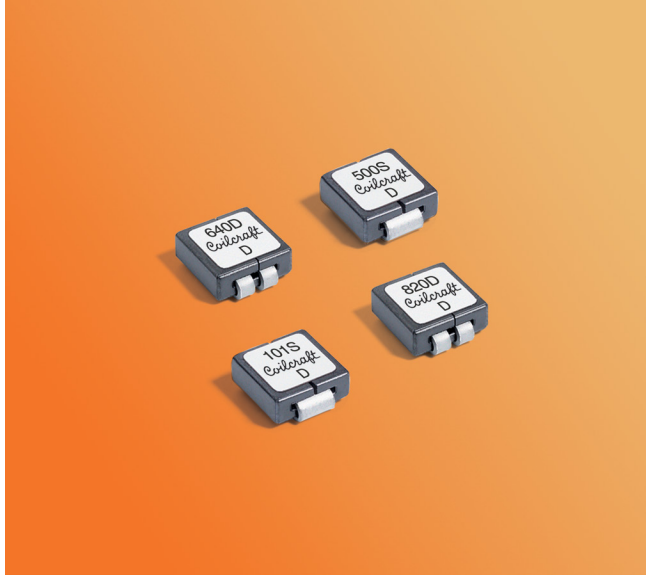


# High-Reliability Power Inductors

MS515PMM  
MS515PMD



- Designed for high-speed switch mode applications
- Can be used as 1:1 transformers or in SEPIC applications
- Tin-lead (Sn-Pb) terminations for the best possible board adhesion

**Core material** Ferrite

**Terminations** Tin-lead (63/37) over tin over nickel over copper.

**Weight** 0.44 – 0.47 g

**Ambient temperature** –55°C to +125°C with Irms current

**Maximum part temperature** +155°C (ambient + temp rise).

**Storage temperature** Component: –55°C to +155°C.

Tape and reel packaging: –40°C to +80°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Packaging** 500/7" reel; Plastic tape: 16 mm wide, 0.33 mm thick, 12 mm pocket spacing, 3.12 mm pocket depth

## Single Conductor

Part number <sup>1</sup>	L±20% <sup>2</sup> (µH)	DCR ±5% <sup>3</sup> (mOhms)	SRF typ <sup>4</sup> (GHz)	Isat <sup>5</sup> (A)	Irms <sup>6</sup> (A)
MS515PMM500MSZ	0.050	0.123	3.80	50	40
MS515PMM640MSZ	0.064	0.123	3.65	32	40
MS515PMM820MSZ	0.082	0.123	3.75	22	40
MS515PMM101MSZ	0.100	0.123	3.75	20	40

## Dual Conductor

Part number <sup>1</sup>	Leads connected in parallel					Leads connected in series				
	L±20% <sup>2</sup> (µH)	DCR ±5% <sup>3</sup> (mOhms)	SRF typ <sup>4</sup> (GHz)	Isat <sup>5</sup> (A)	Irms <sup>6</sup> (A)	L±20% <sup>2</sup> (µH)	DCR max <sup>3</sup> (mOhms)	SRF typ <sup>4</sup> (GHz)	Isat <sup>5</sup> (A)	Irms <sup>6</sup> (A)
MS515PMD500MSZ	0.050	0.209	3.75	50	38	0.188	1.00	1.50	21	17
MS515PMD640MSZ	0.064	0.209	3.65	32	38	0.272	1.00	1.30	14	17
MS515PMD820MSZ	0.082	0.209	3.75	22	38	0.350	1.00	1.20	11	17
MS515PMD101MSZ	0.100	0.209	3.75	20	38	0.400	1.00	0.950	8	17

1. When ordering, specify **conductors** and **testing** codes:

MS515PMM101KSZ

**Conductors:** M= Single conductor; D = dual conductor

**Testing:** Z = Unscreened

H = Group A screening per Coilcraft CP-SA-10001

T = Screening per MIL-STD-981

U = Screening per EEE-INST-002

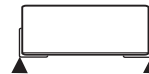
F = Screening per ESCC 3201

All screening performed to the document's latest revision

Custom screening also available

2. Inductance tested at 100 kHz, 0.1 Vrms using an Agilent/HP 4263B LCR meter or equivalent.

3. DCR is measured on a micro-ohmmeter at points indicated in the diagram.



▲ Points used for measuring DCR

4. SRF measured using an Agilent/HP 8753ES network analyzer and a Coilcraft SMD-D fixture.

5. DC current at 25±C that causes an inductance drops of 20% (typ) from its value without current.

6. Current that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

7. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**SPICE models**  
ON OUR WEB SITE

Document MS366-1 Revised 05/29/17

**Coilcraft CPS**

CRITICAL PRODUCTS & SERVICES

1102 Silver Lake Road  
Cary, IL 60013  
Phone 800-981-0363

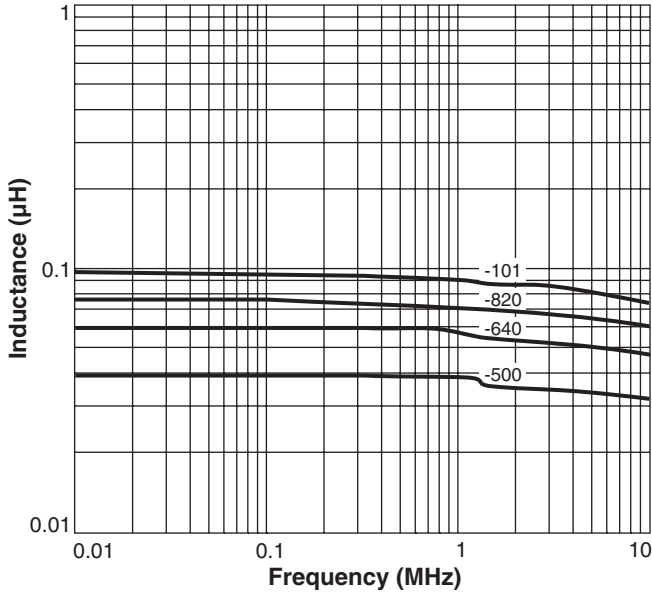
Fax 847-639-1508  
Email cps@coilcraft.com  
www.coilcraft-cps.com

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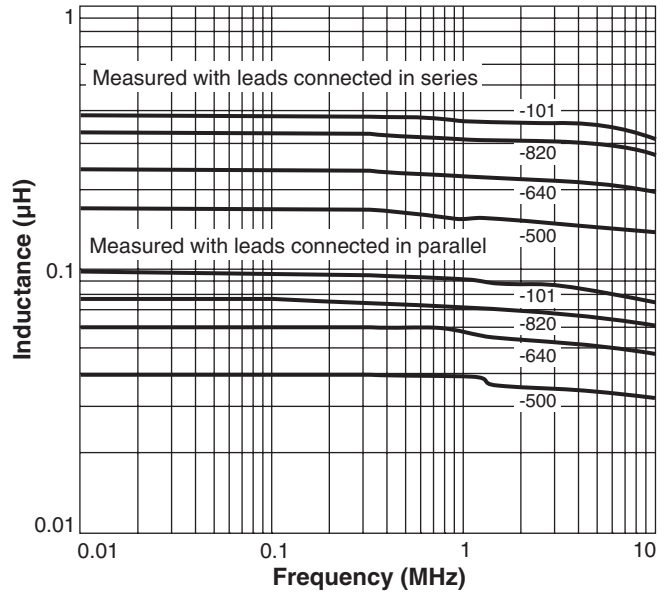
# High-Reliability Power Inductors – MS515PMM & PMD

## Typical L vs Current

### Single Conductor

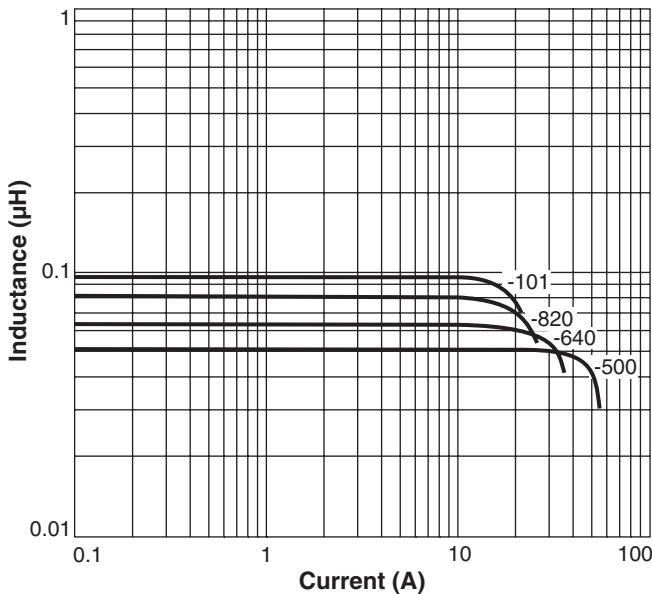


### Dual Conductor

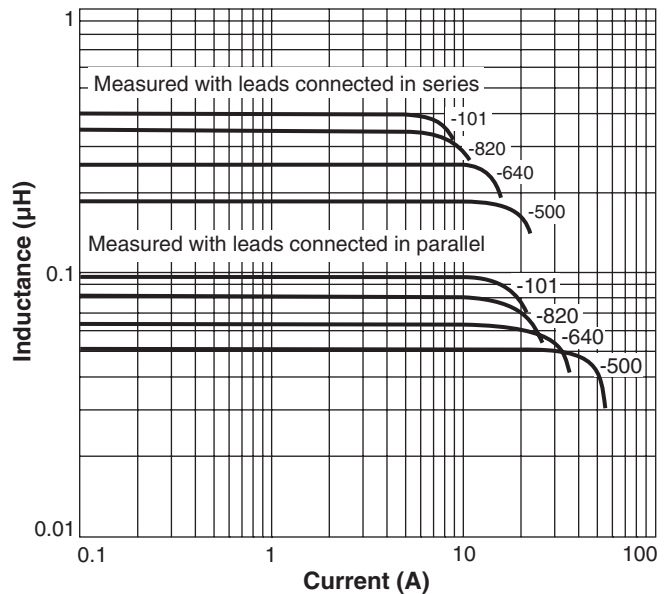


## Typical L vs Frequency

### Single Conductor



### Dual Conductor



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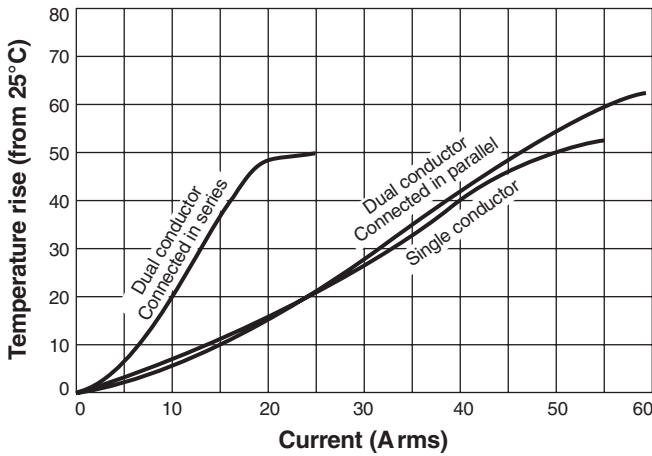
Fax 847-639-1508  
Email cps@coilcraft.com  
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Document MS366-2 Revised 05/29/17

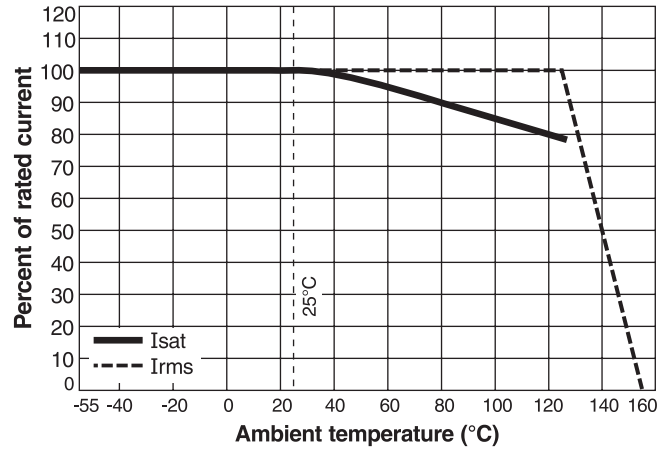
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# High-Reliability Power Inductors – MS515PMM & PMD

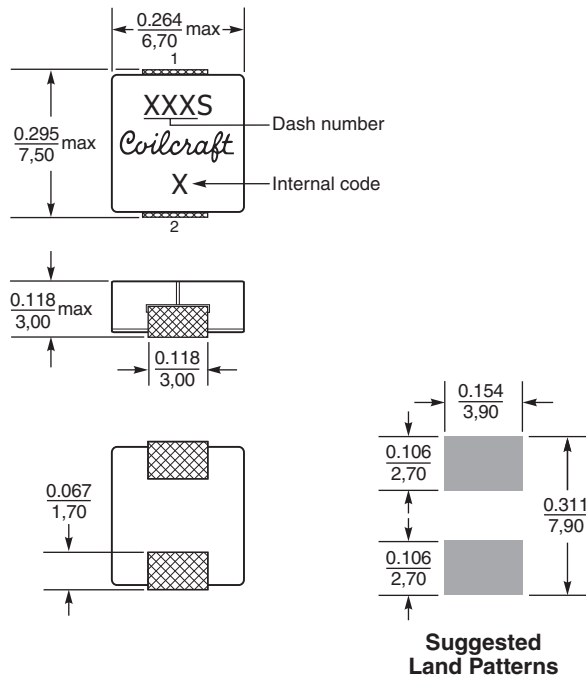
## Typical Temperature Rise vs Current



## Current Derating

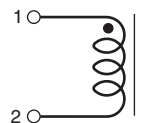


## Dimensions – Single Conductor

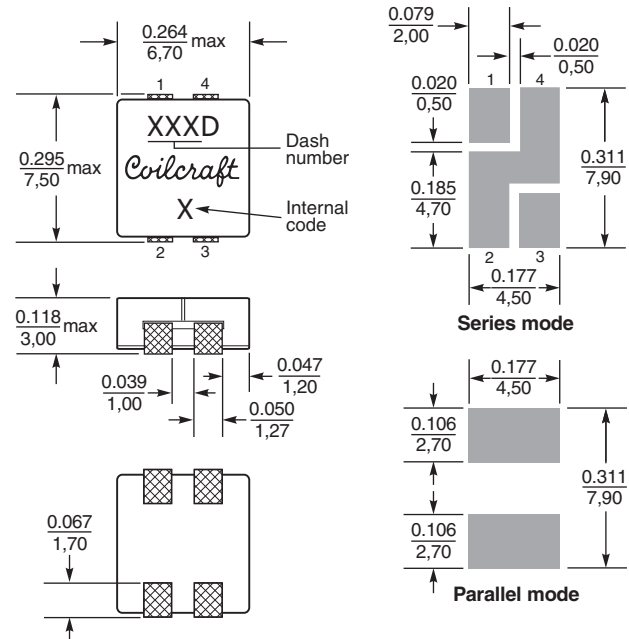


Note: Dimensions are before optional solder application. For maximum overall dimensions including solder, add 0.0025 in / 0,064 mm to the length, and 0.006 in / 0,15 mm to the height.

Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

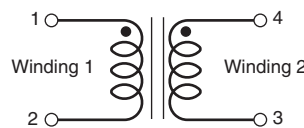


## Dimensions – Dual Conductor

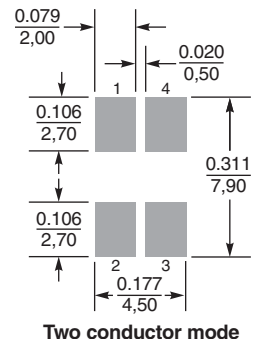


Note: Dimensions are before optional solder application. For maximum overall dimensions including solder, add 0.0025 in / 0,064 mm to the length, and 0.006 in / 0,15 mm to the height.

Dimensions are in  $\frac{\text{inches}}{\text{mm}}$



Winding-to-winding isolation:  
25 V maximum



Suggested Land Patterns



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