SMT POWER INDUCTORS
Flat Coils - PG0006NL and PG0138NL Series

Pulse
A TECHNITROL COMPANY

Notes from Tables

1. The temperature of the component (ambient plus temperature rise) must be within the specified operating temperature range.
2. Inductance at Irated is a typical inductance value for the component taken at rated current.
3. The rated current listed is the lower of the saturation current @ 25°C or the heating current.
4. The saturation current, I_{SAT}, is the current at which the component inductance drops by 10% typical (20% typical for **PG0138.XXX**) at an ambient temperature of 25°C. This current is determined by placing the component in the specified ambient environment and applying a short duration pulse current (to eliminate self-heating effects) to the component.
5. The heating current, I_{DC}, is the DC current required to raise the component temperature by approximately 40°C. The heating current is determined by mounting the component on a typical PCB and applying current for 30 minutes. The temperature is measured by placing the thermocouple on top of the unit under test. Take note that the component's performance 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.
6. Core loss approximation is based on published core data:

   Core Loss$_{PG0006\ SERIES}$ = K1 * $(f)^{1.02}$ * $(K2\Delta I)^{2.29}$

   Core Loss$_{PG0138\ SERIES}$ = {K1a * $(f)^{1.12}$ * $(K2\Delta I)^{2.17}$} + {K1b * $(f)^{1.25}$ * $(K2\Delta I)^{2.32}$}

   Where: Core Loss = in Watts

   f = switching frequency in kHz

   K1= 4.75E-11

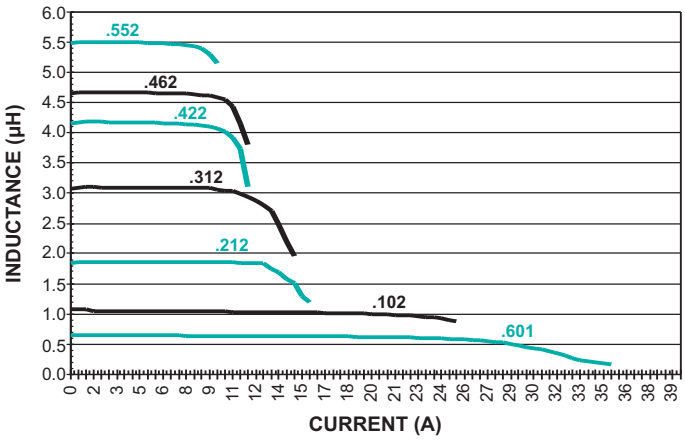
   K1a= 4.43E-11

   K1b= 1.73E-11

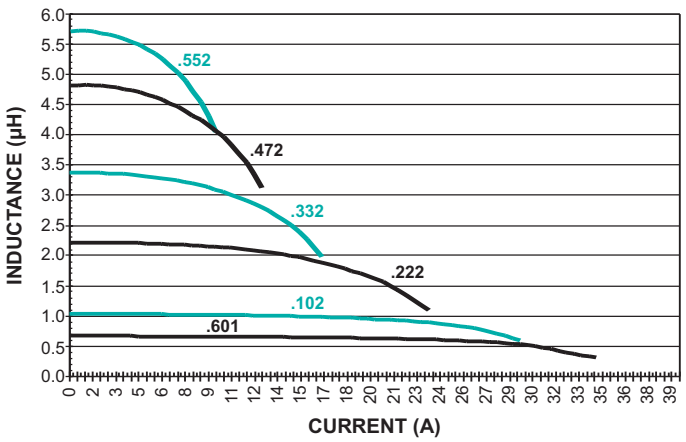
   ΔI = delta I across the component in Ampere

   K2ΔI = one half of the peak to peak flux density across the component in Gauss
7. Unless otherwise specified, all testing is made at 100kHz, 0.25V_{AC}.
8. Optional Tape & Reel packaging can be ordered by adding a "**T**" suffix to the part number (i.e. PG0006.102NL becomes PG0006.102NL**T**). Pulse complies to industry standard tape and reel specification EIA481.
8. The "**NL**" suffix indicates an RoHS-compliant part number. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechanically equivalent to NL versions. If a part number does not have the "**NL**" suffix, but an RoHS compliant version is required, please contact Pulse for availability.

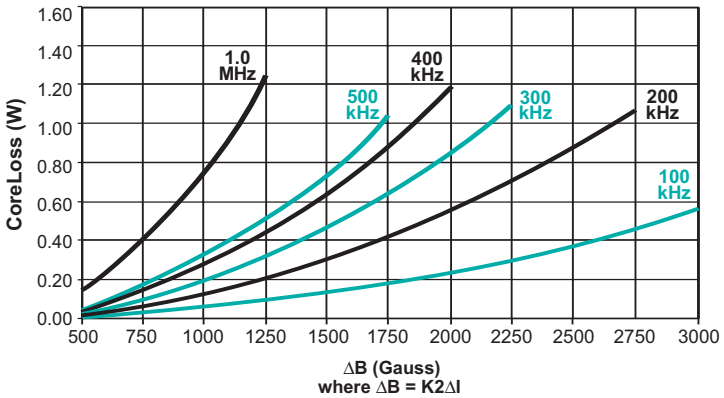
PG0006NL Typical Inductance vs DC Bias



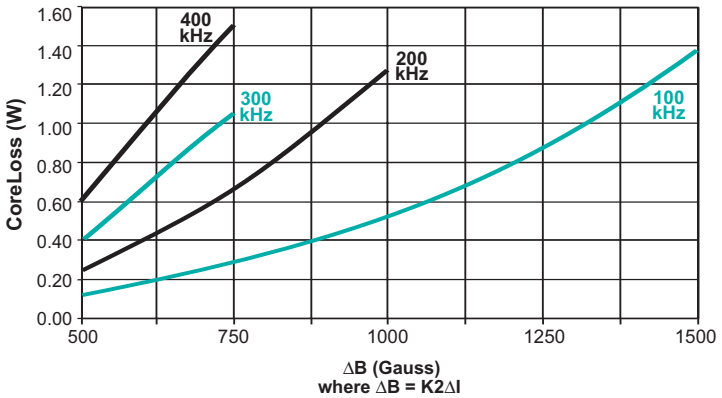
PG0138NL Typical Inductance vs DC Bias



PG0006NL Typical Core Loss vs Peak Flux Density



PG0138NL Typical Core Loss vs Peak Flux Density



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