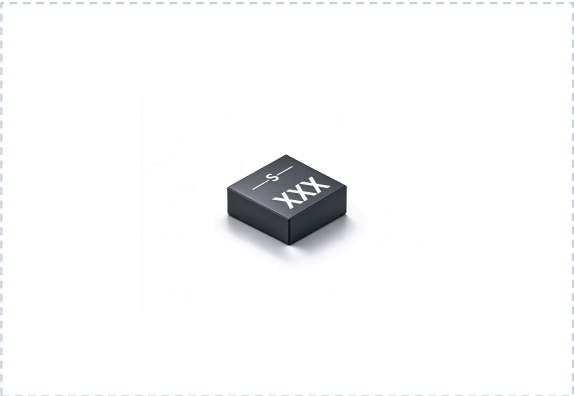
SYNYON

Document No. SYN-DS-SYS7020
Revision V2.0 | 2026-11-02

Molded Power Inductor

SYS7020 Series

Standard Series · 7.5×7.5×2.0 mm



RoHS Compliant · Halogen-Free

Features

- **High current and ultra-low DCR**
- **Soft saturation, ideal for VRM/VRD supply**

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:	60V

Electrical Specifications

(Ta = 25°C)

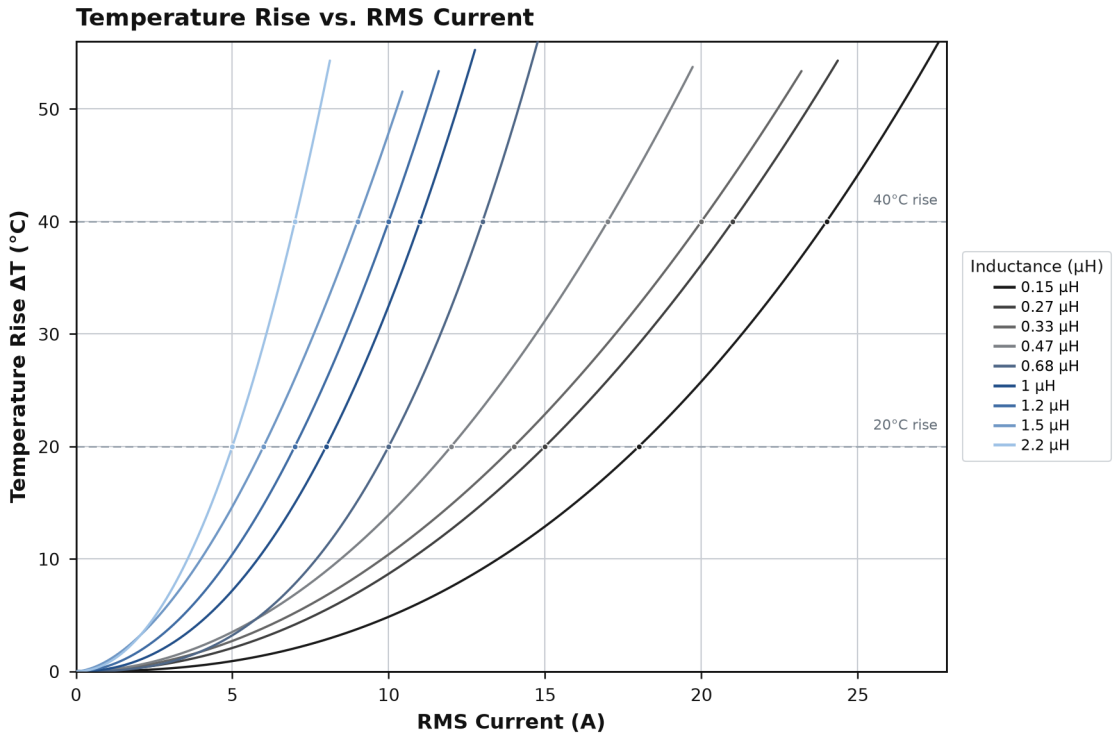
Part Number	Inductance ±20% (μH)	DCR (mΩ) typ/max	SRF typ (MHz)	Isat (A) 30%	Irms (A) 20℃/40℃
SYS7020-151MSN	0.15	1.9 / 2.5	161	46	18 / 24
SYS7020-271MSN	0.27	2.9 / 3.8	112	30	15 / 21
SYS7020-331MSN	0.33	4 / 5.2	88	28	14 / 20
SYS7020-471MSN	0.47	5.3 / 6.4	72	24.3	12 / 17
SYS7020-681MSN	0.68	7.9 / 9.5	54	22.3	10 / 13
SYS7020-102MSN	1	9.8 / 10.8	46	18	8 / 11
SYS7020-122MSN	1.2	11.5 / 12.8	42	17.6	7 / 10
SYS7020-152MSN	1.5	17.6 / 19.3	37	15	6 / 9
SYS7020-222MSN	2.2	28.7 / 31.6	29	13.6	5 / 7

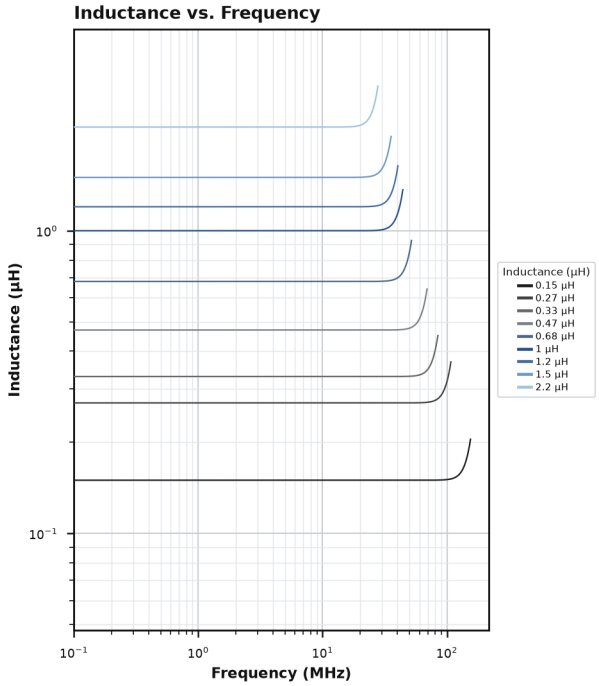
1. Inductance is measured at 1 MHz, 0.1 Vrms, 0 Adc, Ta = 25°C.
2. DCR is measured with a DC milliohm meter.
3. SRF is measured with a high-precision network analyzer.
4. Isat: DC current at which inductance drops by the stated percentage at 25°C; derating is required for high-temperature applications.
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.

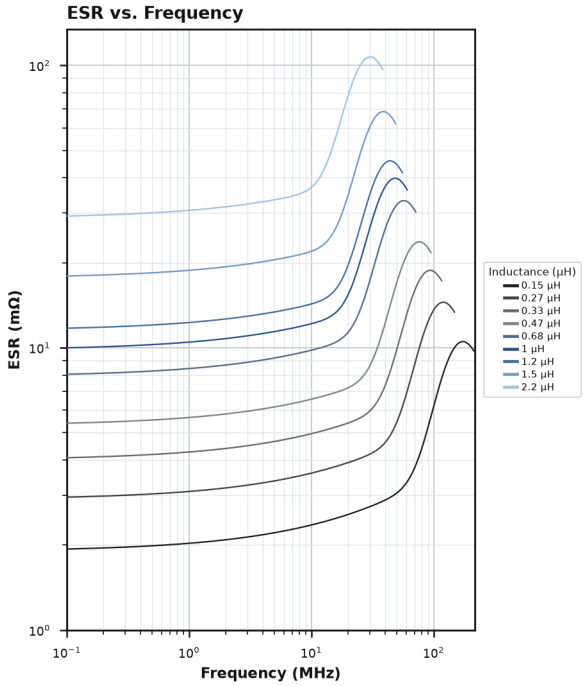
Xinyuan Technology (Shenzhen) Co., Ltd. Longgang Branch
Address: No. 5002-1, Longgang Avenue (Longgang Section), Longgang District, Shenzhen
Tel: 400-855-8758 | E-mail: sales@synyon.com | Web: https://www.synyon.com

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

Performance Curves

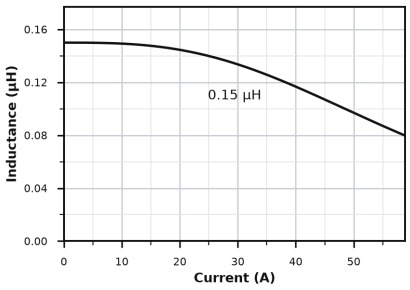


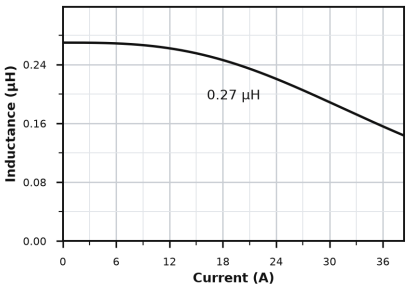


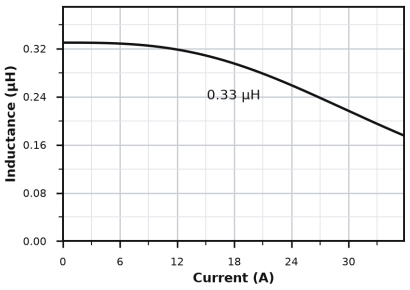


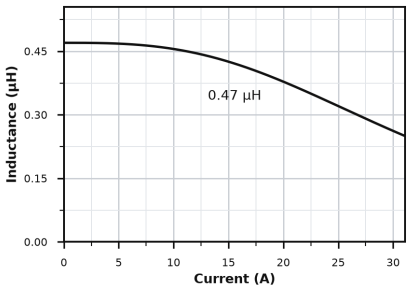
Test Condition: Ta=25℃, JEDEC standard PCB, natural convection. Curves derived from typical specifications for reference only.

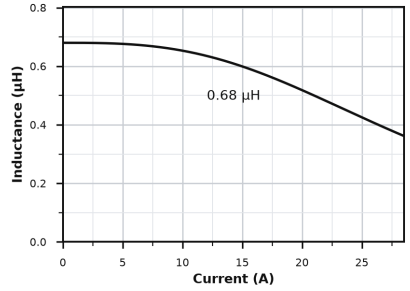
Inductance vs DC Current

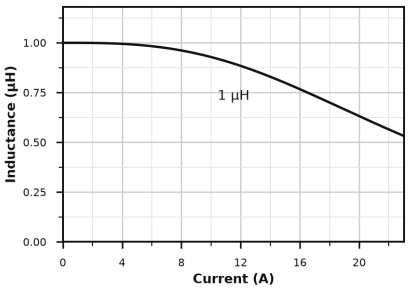


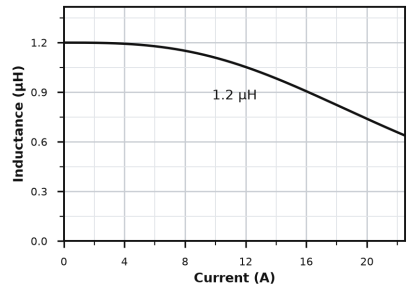


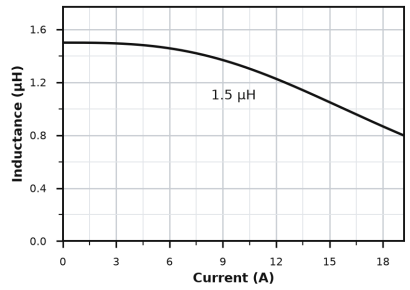


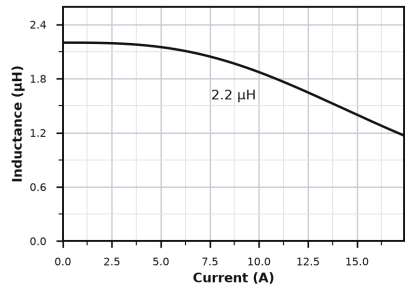






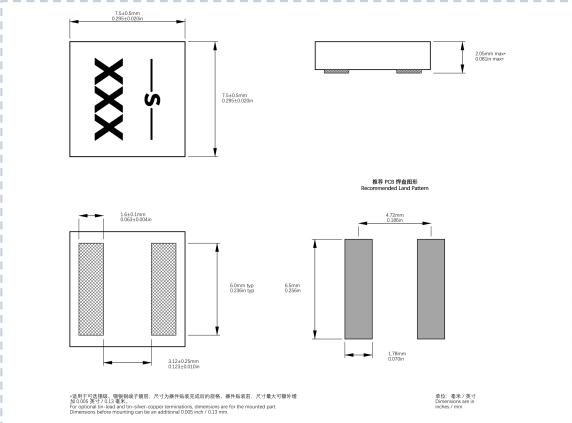






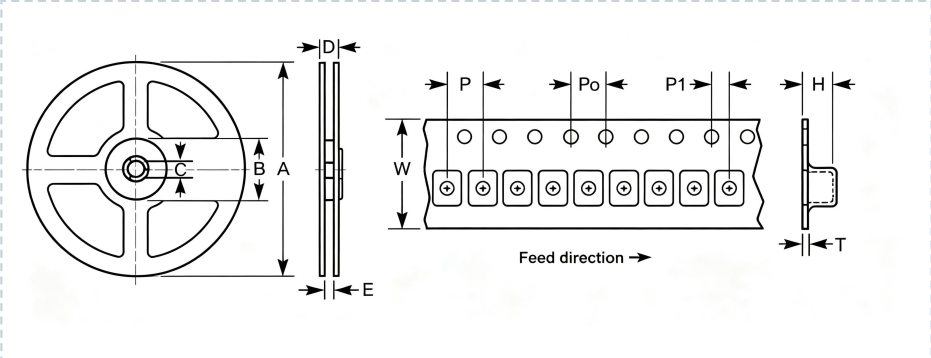
Note: Curves are plotted from Isat test points; actual performance shall be verified on the final product.

Dimensions & Recommended Land Pattern



Symbol	Parameter	Min	Typ	Max
L	Body Length (mm)	7.00	7.50	8.00
W	Body Width (mm)	7.00	7.50	8.00
H	Body Height (mm)	/	/	2.0
Wt	Weight (g)	0.83	0.83	0.83

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	16	12	4	2	2.2	0.3

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

· High current and ultra-low DCR
· Soft saturation, ideal for VRM/VRD supply

Applications

· Industrial automation, control and drive systems
· Medical electronics, aerospace equipment, heavy industrial machinery
· High-power modules, servo drives, variable frequency drives
· Energy storage systems, telecom base stations
· Servers and storage equipment, automotive electronics