

# Shielded Power Inductor

For NSC LM315x  
SIMPLE SWITCHER®



- Designed specifically for National Semiconductor LM315x SIMPLE SWITCHER® Controllers for applications with output current up to 12 A.
- L1 on NSC Demonstration Board LM3152-3.3
- Soft saturation makes it ideal for use in multi-phase VRM/VRD regulators and high current/high frequency DC/DC converters.
- Flat wire construction for low DCR
- The materials used eliminate all thermal aging issues

**Core material** Powdered iron

**Terminations** RoHS compliant tin-silver over copper. Other terminations available at additional cost.

**Weight** 3.44 g

**Ambient temperature** -40°C to +85°C with Irms current

**Maximum part temperature** +125°C (ambient + temp rise).

**Storage temperature** Component: -40°C to +125°C.

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** 100/7" reel; 500/13" reel Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 7.5 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR ±8% (mOhm)	SRF typ <sup>3</sup> (MHz)	Isat <sup>4</sup> (A)	Irms <sup>5</sup> (A)
HA3778-AL_	1.65	2.53	55	17	20

1. When ordering, please specify **termination** and **packaging** codes:

HA3778-ALC

**Termination: L** = RoHS compliant tin-silver over copper.

**Special order: T** = RoHS tin-silver-copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).

**Packaging: C** = 7" machine-ready reel. EIA-481 embossed plastic tape (100 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (500 parts per full reel).

**B** = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

2. Inductance measured at 500 kHz, 0.1 Vrms, 0 Adc using a Coilcraft SMD-A fixture in an Agilent/HP 4284A LCR meter or equivalent.

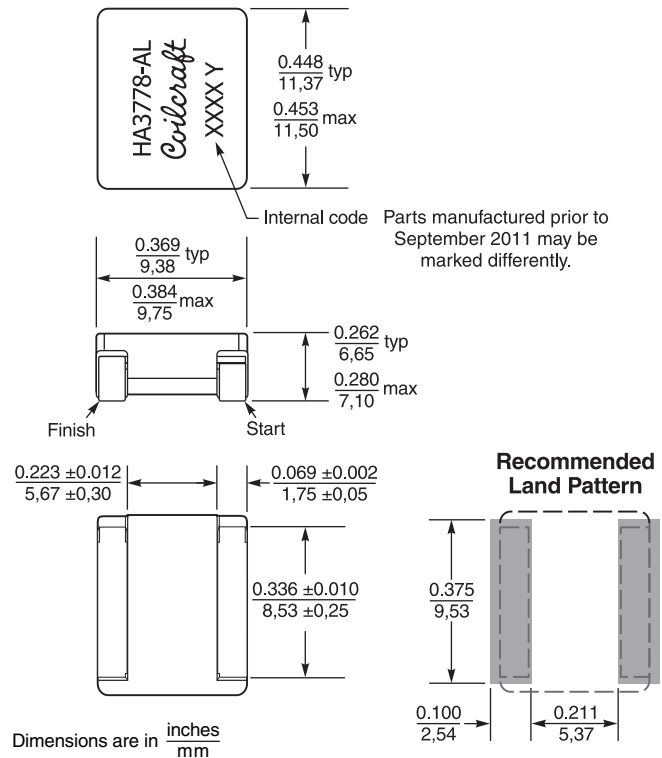
3. SRF measured on an Agilent/HP 8753ES.

4. DC current at which the inductance drops 30% (typ) from its value without current.

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

6. Electrical specifications at 25°C.

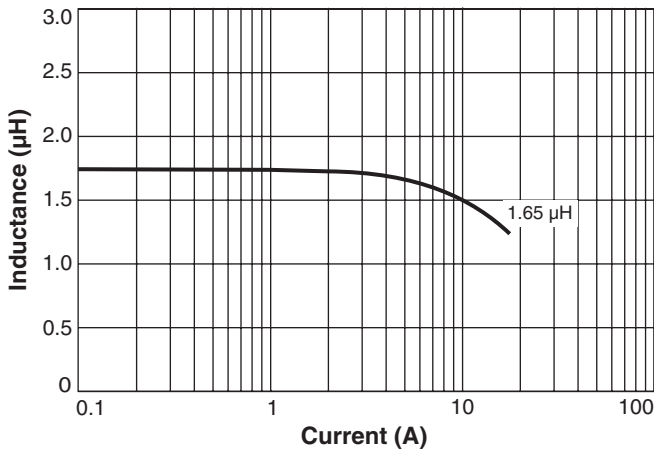
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



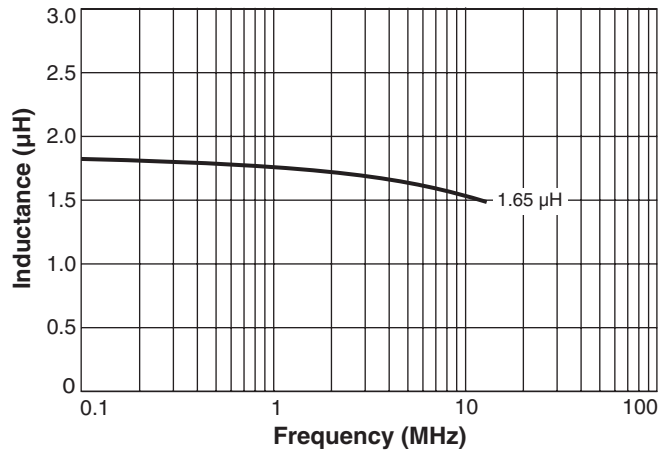


# Shielded Power Inductor – HA3778-AL

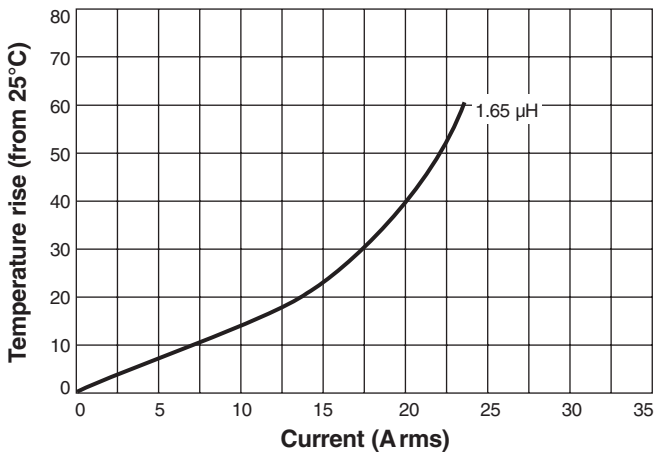
## Inductance vs Current



## Inductance vs Frequency



## Temperature Rise vs Current



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