

# TH Power Inductors – AGP4233



- AEC-Q200 Grade 1 qualified (–40°C to +125°C ambient)
- High current, high inductance power inductors designed for high current power supply applications
- Flat wire windings provide extremely low DC and AC resistance.
- Through-hole mounting for excellent board adhesion
- Cover has solderable tabs for additional mounting stability.

**Core material** Ferrite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Environmental** RoHS compliant, halogen free

**Terminations** RoHS compliant tin-silver over copper

**Shield tabs** RoHS compliant bright tin over nickel over stainless steel

**Weight** 135 g

**Ambient temperature** –40°C to +125°C with Irms current, +125°C to +165°C with derated current

**Storage temperature** Component: –40°C to +85°C.

Tray packaging: –40°C to +80°C

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**Packaging** 9 parts per tray

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

| Part number   | Inductance <sup>1</sup><br>±20% (µH) | DCR (mOhms) <sup>2</sup> |       | SRF typ<br>(MHz) | Isat (A) <sup>3</sup> |          |          | Irms (A) <sup>4</sup> |           |
|---------------|--------------------------------------|--------------------------|-------|------------------|-----------------------|----------|----------|-----------------------|-----------|
|               |                                      | nom                      | max   |                  | 10% drop              | 20% drop | 30% drop | 20°C rise             | 40°C rise |
| AGP4233-332ME | 3.3                                  | 0.67                     | 0.75  | 27.7             | 92.0                  | 95.0     | 98.0     | 34                    | 44        |
| AGP4233-562ME | 5.6                                  | 0.67                     | 0.75  | 22.8             | 63.0                  | 65.0     | 67.0     | 34                    | 44        |
| AGP4233-682ME | 6.8                                  | 2.80                     | 2.95  | 21.7             | 92.0                  | 97.8     | 101.8    | 24                    | 34        |
| AGP4233-103ME | 10                                   | 2.80                     | 2.95  | 18.8             | 56.0                  | 60.0     | 63.0     | 24                    | 34        |
| AGP4233-153ME | 15                                   | 2.80                     | 2.95  | 15.2             | 45.0                  | 47.0     | 49.0     | 24                    | 34        |
| AGP4233-223ME | 22                                   | 2.80                     | 2.95  | 12.0             | 32.8                  | 35.4     | 36.6     | 24                    | 34        |
| AGP4233-333ME | 33                                   | 2.80                     | 2.95  | 10.0             | 22.5                  | 24.7     | 25.8     | 24                    | 34        |
| AGP4233-473ME | 47                                   | 2.80                     | 2.95  | 8.5              | 16.0                  | 17.6     | 18.6     | 24                    | 34        |
| AGP4233-683ME | 68                                   | 2.80                     | 2.95  | 6.4              | 10.6                  | 12.2     | 13.0     | 24                    | 34        |
| AGP4233-104ME | 100                                  | 2.80                     | 2.95  | 5.2              | 6.88                  | 7.80     | 8.36     | 24                    | 34        |
| AGP4233-154ME | 150                                  | 2.80                     | 2.95  | 4.2              | 4.18                  | 4.96     | 5.40     | 24                    | 34        |
| AGP4233-224ME | 220                                  | 10.9                     | 11.55 | 5.0              | 6.40                  | 7.20     | 7.60     | 12.4                  | 17.5      |
| AGP4233-334ME | 330                                  | 10.9                     | 11.55 | 4.1              | 4.60                  | 5.20     | 5.60     | 12.4                  | 17.5      |
| AGP4233-474ME | 470                                  | 10.9                     | 11.55 | 3.6              | 3.00                  | 3.60     | 3.80     | 12.4                  | 17.5      |

1. Inductance tested at 100 kHz, 0.1 Vrms on Agilent/HP 4192A.

2. DCR measured on a Keithley 580 micro-ohmmeter or equivalent.

3. DC current at which the inductance drops the specified amount from its value without current.

[Click for temperature derating information.](#)

4. Current that causes the specified temperature rise of the winding from 25°C ambient.

This information is for reference only and does not represent absolute maximum ratings.

[Click for temperature derating information](#)

Temperature rise of the core is usually less than that of the winding.

When Irms is greater than Isat, Isat is the more critical specification and Irms is shown in gray type.

5. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.



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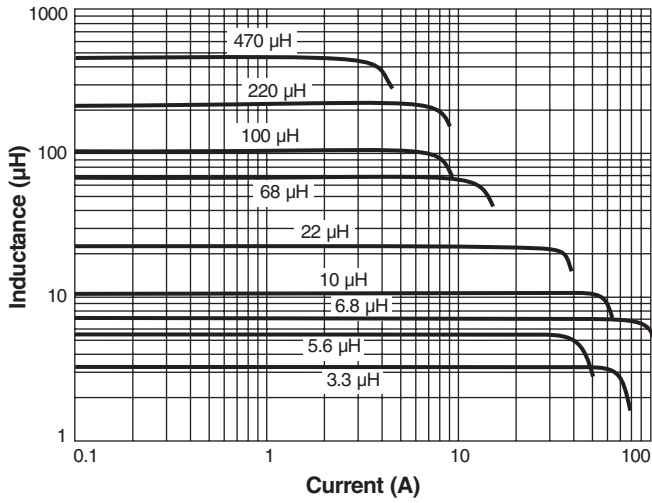
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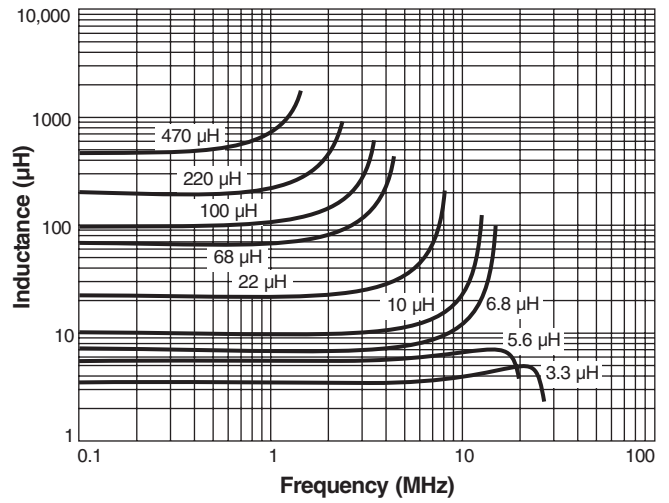


# TH Power Inductors - AGP4233 Series

## Typical L vs Current



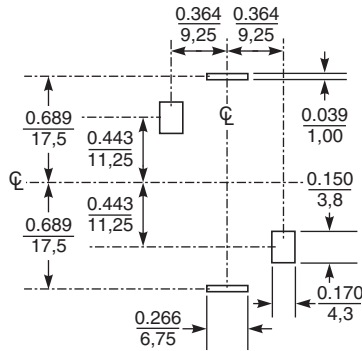
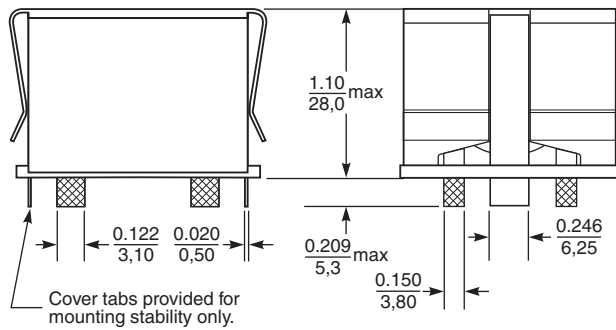
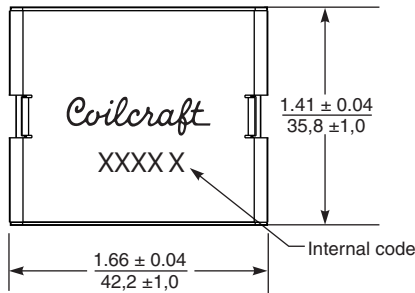
## Typical L vs Frequency





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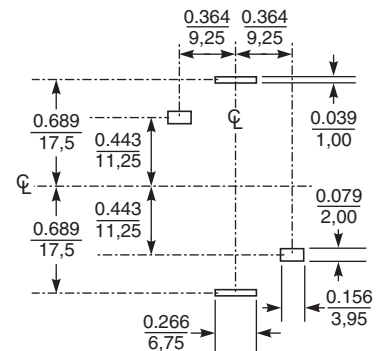
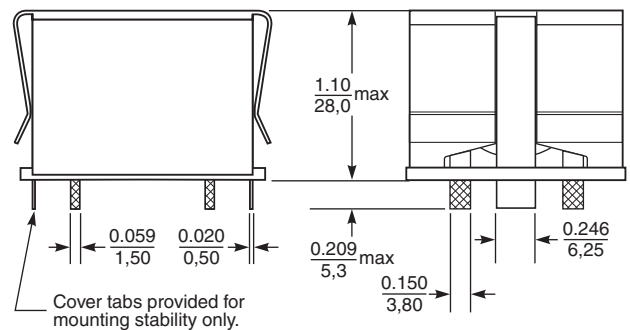
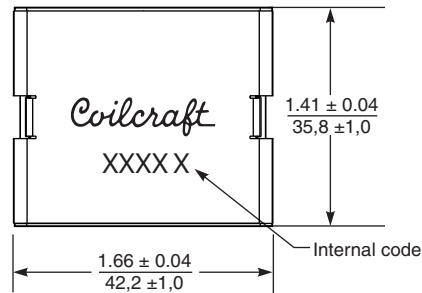
## 3.3 - 5.6 μH



**Recommended PC board slot layout**

Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

## 6.8 - 150 μH



**Recommended PC board slot layout**

Dimensions are in  $\frac{\text{inches}}{\text{mm}}$



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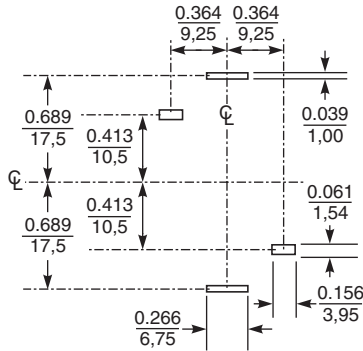
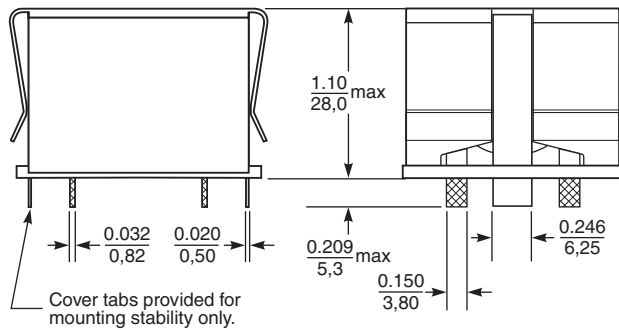
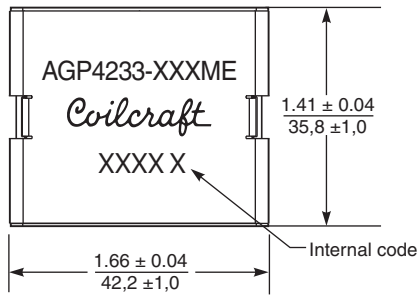
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# TH Power Inductors - AGP4233 Series

**220 - 470  $\mu$ H**



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

**Recommended PC board slot layout**



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