SYNYON

Document No. SYN-DS-SYE4030
Revision V2.0 | 2026-11-02

Molded Power Inductor

SYE4030 Series

Efficient Series · 4.0×4.0×3.1 mm



RoHS Compliant · Halogen-Free

Features

- **Very low DCR and ultra-low AC loss, suited to 2-5 MHz switching**
- **Excellent current handling with soft saturation**
- **Withstands high current spikes**

Core material:	Composite magnetic powder
Environmental:	RoHS compliant, halogen-free
Terminal plating:	Ni-Sn (SN); SAC/SP optional
Anti-corrosion:	Terminal anti-corrosion plating
Operating temperature:	-40°C to +125°C
Max. part temperature:	+165°C (ambient + rise)
Storage temperature:	-55°C to +165°C (part); -55 to +80°C (reel)
Reflow soldering:	Max. 3 cycles, 260°C / 40 s
MSL level:	Level 1, unlimited floor life
Rated voltage:	80V

Electrical Specifications

(Ta = 25°C)

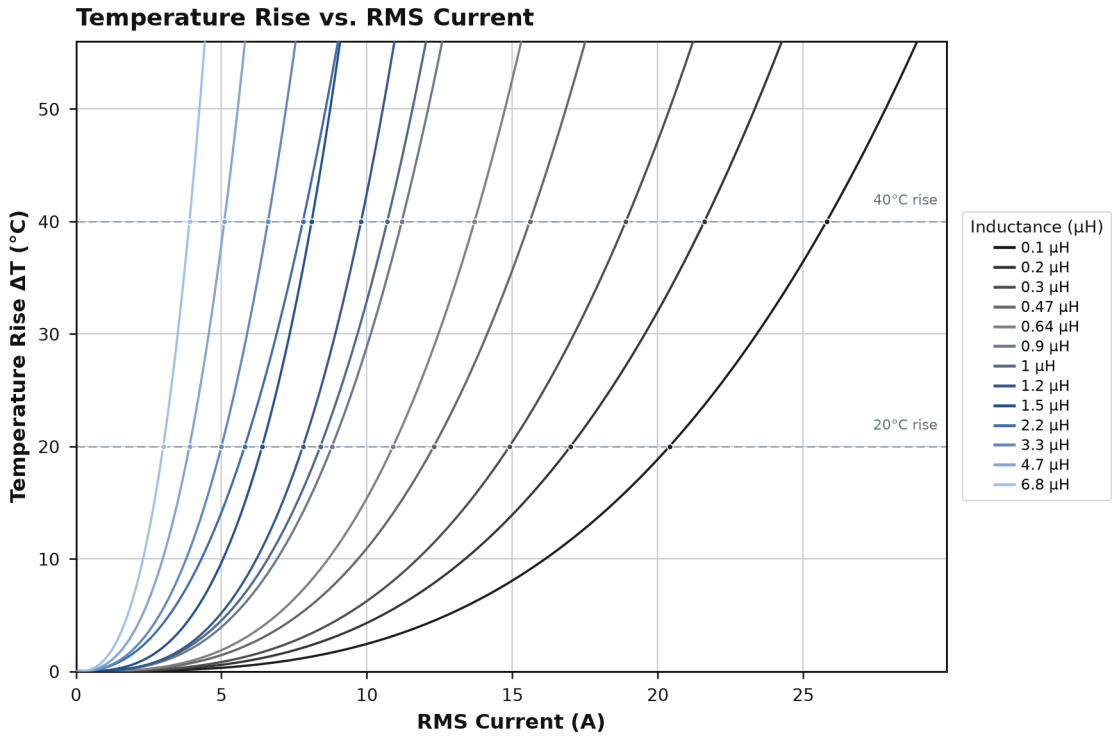
Part Number	Inductance ±20% (μH)	DCR (mΩ) typ/max	SRF typ (MHz)	Isat (A) 30%	Irms (A) 20℃/40℃
SYE4030-101MSN	0.1	1.5 / 1.8	240	30	20.4 / 25.8
SYE4030-201MSN	0.2	2.15 / 2.4	155	22	17 / 21.6
SYE4030-301MSN	0.3	2.8 / 3.1	115	19	14.9 / 18.9
SYE4030-471MSN	0.47	4.1 / 4.6	95	15.5	12.3 / 15.6
SYE4030-641MSN	0.64	5.3 / 5.9	80	13.5	10.9 / 13.7
SYE4030-901MSN	0.9	8 / 8.8	68	10	8.8 / 11.2
SYE4030-102MSN	1	8.89 / 9.78	65	9	8.4 / 10.7
SYE4030-122MSN	1.2	10.4 / 11.5	60	8.7	7.8 / 9.8
SYE4030-152MSN	1.5	15.1 / 16.6	58	8.5	6.4 / 8.1
SYE4030-222MSN	2.2	20.1 / 22.1	40	6.1	5.8 / 7.8
SYE4030-332MSN	3.3	26.1 / 28.6	35	5.9	5 / 6.6
SYE4030-472MSN	4.7	40 / 44.1	30	4.6	3.9 / 5.1
SYE4030-682MSN	6.8	67.4 / 74.1	20	3.6	3 / 3.9

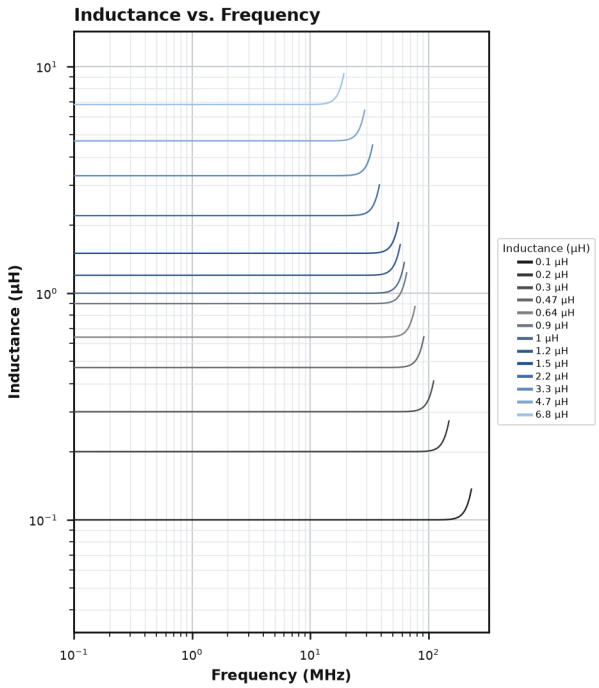
1. Inductance is measured at 1 MHz, 0.1 Vrms, 0 Adc, Ta = 25°C.
2. DCR is measured with a DC milliohm meter.
3. SRF is measured with a high-precision network analyzer.
4. Isat: DC current at which inductance drops by the stated percentage at 25°C; derating is required for high-temperature applications.
5. Irms: DC current causing the stated temperature rise (20°C/40°C). For reference only; verify by measurement in the end application.
6. Termination codes: SN = tin-nickel, SAC = tin-silver-copper; SP = tin-lead (non-RoHS).
7. Packaging: tape and reel, compliant with EIA-481; 7-inch and 13-inch reels available.
8. Electrical data are specified at Ta = 25°C. Specifications are subject to change without notice.

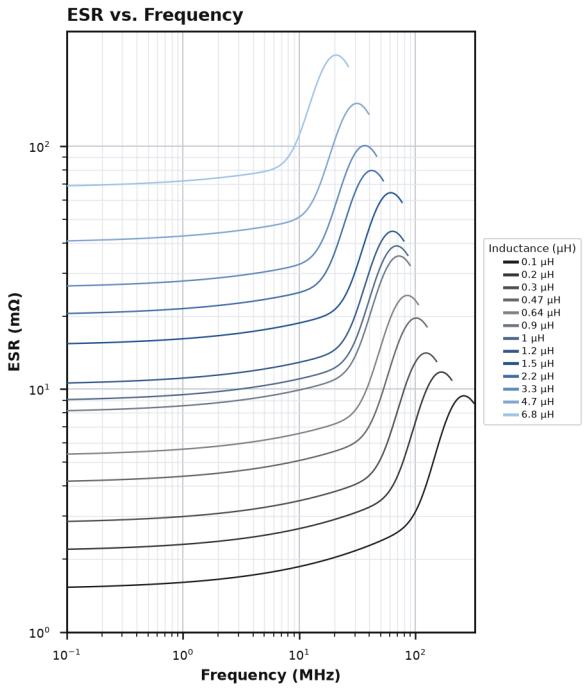
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Specifications subject to change without notice
Please refer to the latest version on our website

Performance Curves

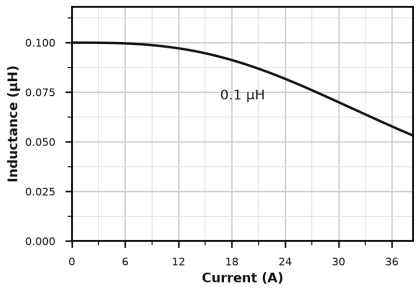


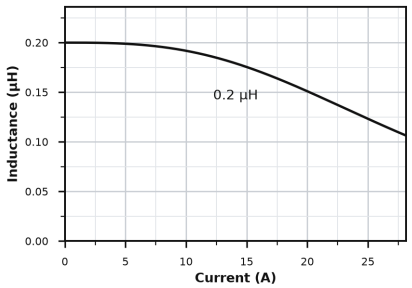


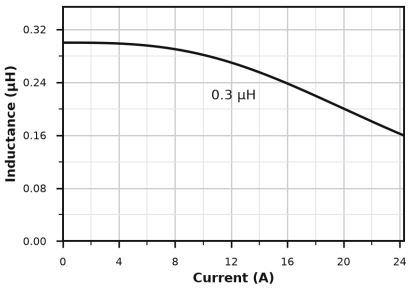


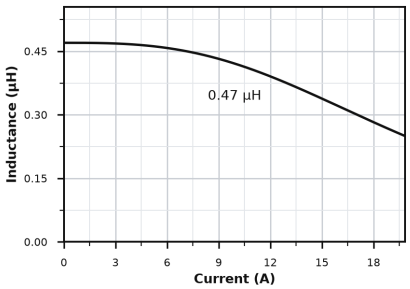
Test Condition: Ta=25℃, JEDEC standard PCB, natural convection. Curves derived from typical specifications for reference only.

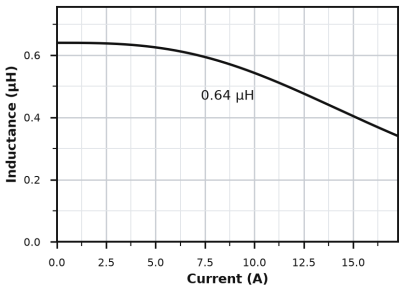
Inductance vs DC Current

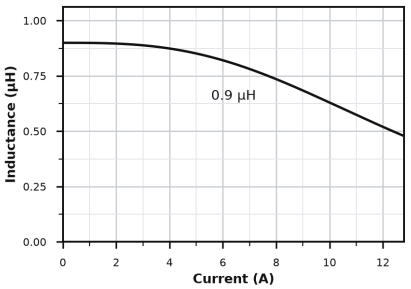


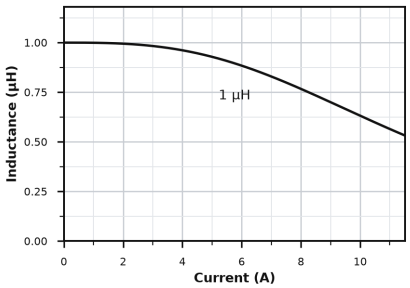


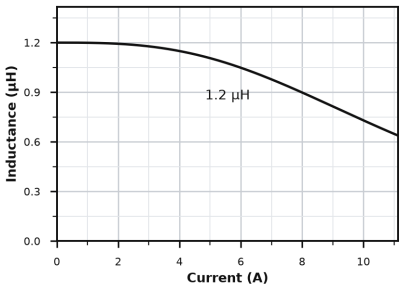


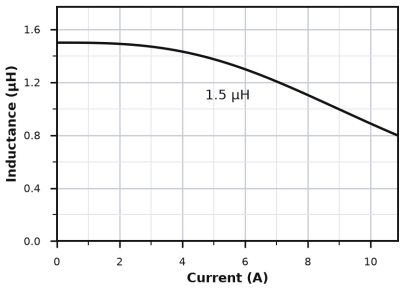


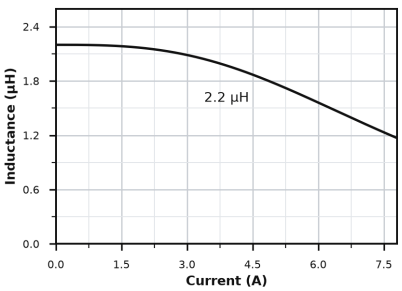


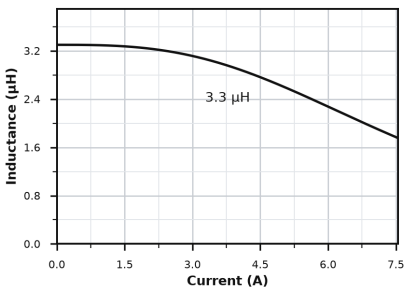


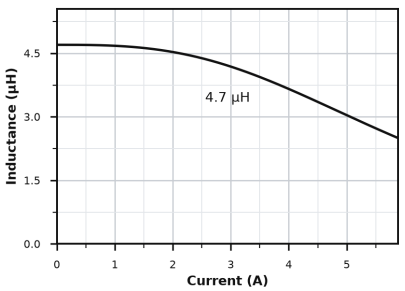


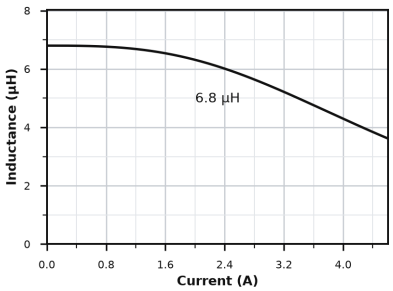






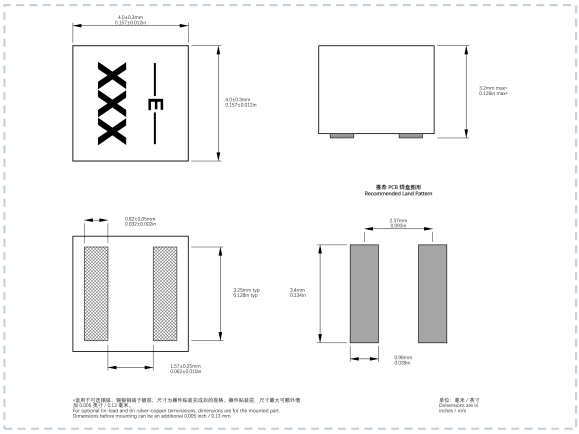






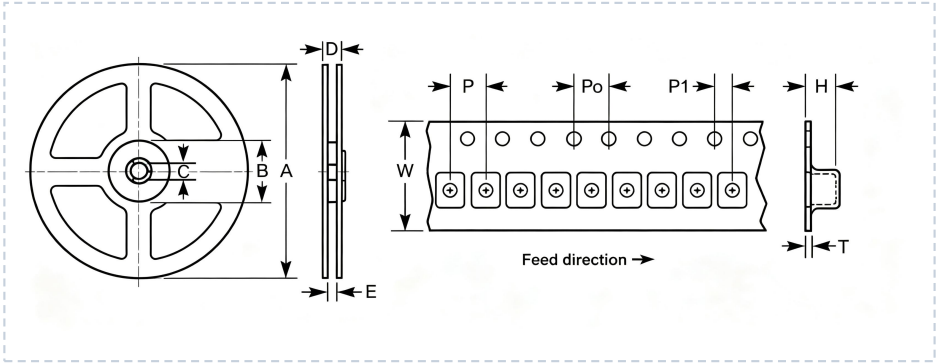
Note: Curves are plotted from Isat test points; actual performance shall be verified on the final product.

Dimensions & Recommended Land Pattern



Symbol	Parameter	Min	Typ	Max
L	Body Length (mm)	3.70	4.00	4.30
W	Body Width (mm)	3.70	4.00	4.30
H	Body Height (mm)	/	/	3.1
Wt	Weight (g)	0.28	0.28	0.28

Packaging



Parts per reel		Reel dimensions (mm)				Tape dimensions (mm)						
7" (178 mm)	13" (330 mm)	A	B	C	D	E	W	P	Po	P1	H	T
500	2000	178/330	60/100	13	14.7	12.4	12	8	4	2	3.25	0.23

Packing method: Tape and reel, compliant with EIA-481

Quantity: 7" reel: 500 pcs; 13" reel: 2000 pcs

Tape spec: Embossed carrier tape; dimensions per actual packing

Features & Applications

Features

· Very low DCR and ultra-low AC loss, suited to 2-5 MHz switching
· Excellent current handling with soft saturation
· Withstands high current spikes

Applications

· Multi-phase VRM supplies in servers and telecom equipment
· High-density DC-DC modules and point-of-load converters
· Notebook PCs, graphics cards and FPGA supplies
· Automotive electronics and industrial control power