

UP2.8B

UNI-PAC™ low profile drum core power inductors



Applications

- DC-DC converters
- Filter inductors
- Signal conditioning
- Energy storage applications
- Computer and battery powered equipment
- Handheld/portable devices
- Gaming machines/consoles

Product features

- Miniature size and rugged construction
- Low DCR and high efficiency
- Designed for high shock environments
- Frequency range 1 kHz to 2 MHz
- Ferrite core material

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

RoHS



Powering Business Worldwide

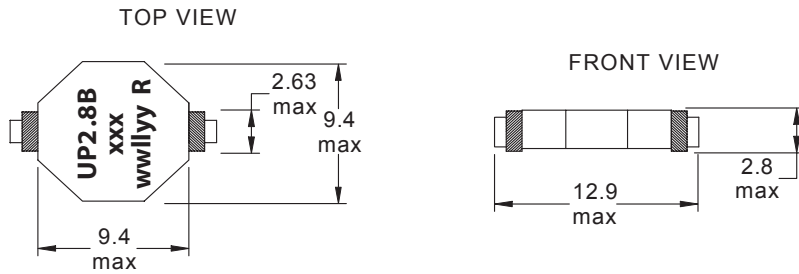
Product specifications

Part Number	Ordering Code	OCL (1) $\mu\text{H} \pm 20\%$	I _{rms} (2) (A)	I _{sat} (3) (A)	DCR (4) Ohms (Max.)
UP2.8B-1R0-R	UP2-8B-1R0-R	0.98	3.6	8.0	.0286
UP2.8B-1R5-R	UP2-8B-1R5-R	1.59	3.3	6.4	.0349
UP2.8B-2R2-R	UP2-8B-2R2-R	2.44	3.1	5.2	.0356
UP2.8B-3R3-R	UP2-8B-3R3-R	3.24	2.8	4.5	.0474
UP2.8B-4R7-R	UP2-8B-4R7-R	4.15	2.7	3.9	.0478
UP2.8B-6R8-R	UP2-8B-6R8-R	6.73	2.4	3.2	.067
UP2.8B-100-R	UP2-8B-100-R	10	2.1	2.7	.080
UP2.8B-150-R	UP2-8B-150-R	15	1.7	2.2	.120
UP2.8B-220-R	UP2-8B-220-R	22	1.5	1.7	.190
UP2.8B-330-R	UP2-8B-330-R	33	1.3	1.5	.250
UP2.8B-470-R	UP2-8B-470-R	47	1.0	1.2	.340
UP2.8B-680-R	UP2-8B-680-R	68	.89	1.0	.480
UP2.8B-101-R	UP2-8B-101-R	100	.78	.84	.622
UP2.8B-151-R	UP2-8B-151-R	150	.62	.74	.971

1) Open Circuit Inductance Test Parameters: 100 kHz, 0.250 Vrms, 0.0 Adc
2) RMS current, delta temp. of 40 °C ambient temperature of +85 °C

3) Peak current for approximately 10% roll-off @ +20 °C
4) Values @ +20 °C

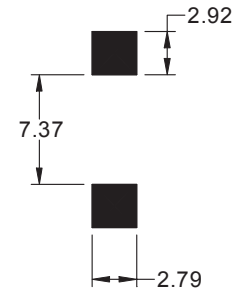
Dimensions-mm



wwllly = date code R = (revision level)
xxx = Inductance value per family chart

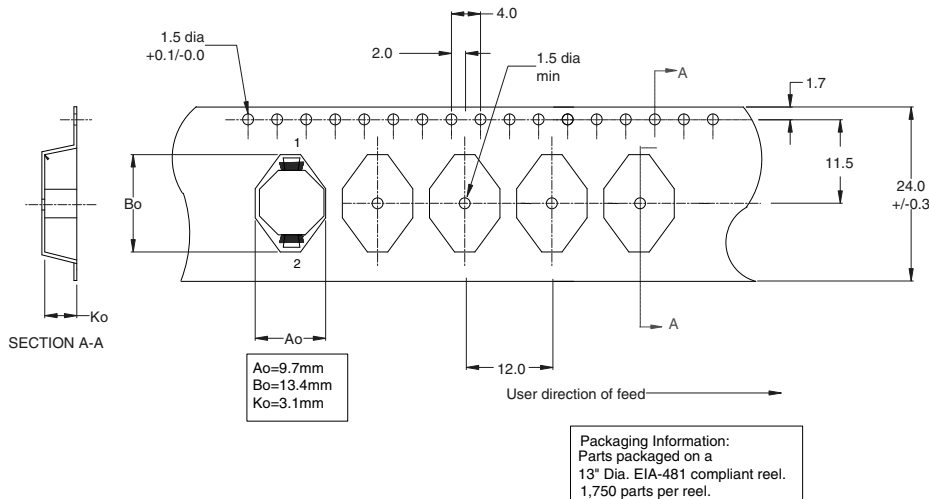
Do not route traces or vias underneath the inductor

Recommended PCB Layout

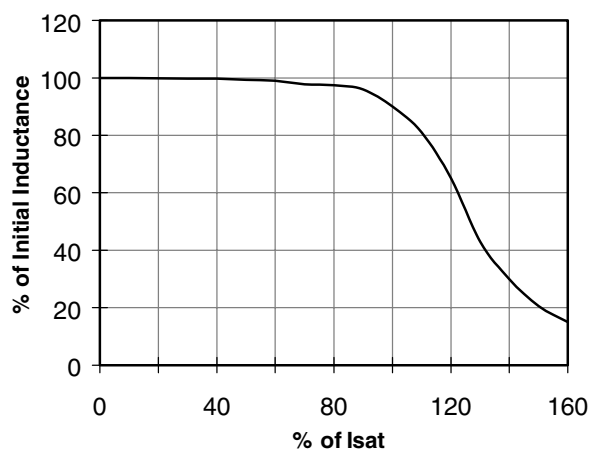


Component View

Packaging information-mm



Inductance characteristics



Solder Reflow Profile

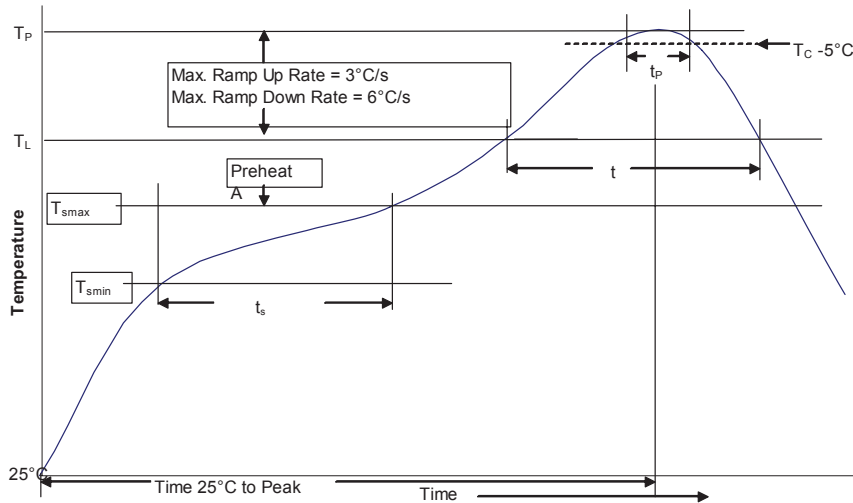


Table 1 - Standard SnPb Solder (T_p)

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

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

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	150°C
• Temperature max. (T_{smax})	150°C	200°C
• Time (T_{smin} to T_{smax}) (t_s)	60-120 Seconds	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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