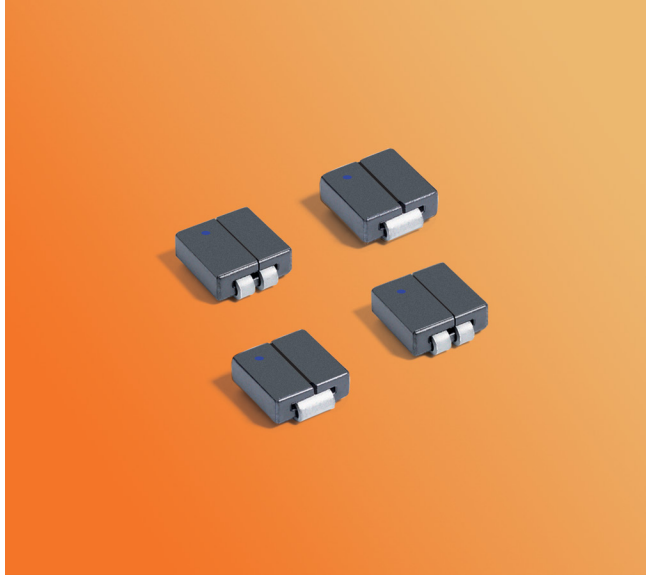


Outgassing Compliant Power Inductors

AE515PMM
AE515PMD



- Designed for high-speed switch mode applications
- Can be used as 1:1 transformers or in SEPIC applications
- Passes NASA low outgassing specifications
- 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 I_{rms} 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 ¹	$L \pm 20\%$ ² (μH)	DCR $\pm 5\%$ ³ (mOhms)	SRF typ ⁴ (GHz)	I_{sat} ⁵ (A)	I_{rms} ⁶ (A)
AE515PMM500MSZ	0.050	0.123	3.80	50	40
AE515PMM640MSZ	0.064	0.123	3.65	32	40
AE515PMM820MSZ	0.082	0.123	3.75	22	40
AE515PMM101MSZ	0.100	0.123	3.75	20	40

Dual Conductor

Part number ¹	Leads connected in parallel					Leads connected in series				
	$L \pm 20\%$ ² (μH)	DCR $\pm 5\%$ ³ (mOhms)	SRF typ ⁴ (GHz)	I_{sat} ⁵ (A)	I_{rms} ⁶ (A)	$L \pm 20\%$ ² (μH)	DCR max ³ (mOhms)	SRF typ ⁴ (GHz)	I_{sat} ⁵ (A)	I_{rms} ⁶ (A)
AE515PMD500MSZ	0.050	0.209	3.75	50	38	0.188	1.00	1.50	21	17
AE515PMD640MSZ	0.064	0.209	3.65	32	38	0.272	1.00	1.30	14	17
AE515PMD820MSZ	0.082	0.209	3.75	22	38	0.350	1.00	1.20	11	17
AE515PMD101MSZ	0.100	0.209	3.75	20	38	0.400	1.00	0.950	8	17

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

AE515PMM101KSZ

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
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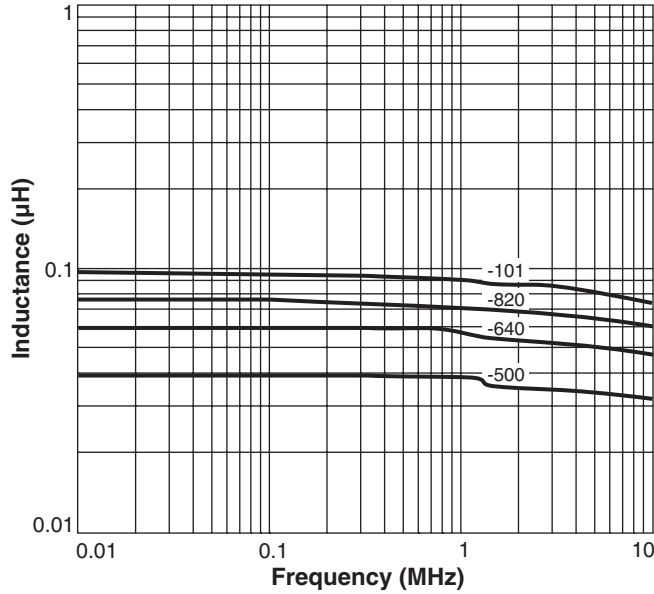
Document AE366-1 Revised 05/29/17

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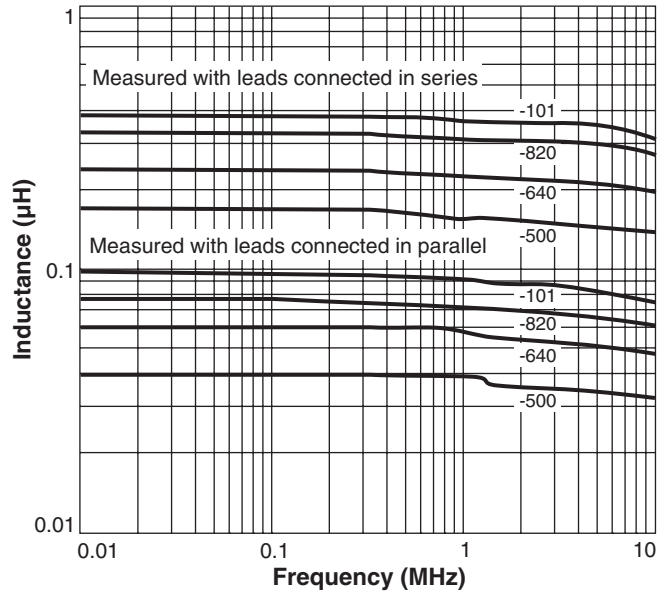
Outgassing Compliant Power Inductors – AE515PMM & PMD

Typical L vs Current

Single Conductor

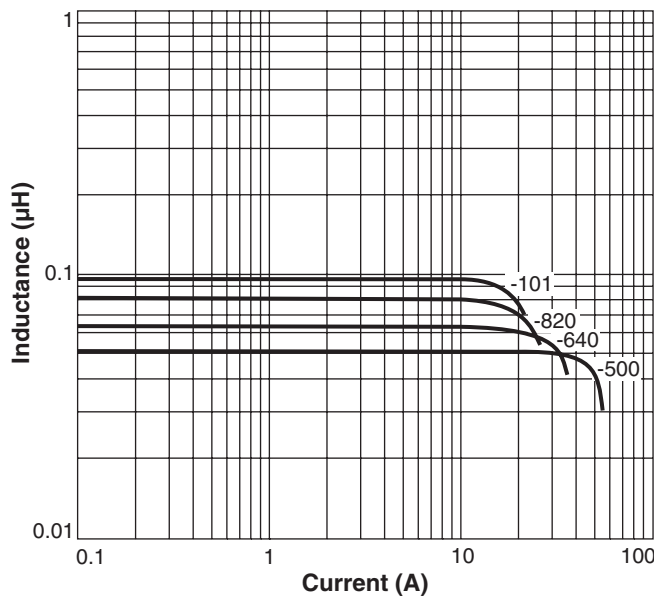


Dual Conductor

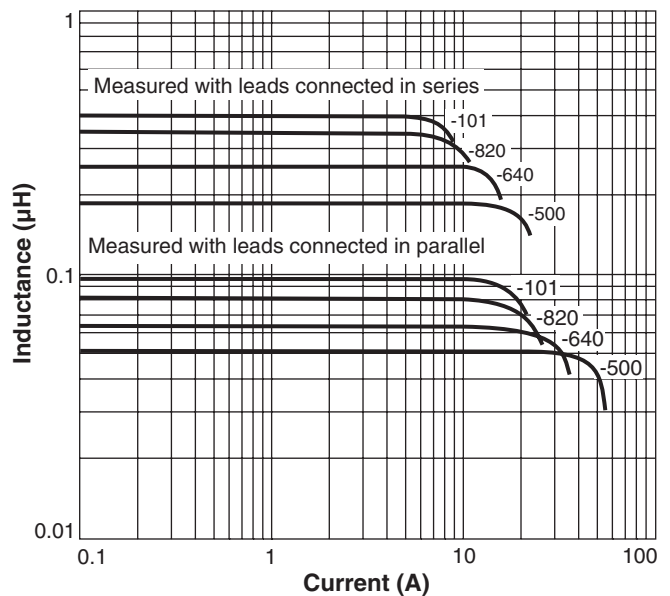


Typical L vs Frequency

Single Conductor



Dual Conductor



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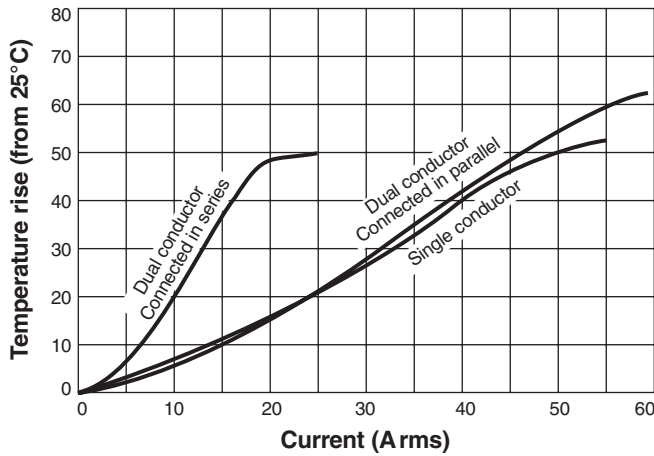
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Document AE366-2 Revised 05/29/17

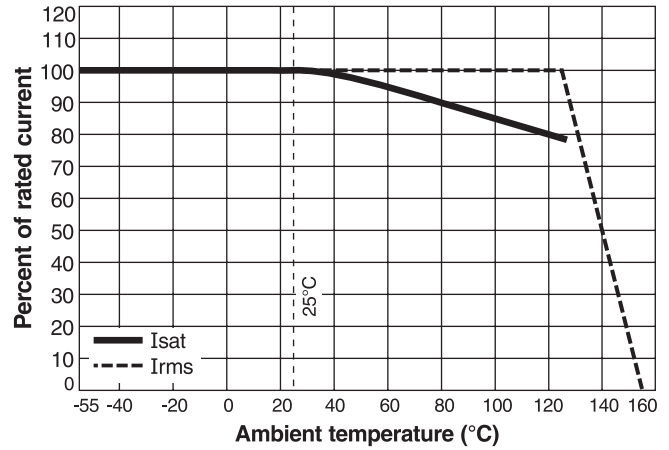
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Outgassing Compliant Power Inductors – AE515PMM & PMD

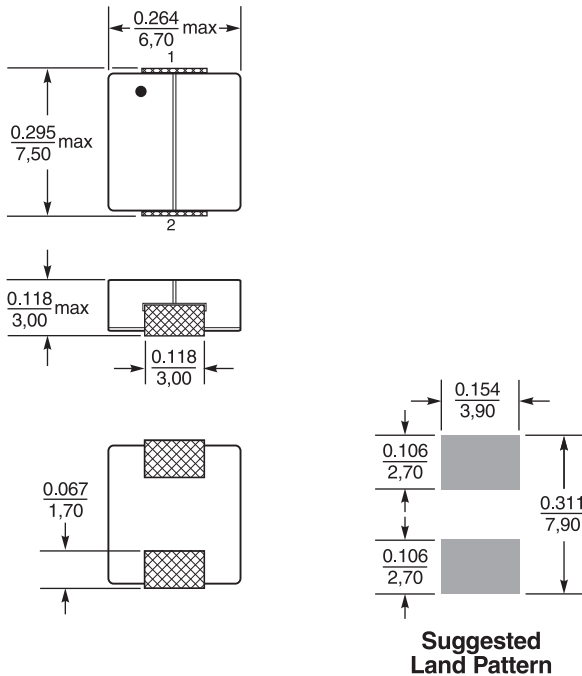
Typical Temperature Rise vs Current



Current Derating

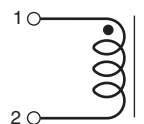


Dimensions – Single Conductor

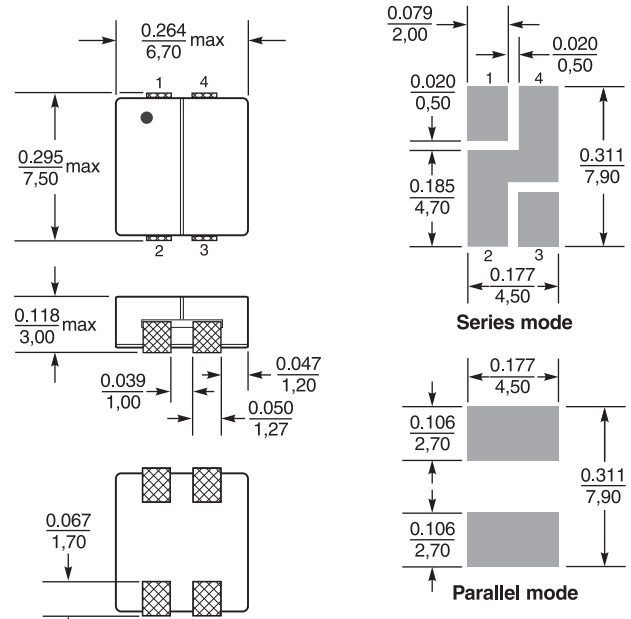


Note: Dimensions are before optional solder application. For maximum overall dimensions including solder, add 0.0025 in / 0,064 mm to the length, and 0.006 in / 0,15 mm to the height.

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

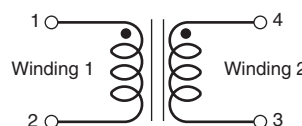


Dimensions – Dual Conductor

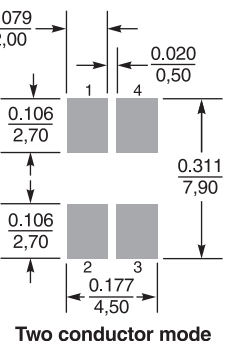


Note: Dimensions are before optional solder application. For maximum overall dimensions including solder, add 0.0025 in / 0,064 mm to the length, and 0.006 in / 0,15 mm to the height.

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



Winding-to-winding isolation:
25 V maximum



Two conductor mode
Suggested Land Patterns



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