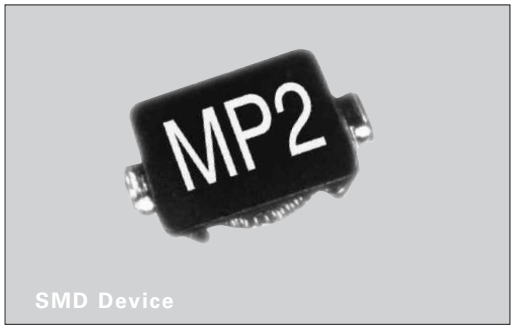
MP2

MICRO-PAC™ Low profile toroid power inductors



Applications

- PC cards,
- mobile phones
- Disk drives
- GPS systems

Product features

- High performance, ferrite-based, low profile,surface mount inductors
- Small footprint and closed magnetic field construction allow for low EMI
- Low DCR and high efficiency
- 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

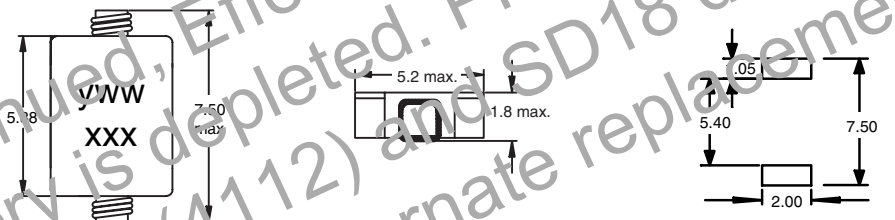
Powering Business Worldwide

Product specifications

Part Number	Inductance µH	OCL (1) µH ± 20%	Irms (2) Amperes (Typ.)	Isat (3) Amperes (Typ.)	DCR (4) Ohms (Max.)	Q (5) (Typ.)	SRF MHz (Typ.)
MP2-R47-R	0.47	0.40	2.02	3.40	0.075	10	300
MP2-1R0-R	1.0	1.02	1.67	2.10	0.103	20	160
MP2-1R5-R	1.5	1.59	1.51	1.70	0.118	25	155
MP2-2R2-R	2.2	2.29	1.39	1.40	0.130	32	150
MP2-3R3-R	3.3	3.58	1.25	1.10	0.156	42	140
MP2-4R7-R	4.7	4.60	1.18	1.00	0.180	46	130
MP2-6R8-R	6.8	7.02	1.06	0.80	0.202	46	110
MP2-100-R	10.0	9.95	0.98	0.68	0.240	55	100
MP2-150-R	15.0	15.30	0.88	0.54	0.300	65	60
MP2-220-R	22.0	21.80	0.80	0.45	0.360	65	45
MP2-330-R	33.0	33.70	0.64	0.37	0.556	65	35
MP2-470-R	47.0	46.40	0.52	0.31	0.833	65	28

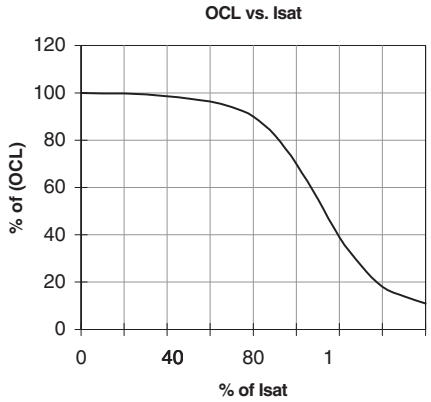
1) Open Circuit Inductance Test Parameters: 100kHz, 0.250 Vrms, 0.0 Adc
2) RMS current, delta temp. of 40° C ambient temperature of 85° C
3) Peak current for approximately 30% roll-off
4) Values @ 20° C
5) Measured @ 300KHz

Dimensions- mm



yww = Date Code
xxx = Inductance value per nomenclature chart
Do not route traces or vias underneath the inductor

Inductance characteristics



Solder Reflow Profile

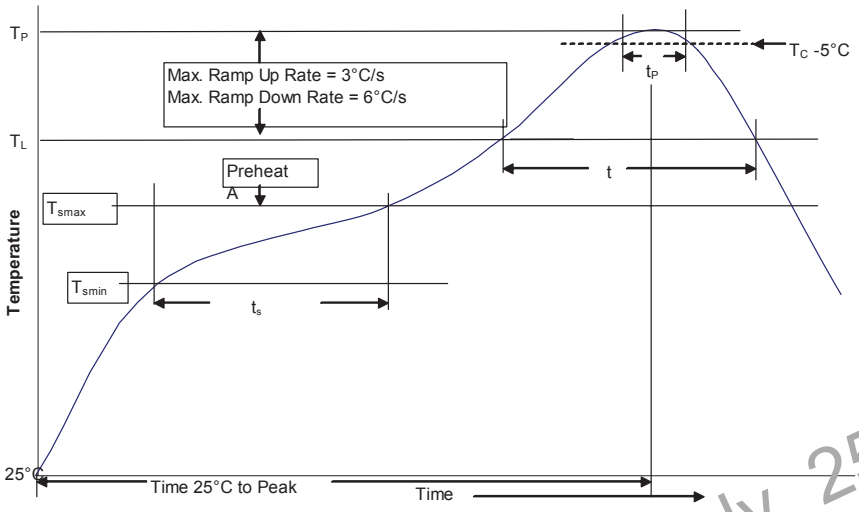


Table 1 - Standard SnPb Solder (T_C)

Package Thickness	Volume mm³ <350	Volume mm³ ≥350
<2.5mm	235°C	220°C
≥2.5mm	220°C	220°C

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

Package Thickness	Volume mm³ <350	Volume mm³ 350 - 2000	Volume mm³ >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) Time at liquidous (t_L)		183°C 60-150 Seconds	217°C 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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