SMT Power Inductors

Wire Wound
Ruggedized

PulseR
Ruggedized Solutions

- Ruggedized for the Military and Aerospace Industries
- Height: 0.480" MAX
- Footprint: 0.75" x 0.875"
- Maximum Reflow Temperature: 235°C
- Moisture Sensitivity Level: 1

Electrical Specifications @ 25°C - Operating Temperature -55°C to +125°C

Part Number[6]	Inductance @0ADC (µH ±10%)	Inductance @ Irated (µH TYP)	Irated[1] (A_{DC})	DCR (mΩ±10%)	Saturation[2] Current Isat (A TYP)		Heating[3] Current IDC (A TYP)	Core Loss Factor K2
					25°C	100°C		
PL2089	16.0	16.0	9.9	9.1	12	11	9.9	258
PL2131	41.00	40.00	6.0	23.10	7.3	6.0	6.2	413
PL2141	57.8	57.8	5.0	34.5	6.2	5	5.1	490

Notes

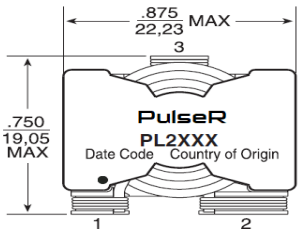
1. The rated current as listed is either the saturation current or the heating current depending on which value is lower.
2. The saturation current is the typical current which causes the inductance to drop by 20% at the stated ambient temperatures (25°C and 100°C). This current is determined by placing the component in the specified ambient environment and applying a short duration pulse current (to eliminate self-heating effects) to the component.
3. The heating current is the DC current which causes the part temperature to increase by approximately 40°C.
4. In high volt*time applications, additional heating in the component can occur due to core losses in the vinductor which may neccessitate derating the current in order to limit the temperature rise of the component. To determine the approximate total losses (or temperature rise) for a given application, the coreloss and temperature rise formula can be used:

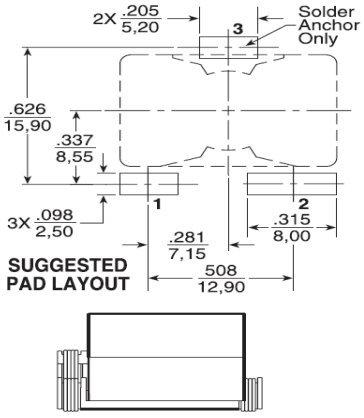
   $\Delta B\ (Gauss) = K2 * \Delta I$

   $Core\ Loss\ (W) = 1.5E\text{-}13 * (Freq\_kHz)^{1.63} * \Delta B^{2.62}$
5. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
6. RoHS compliant version (100% pure Sn leads) available.

Mechanicals

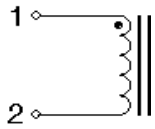
PL2085/PL2131/PL2141

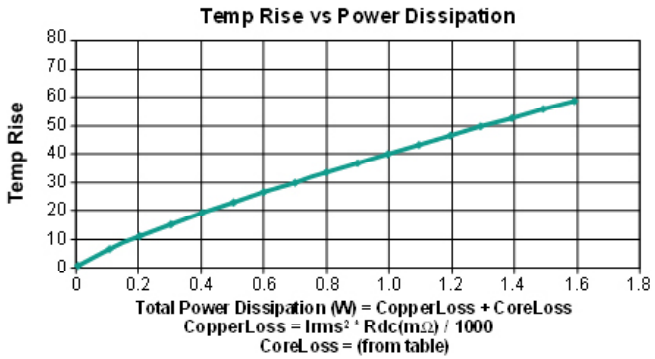




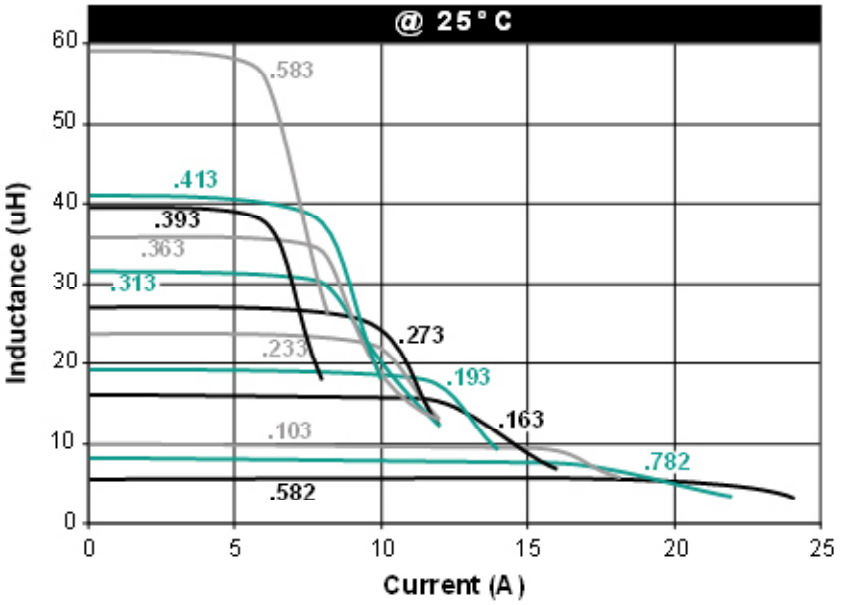
Lead Finish Sn63/Pb37
Weight . . . . . 13 grams
PAN. 70/tray
Dimensions: Inches / mm
Unless otherwise specified, all tolerances are ± .010 / 0,25

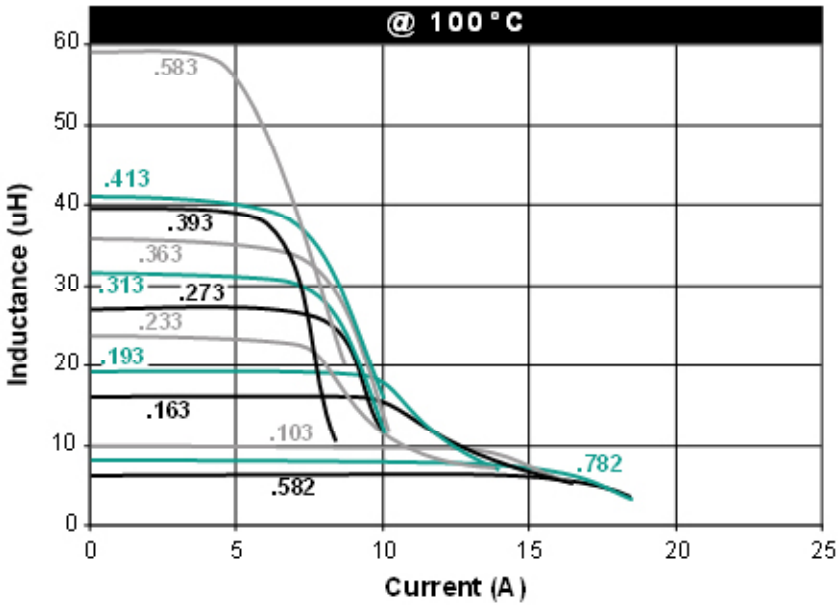
Schematics



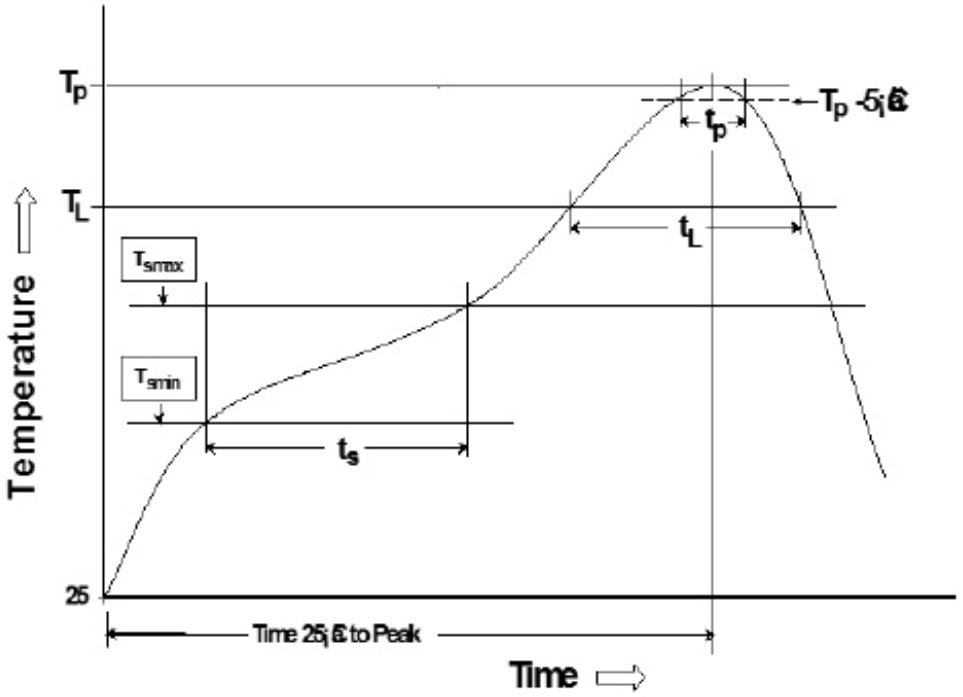


Inductance vs Current Characteristics





Transceiver Tin/Lead Recommended Reflow Profile (Based on J-STD-020D)



T_{SMIN} (°C)	T_{SMAX} (°C)	T_L (°C)	T_P (°C MAX)	t_S (s)	t_L (s)	t_P (s MAX)	Ramp-up rate (T_L to T_P)	Ramp-down rate (T_P to T_L)	Time 25°C to peak temperature (s MAX)
100	150	183	225	60-120	60-150	20	3°C/s MAX	6°C/s MAX	360

Notes:

1. All temperatures measured on the package leads.
2. Maximum times of reflow cycle: 2.

For More Information

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