

## FEATURES

- Winding type realizes small size and low profile.
- Metal material for large current and low loss.
- High performance (Isat) realized by metal dust core.
- Closed magnetic circuit design reduces leakage flux.
- Vinyl thermal spray, better surface compactness.
- 100% lead (Pb) free meet RoHS standard.



## APPLICATIONS

- Multimedia system.
- DC/DC converters.
- Pad, Smart phone, WIFI 6.
- Portable gaming devices, Smart wear, Wi-Fi module.
- Notebooks, VR, AR, SSD, TWS.
- LCD displays, HDDs, DVCs, DSCs, etc.
- Baseband power supply, Amplifier, Power management.
- Module power supply, Camera power manageme.

## PART NUMBERING

APH	201610	-	2R2	M	S	□□
①	②		③	④	⑤	⑥
Series Name	External Dimensions		Nominal Inductance	Inductance Tolerance	Product Type	Design Code

① Series Name	
APH	Mini Molding Power Inductors

③ Nominal Inductance	
Code (example)	Nominal Inductance [ $\mu$ H]
R68	0.68
1R0	1.0
4R7	4.7

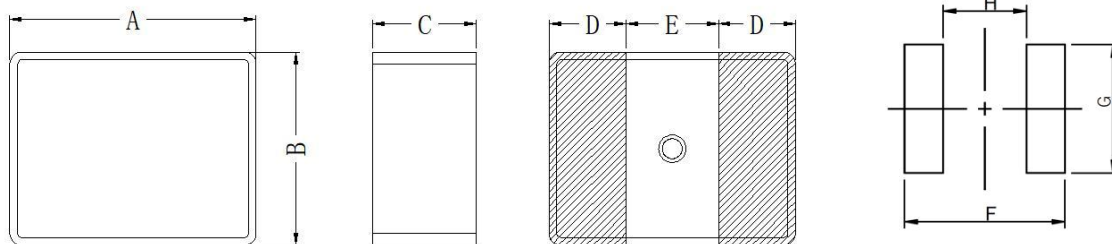
② External Dimensions	
201610	2.0x1.6x1.0
252010	2.5x2.0x1.0
252012	2.5x2.0x1.2

④ Inductance Tolerance	
M	$\pm 20\%$

⑤ Product Type	
S	Standard Coil

⑥ Design Code	
□□	Standard product is blank

## DIMENSIONS & RECOMMENDED LAND PATTERN



Recommended Land Pattern

## DIMENSIONS &amp; RECOMMENDED LAND PATTERN

Series	A	B	C	D	E	F	G	H
APH201610	2.0 ±0.2	1.6 ±0.2	1.0 Max.	0.5±0.3	1.0 Typ.	2.3 Typ.	2.0 Typ.	0.8 Typ.
APH252010	2.5±0.2	2.0±0.2	1.0 Max.	0.6±0.3	1.3 Typ.	2.8 Typ.	2.4 Typ.	1.0 Typ.
APH252012	2.5 ±0.2	2.0 ±0.2	1.2 Max.	0.6±0.3	1.3 Typ.	2.8 Typ.	2.4 Typ.	1.0 Typ.

Unit: mm

## ELECTRICAL CHARACTERISTICS

## ● APH201610 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance		Heat Rating Current		Saturation Current	
	@1MHz		Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	μH	-	Ω		A		A	
Symbol	L	-	DCR		I <sub>rms</sub>		I <sub>sat</sub>	
APH201610-R24MS	0.24	±20%	27	20	4.60	5.10	5.10	5.70
APH201610-R33MS	0.33	±20%	35	25	3.70	4.20	4.60	5.10
APH201610-R47MS	0.47	±20%	45	33	3.20	3.60	4.10	4.50
APH201610-R56MS	0.56	±20%	50	45	3.15	3.55	3.80	4.10
APH201610-R68MS	0.68	±20%	55	40	3.10	3.50	3.40	3.80
APH201610-1R0MS	1	±20%	70	60	2.30	2.70	2.70	3.00
APH201610-1R5MS	1.5	±20%	130	115	1.90	2.10	2.30	2.60
APH201610-2R2MS	2.2	±20%	150	135	1.60	1.80	1.80	2.00

## ● APH252010 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance		Heat Rating Current		Saturation Current	
	@1MHz		Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	μH	-	Ω		A		A	
Symbol	L	-	DCR		I <sub>rms</sub>		I <sub>sat</sub>	
APH252010-R22MS	0.22	±20%	25	22	5.40	6.00	7.30	8.00
APH252010-R33MS	0.33	±20%	30	25	4.10	4.50	6.10	6.70
APH252010-R47MS	0.47	±20%	35	28	3.60	4.00	4.60	5.10
APH252010-R68MS	0.68	±20%	45	32	3.10	3.50	3.90	4.40
APH252010-1R0MS	1.0	±20%	60	45	2.80	3.10	3.20	3.60
APH252010-1R5MS	1.5	±20%	100	80	2.30	2.60	2.40	2.70
APH252010-2R2MS	2.2	±20%	130	110	2.10	2.40	2.20	2.50
APH252010-3R3MS	3.3	±20%	225	195	1.40	1.70	1.90	2.20
APH252010-4R7MS	4.7	±20%	265	220	1.25	1.40	1.65	1.90

## ● APH252012 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance		Heat Rating Current		Saturation Current	
	@1MHz		Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	μH	-	Ω		A		A	
Symbol	L	-	DCR		I <sub>rms</sub>		I <sub>sat</sub>	
APH252012-R22MS	0.22	±20%	23	20	5.20	6.00	6.00	7.00
APH252012-R24MS	0.24	±20%	25	21	5.00	5.80	5.80	6.80
APH252012-R33MS	0.33	±20%	27	22	4.70	5.20	5.40	5.80

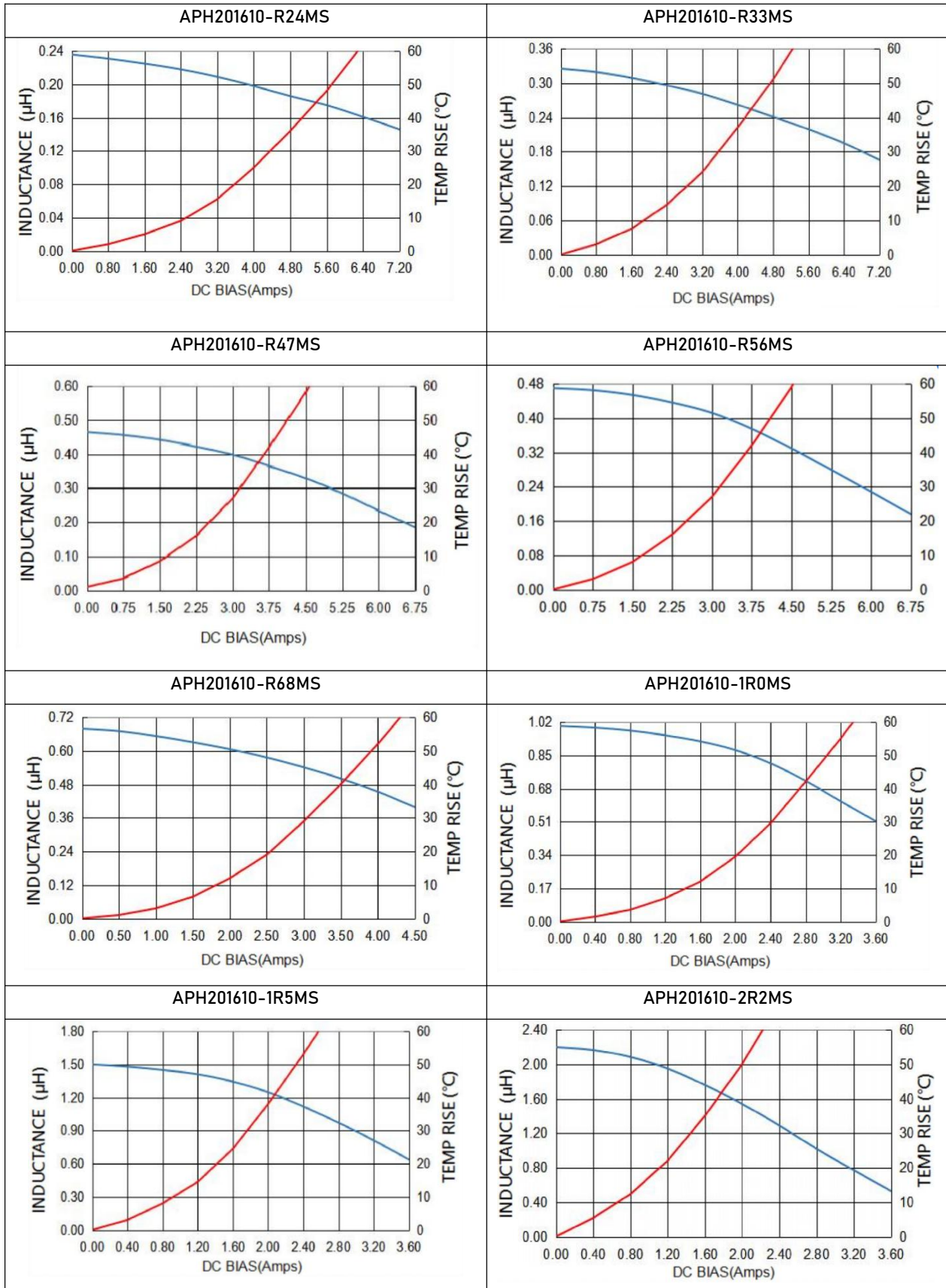
## ELECTRICAL CHARACTERISTICS

## ● APH252012 Series

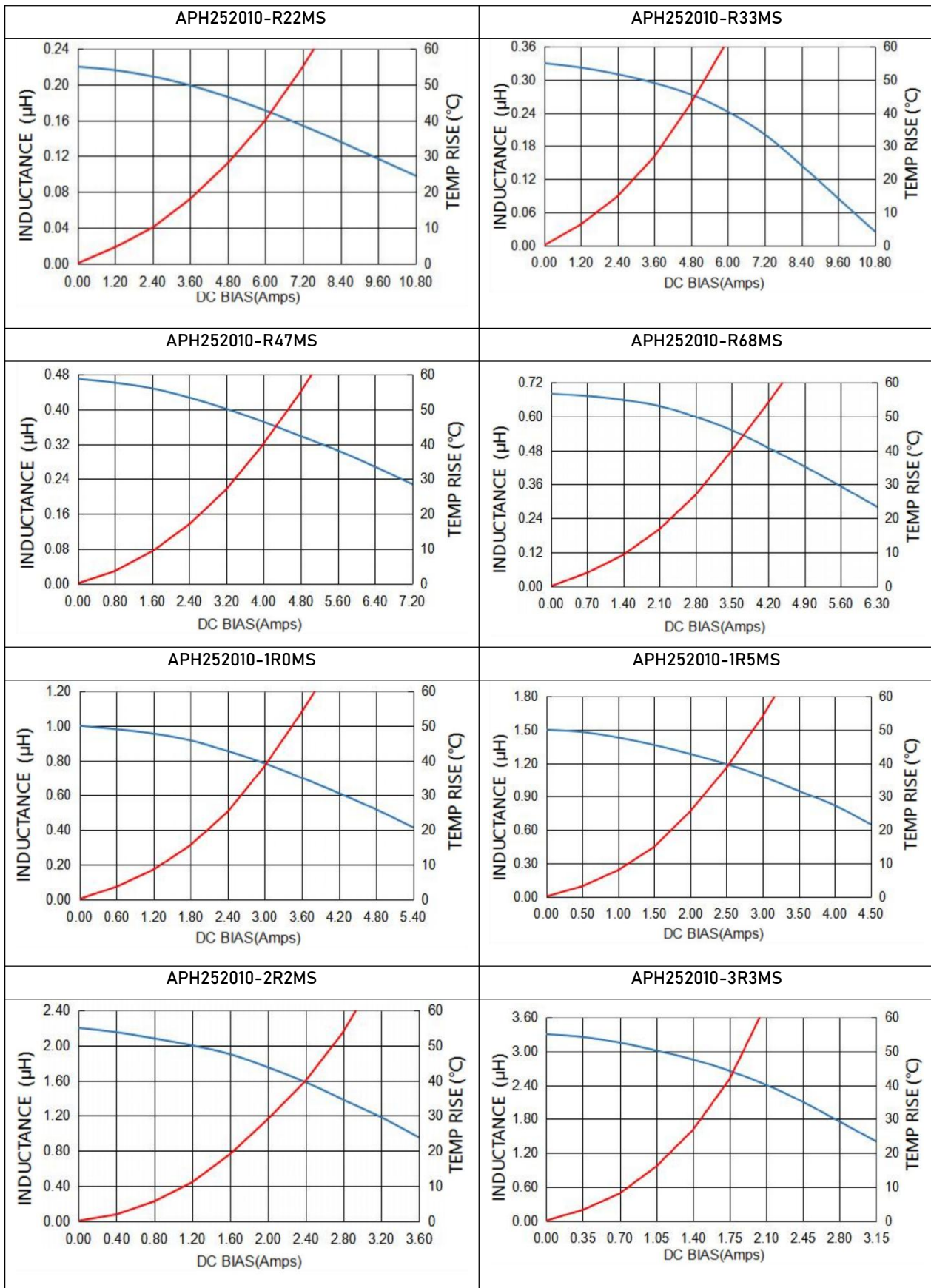
Part Number	Inductance	Inductance Tolerance	DC Resistance		Heat Rating Current		Saturation Current	
	@1MHz		Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	μH	-	Ω		A		A	
Symbol	L	-	DCR		I <sub>rms</sub>		I <sub>sat</sub>	
APH252012-R47MS	0.47	±20%	32	25	4.20	4.70	5.00	5.40
APH252012-R68MS	0.68	±20%	40	35	3.40	3.80	4.65	5.10
APH252012-1R0MS	1	±20%	55	42	3.20	3.60	4.10	4.50
APH252012-1R5MS	1.5	±20%	85	70	2.30	2.60	3.00	3.30
APH252012-2R2MS	2.2	±20%	105	85	2.10	2.30	2.80	3.00
APH252012-3R3MS	3.3	±20%	160	130	1.90	2.10	1.90	2.20
APH252012-4R7MS	4.7	±20%	260	200	1.45	1.65	1.65	2.00

- All test data is referenced to 25 °C ambient.
- Test Condition:1MHz, 1.0Vrms.
- I<sub>rms</sub>:DC current (A) that will cause an approximate ΔT of 40 °C .
- I<sub>sat</sub>:DC current (A) that will cause L0 to drop approximately 30%.
- Operating Temperature Range -40°C to + 125°C .

**RATED CURRENT CURVE**

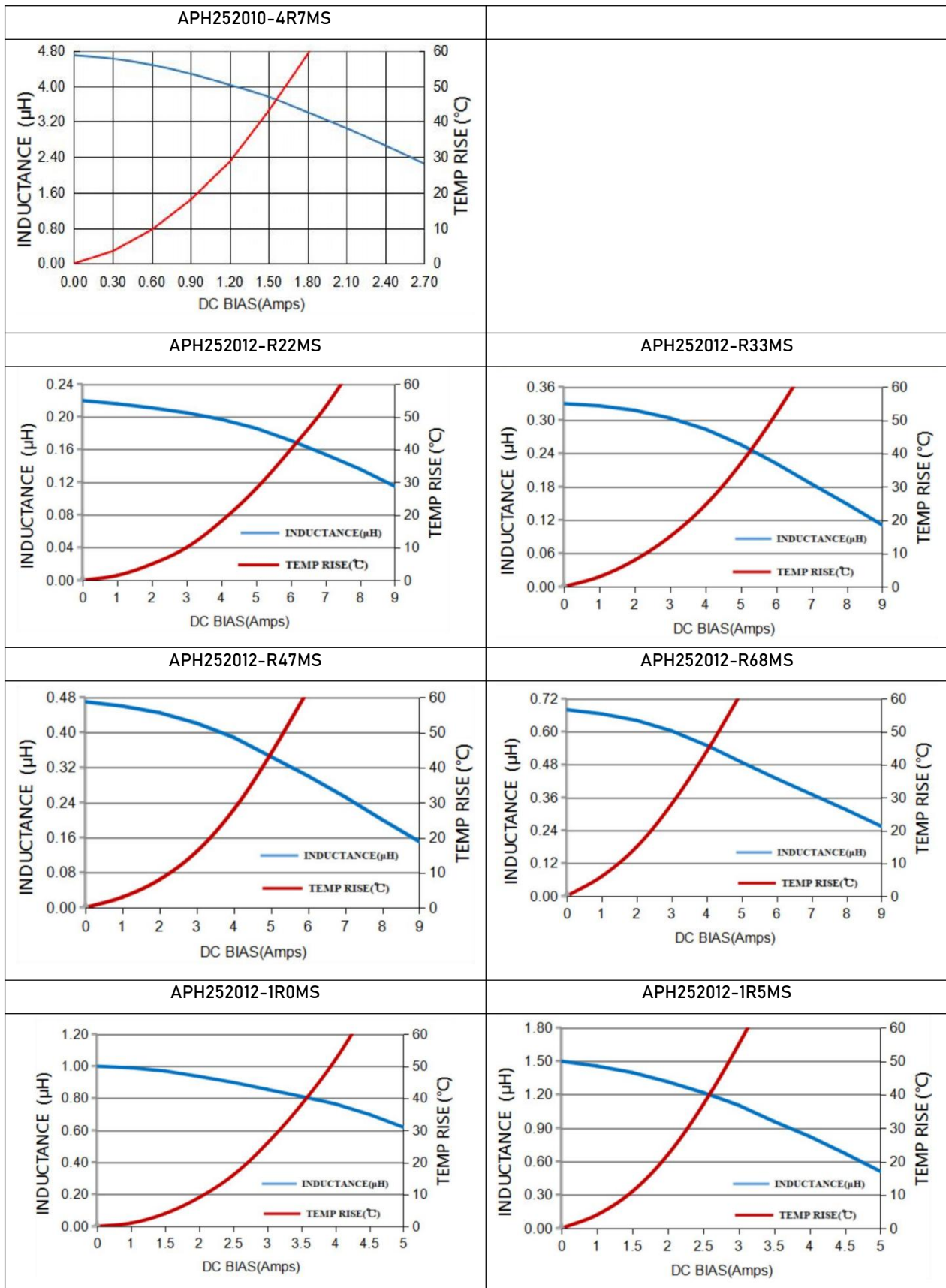


**RATED CURRENT CURVE**

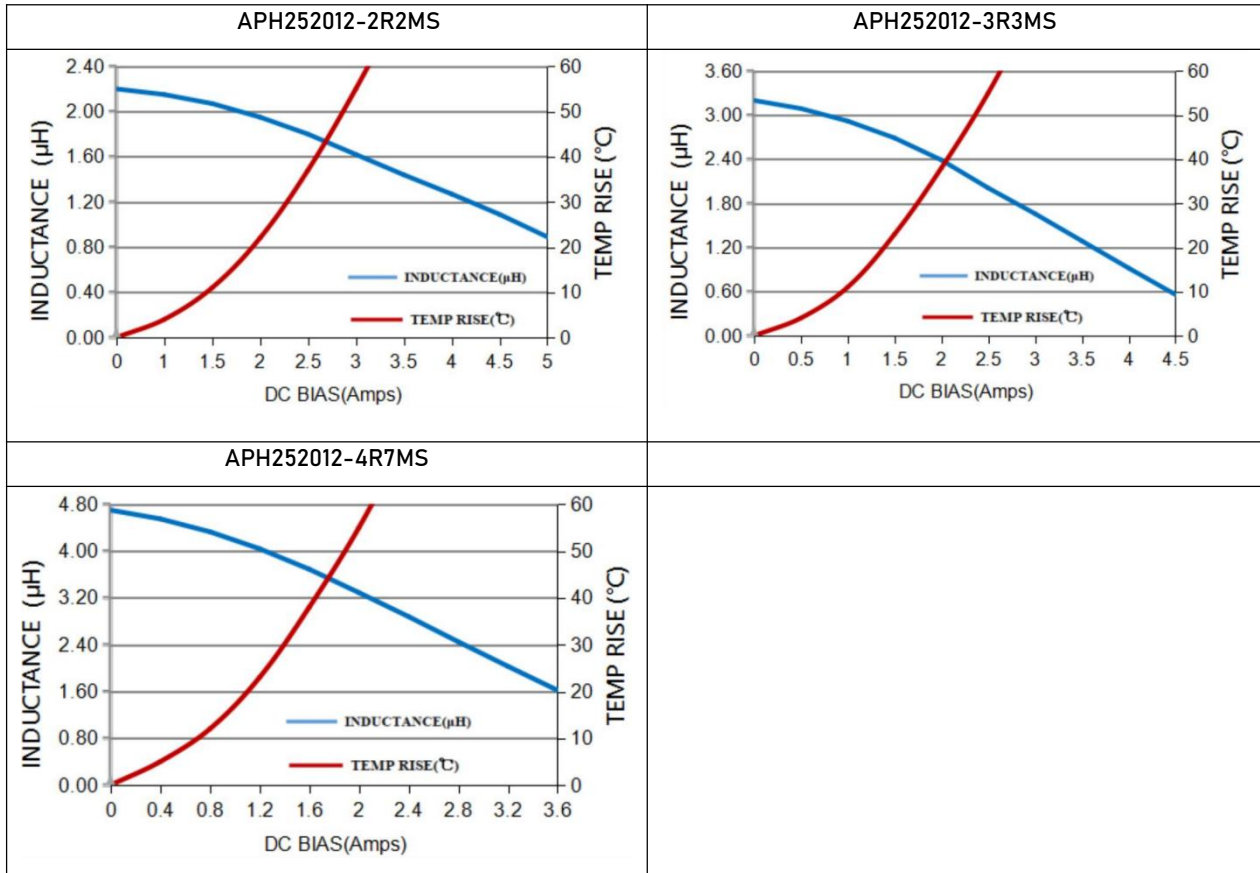




**RATED CURRENT CURVE**



**RATED CURRENT CURVE**



**Note:**

**This series product is not applies in automotive or related products. Otherwise, we will shall not bear than the resulting all the problems of quality and responsibility.**

Please be sure to request approval specifications that provide further details of the products. Kindly not that the content of these specifications are subject to change or may be discontinued without prior notice. This product may not be designed/used in medical or high risk applications without APV approval.