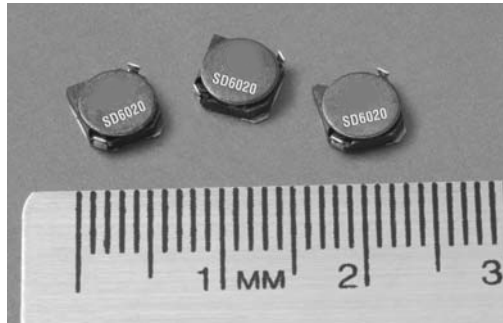


SD6020

Low profile shielded drum core power inductors



Product features

- Low profile surface mount shielded drum core inductors
- 6.0 mm x 6.0 mm x 2.0 mm surface mount package
- Ferrite core material
- Inductance range from 1.99 uH to 100 uH
- Current range from 0.36 A to 4.2 A
- Frequency range up to 1 MHz

Applications

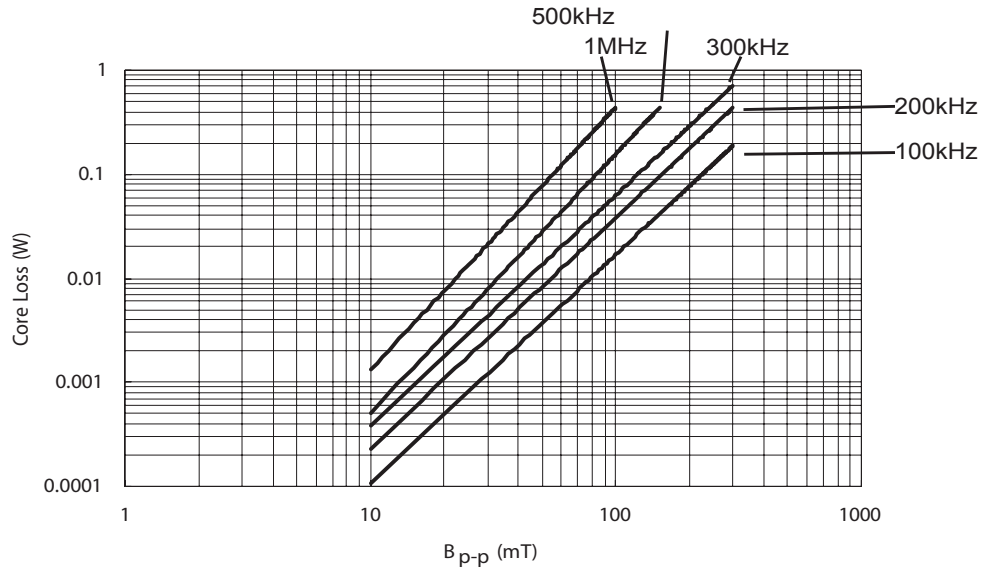
- Notebook, laptop computers
- Digital cameras
- LED Drivers
- TFT LCD Bias supplies
- Wireless handsets,
- Handheld instruments
- Gaming consoles
- GPS devices
- Battery backup/power
- DC-DC Converters,
- Buck-boost regulators

Environmental data

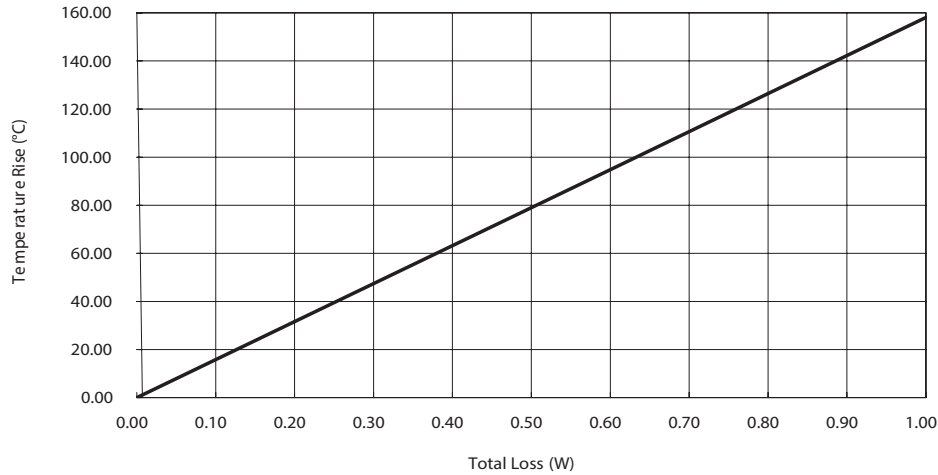
- Storage temperature range (component):
-40 °C to +125 °C
- Operating temperature range: -40 °C to +125 °C
(ambient plus self-temperature rise)
- Solder reflow temperature:
J-STD-020 (latest revision) compliant



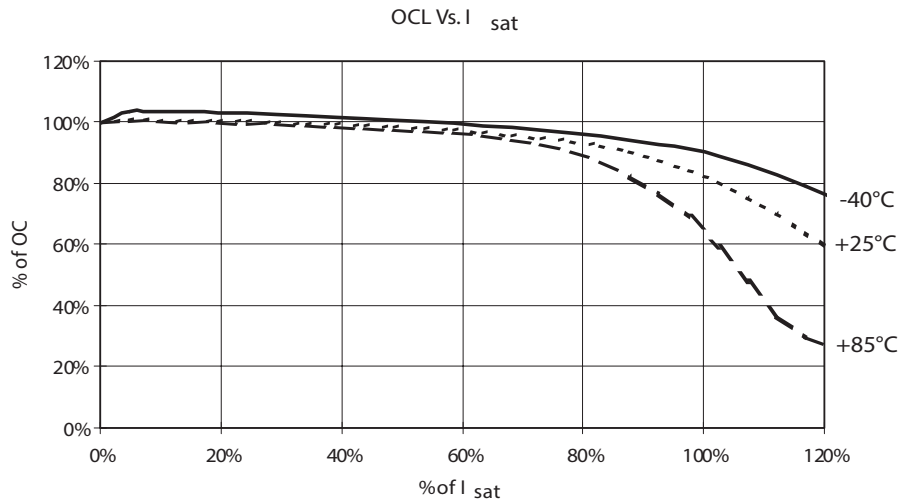
Core loss vs Bp-p



Temperature rise vs total loss



Inductance characteristics



Solder Reflow Profile

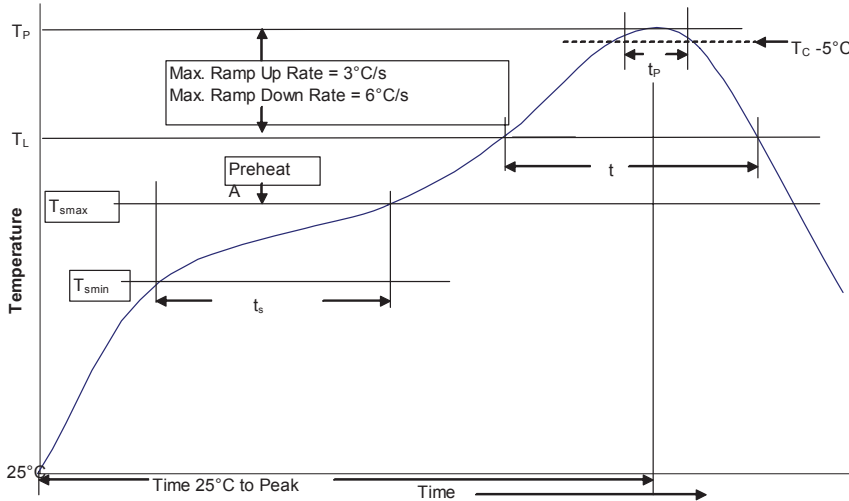


Table 1 - Standard SnPb Solder (T_c)

Package Thickness	Volume mm^3 <350	Volume mm^3 ≥ 350
<2.5mm	235°C	220°C
$\geq 2.5\text{mm}$	220°C	220°C

Table 2 - Lead (Pb) Free Solder (T_c)

Package Thickness	Volume mm^3 <350	Volume mm^3 350 - 2000	Volume mm^3 >2000
<1.6mm	260°C	260°C	260°C
1.6 – 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

Reference JDEC J-STD-020

Profile Feature	Standard SnPb Solder	Lead (Pb) Free Solder
Preheat and Soak	• Temperature min. (T_{smin})	100°C
	• Temperature max. (T_{smax})	150°C
	• Time (T_{smin} to T_{smax}) (t_s)	60-120 Seconds
Average ramp up rate T_{smax} to T_p	3°C/ Second Max.	3°C/ Second Max.
Liquidous temperature (T_L)	183°C	217°C
Time at liquidous (t_L)	60-150 Seconds	60-150 Seconds
Peak package body temperature (T_p)*	Table 1	Table 2
Time (t_p)** within 5 °C of the specified classification temperature (T_c)	20 Seconds**	30 Seconds**
Average ramp-down rate (T_p to T_{smax})	6°C/ Second Max.	6°C/ Second Max.
Time 25°C to Peak Temperature	6 Minutes Max.	8 Minutes Max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

** Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.

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