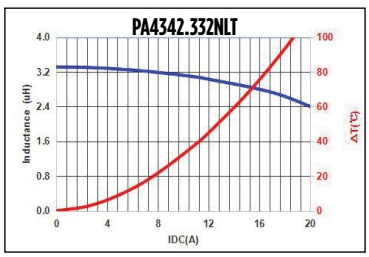

PA4342.102NLT
Inductance (uH)
ΔT(°C)
IDC(A)

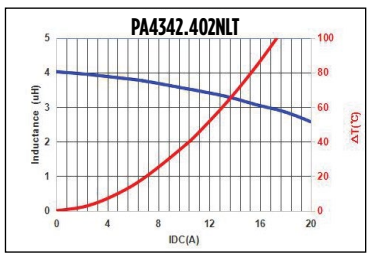

PA4342.122NLT
Inductance (uH)
ΔT(°C)
IDC(A)

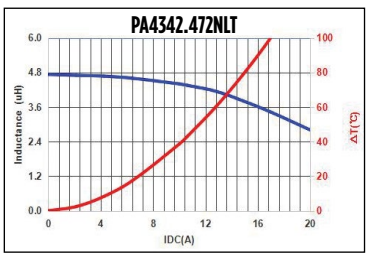

PA4342.152NLT
Inductance (uH)
ΔT(°C)
IDC(A)

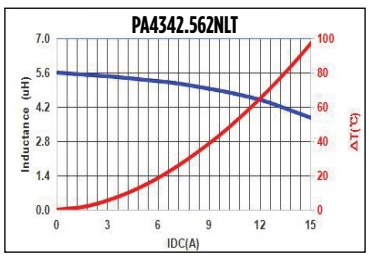

PA4342.222NLT
Inductance (uH)
ΔT(°C)
IDC(A)

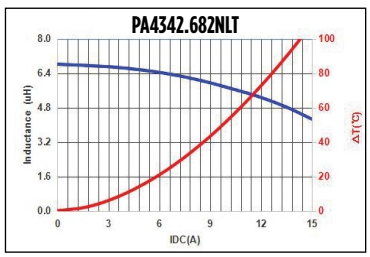

PA4342.252NLT
Inductance (uH)
ΔT(°C)
IDC(A)

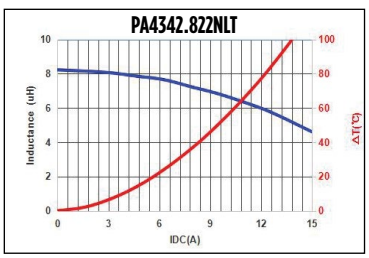

PA4342.332NLT
Inductance (uH)
ΔT(°C)
IDC(A)

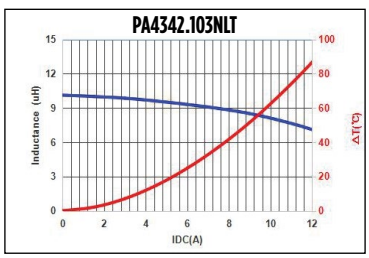

PA4342.402NLT
Inductance (uH)
ΔT(°C)
IDC(A)

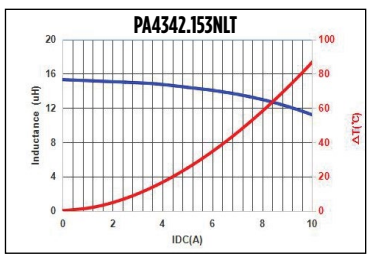

PA4342.472NLT
Inductance (uH)
ΔT(°C)
IDC(A)


PA4342.562NLT
Inductance (uH)
ΔT(°C)
IDC(A)


PA4342.682NLT
Inductance (uH)
ΔT(°C)
IDC(A)

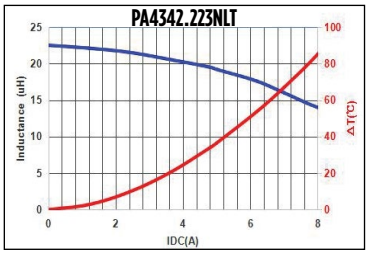

PA4342.822NLT
Inductance (uH)
ΔT(°C)
IDC(A)

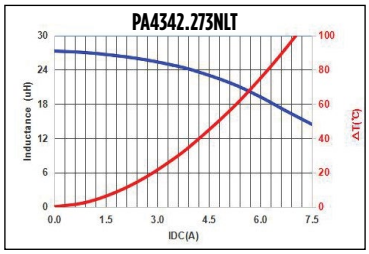

PA4342.103NLT
Inductance (uH)
ΔT(°C)
IDC(A)

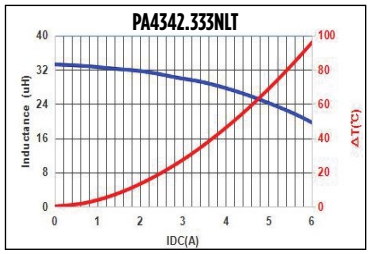

PA4342.153NLT
Inductance (uH)
ΔT(°C)
IDC(A)

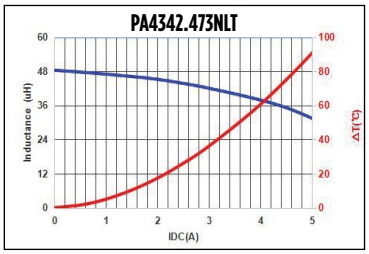
# SMT Power Inductor

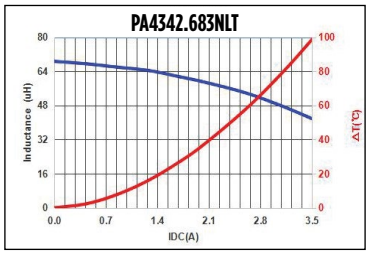
*High Current Molded Power Inductor - PA4342.XXXNLT & PM4342.XXXNLT Series*




## For More Information:

**Americas -** prodinfo_power_americas@yageo.com | **Europe -** prodinfo_power_emea@yageo.com | **Asia -** prodinfo_power_asia@yageo.com