

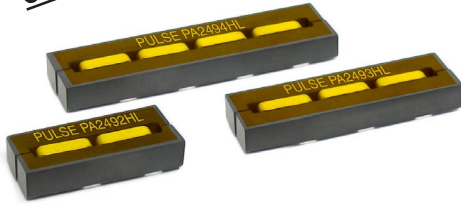
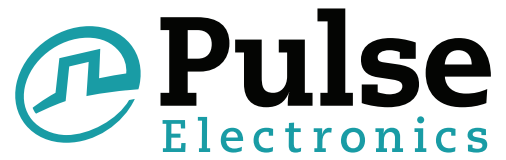


**THE DATASHEET OF
PA2494HL**



SMT POWER INDUCTORS

Power Beads - PA249xHL Series Coupled Inductors



- Gen2.0 Coupled Inductors (PA249xHL) enables higher efficiency due to lower switching losses and lower conduction losses
- For use only with Volterra® multi-phase chipsets in applications demanding a fast transient response and high density
- Halogen Free and RoHS compliant

Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C

| Pulse Part No. | Number of Coupled Phases | Equivalent ¹ Transient Inductance per Phase (nH) | Isat ² per Phase (A _{pk}) | Magnetizing Inductance per Phase ³ nH Min, 0A _{dc} | | | | DCR/Phase ⁴ (mΩ) |
|----------------|--------------------------|---|--|---|-------|-------|-------|--------------------------------|
| | | | | L1 | L2 | L3 | L4 | TYP |
| | | | | (1-2) | (3-4) | (5-6) | (7-8) | |
| PA2492HL | 2 | 50 | 80 | 150 | 150 | – | – | 0.31 |
| PA2493HL | 3 | 50 | 80 | 250 | 250 | 250 | – | |
| PA2494HL | 4 | 50 | 80 | 350 | 350 | 350 | 350 | |

NOTES:

- In a non-coupled multi-phase topology, the power supply sees the same inductance during transient and steady-state conditions. As a result, any attempt to lower the inductance to improve transient response has the negative result of increasing ripple and peak currents throughout the system during steady-state operation. However, in a coupled inductor multi-phase topology, the interaction of magnetic fields from each phase enables an overall reduction in ripple current during steady-state operation and a lower equivalent inductance during transient operation. The equivalent transient inductance per phase, as listed, represents the actual value of inductance that would be required in a non-coupled topology to realize the same transient performance. This value is achieved by core and winding geometry and is not directly measured by Pulse. For more information on the operation of the coupled inductor topology, please contact Volterra.
- The rated current per phase is based on Volterra's testing of the Pulse coupled inductors.
- The magnetizing inductance per phase is the measured inductance (at 0A_{dc}) across each phase when all other phases are open-circuit. The magnetizing inductance is measured at 100kHz, 100mV_{rms}.
- The nominal value of DCR is measured from points (a) to (b), as shown on the mechanical drawing for PA2492HL.

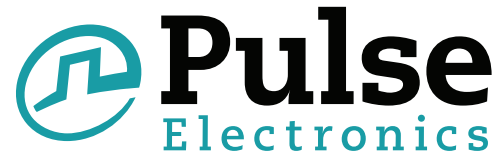
Mechanical

Schematic

PA2492HL

SMT POWER INDUCTORS

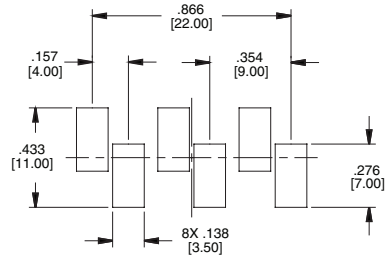
Power Beads - PA249xHL Series Coupled Inductors



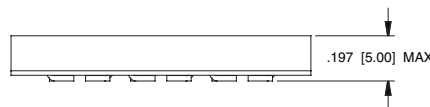
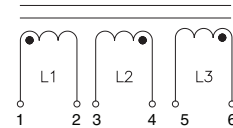
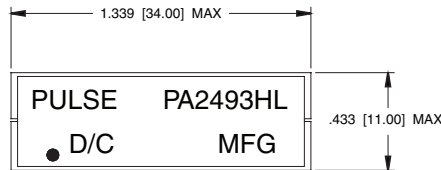
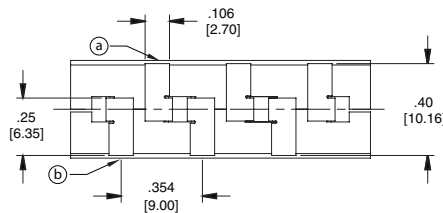
Mechanical

Schematic

PA2493HL



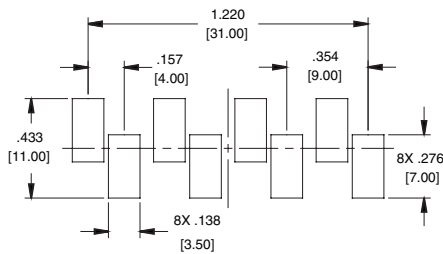
SUGGESTED LAND PATTERN



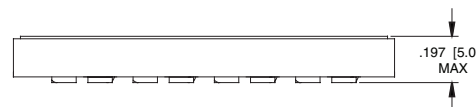
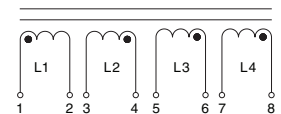
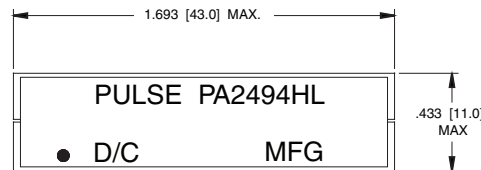
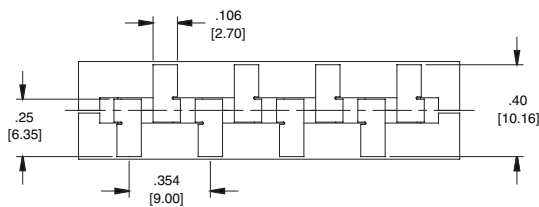
Mechanical

Schematic

PA2494HL



SUGGESTED LAND PATTERN



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