

UC SERIES

Power Micro Cubes Chokes

Features

- Shielded construction
- Height : 8.0mm Max, Pick&Place compatible
- Footprint : SMD 15.0 x 13.0mm Max
- RMS current rating : up to 30A
- Inductance range : 0.45 μ H to 6.50 μ H
- Frequency range up to 5MHz
- Low core losses
- H class component for operation up to 180°C
- Very stable performances versus temperature
- AEC-Q200 qualified for the automotive sector
- No thermal aging effect
- Weight : approx. 7.5g



Application

- Low-profile high-current DC/DC converters
- DC/DC converters for FPGA
- High current POL converters
- DC/DC converters in distributed power systems

Electrical specifications

Code	L0 ⁽³⁾ INDUCTANCE $\pm 20\%$ (μ H) at 0.25V/100kHz/0A	DCR TYP at 25°C (m Ω)	DCR MAX at 25°C (m Ω)	HEATING CURRENT Idc ⁽⁴⁾ (A)	SAT. CURRENT Isat ⁽⁵⁾ (A)
UC1380-6R5	6,50	7,3	8,4	12,0	13,0
UC1380-5R2	5,20	6,6	7,6	12,6	14,5
UC1380-4R0	4,05	4,4	5,1	15,4	16,4
UC1380-3R0	3,04	3,1	3,6	17,3	19,0
UC1380-2R2	2,18	2,3	2,6	20,1	22,4
UC1380-1R5	1,46	1,7	2,0	23,4	27,4
UC1380-0R9	0,88	1,2	1,4	25,2	35,2
UC1380-0R5	0,45	0,9	1,0	27,9	49,3

(1) All test data are referenced to 25°C ambient temperature

(2) Continuous operating temperature range must be within -40°C/+150°C (ambient + self heating) under worst case conditions ; exposure to 180°C peak is allowed according to IEC85 H thermal index for all raw materials used
Circuit design, component placement, PCB tracks size and thickness, airflow and other cooling provisions all affect the part temperature rise

It is suggested that the component be tested at the system level to verify its temperature after 30 minutes in the end application

(3) +/-5% MAX on -40°C/+150°C temperature range

(4) DC current that will cause an approximate ΔT of +50°C

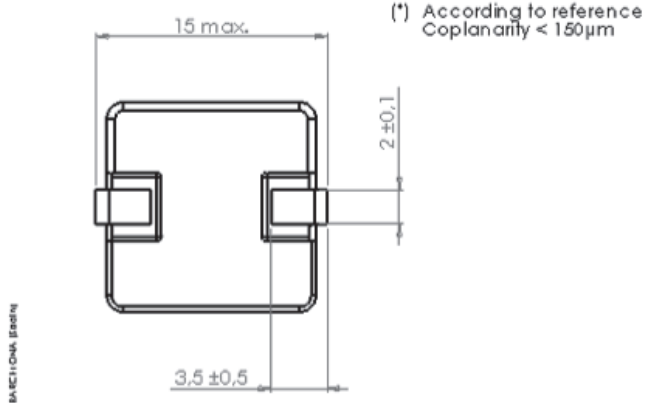
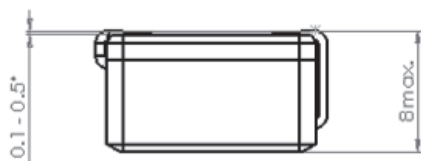
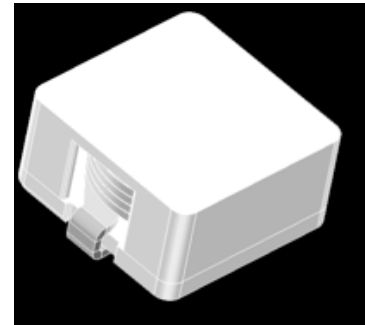
(5) DC current that will cause L0 to drop approximately 30%

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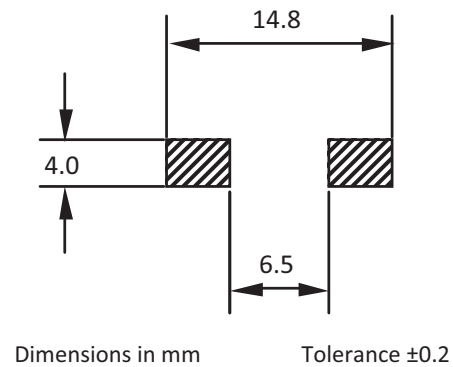
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High Power SMD Chokes

Dimensions (mm)

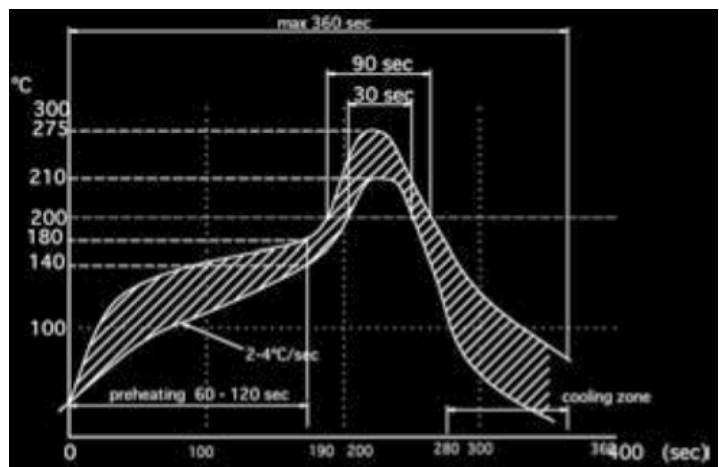


Recommended pad layout



Soldering

Reflow or vapor-phase soldering processes are compatible to mount components from the UC series. A maximum soldering temperature of 260°C during 10s shall not be exceeded. The reflow condition recommended beside is according to the equipment used at PREMO. Differences could appear as a result of the type of machine, reflow conditions, method...

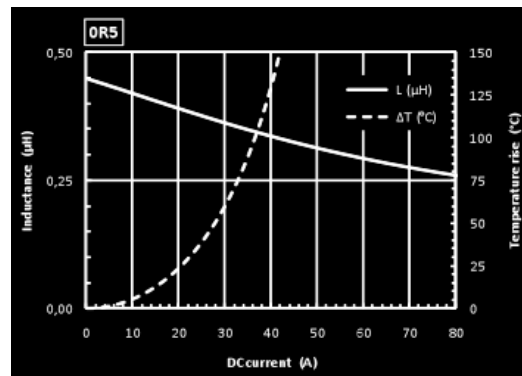
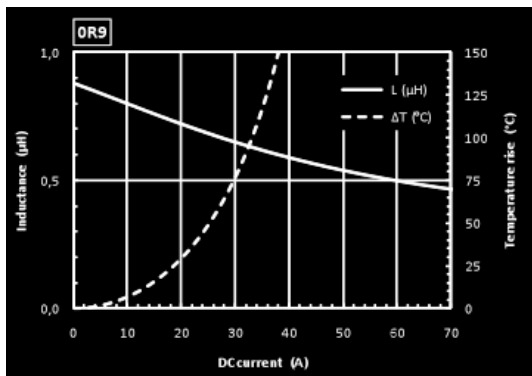
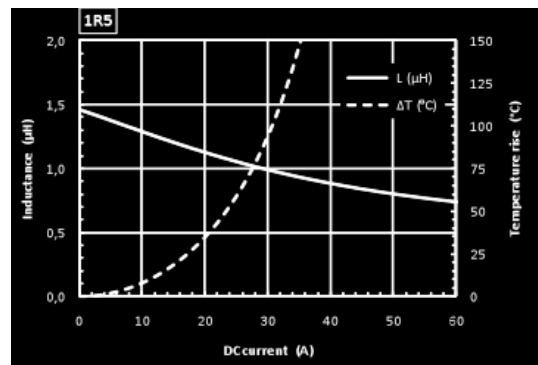
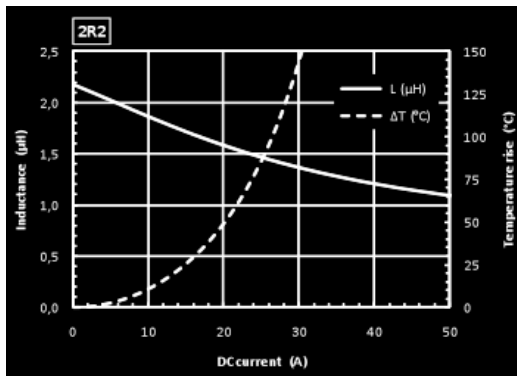
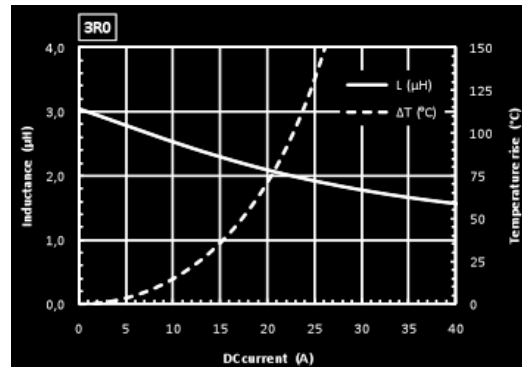
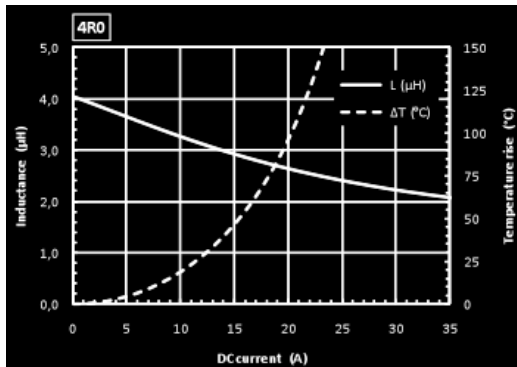
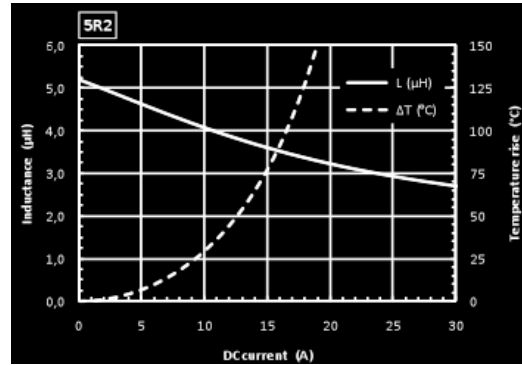
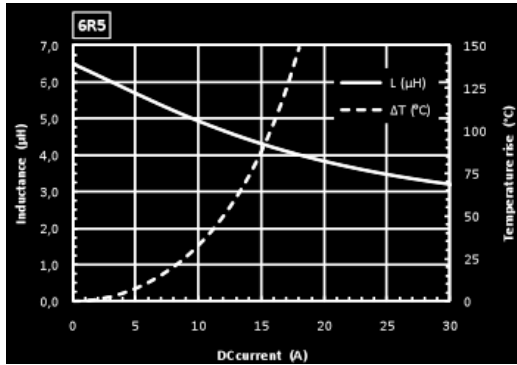


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Typical performances versus DC current

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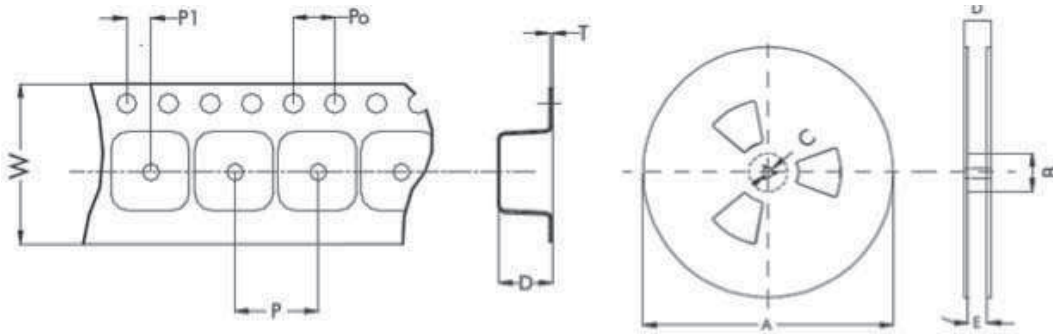
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Packaging

Standard Tape&Reel



Series	Reel dimensions (mm)					Tape dimensions (mm)						Parts/Reel
	A	B	C	D	E	W	P	P0	P1	D	T	
UC	330	100	13	37.5	32.5	32	20	4	2	7.4	0.4	350