

# Molded SMD Power Inductors – MWSA-S Series

Operating Temp. : -40°C~+125°C (Including self-heating)



## FEATURES

- Metal material for large current and low DCR
- Closed magnetic circuit design reduces leakage flux

## APPLICATIONS

- TV, graphics, memory
- Notebooks, tablets
- Communication equipments, industrial equipments

## PRODUCT IDENTIFICATION

MWSA      0412S      –      XXX      □      T      □□□  
 ①                      ②                                      ③                      ④                      ⑤                      ⑥

① Type	
MWSA	Molded SMD Power Inductors

② External Dimensions(LxWxH) [mm]	
0412	4.2x4.4x1.0
0402	4.2x4.4x1.8
0518	5.2x5.4x1.6
0503	5.2x5.4x2.8
0615	6.6x7.0x1.3
0618	6.6x7.0x1.6
0602	6.6x7.0x1.8
0624	6.6x7.0x2.2
0603	6.6x7.0x2.8
0604	6.6x7.0x3.8
0605	6.6x7.0x4.8
0804	8.2x8.8x3.8
1003	10.0x11.5x2.8
1004	10.0x11.0x3.8
1005	10.0x11.5x4.8
1204	12.8x13.45x4.0
1205	12.6x13.45x4.8
1206	12.6x13.45x5.8
1265	12.6x13.45x6.5
1707	17.15x17.15x6.7
2213	23.5x22.0x12.6

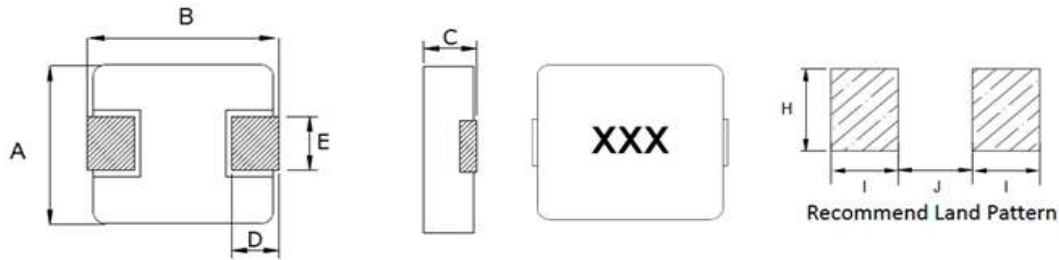
③ Nominal Inductance[μH]	
Example	Nominal Value[μH]
R15	0.15μH
1R0	1.0μH

④ Inductance Tolerance	
M	±20%

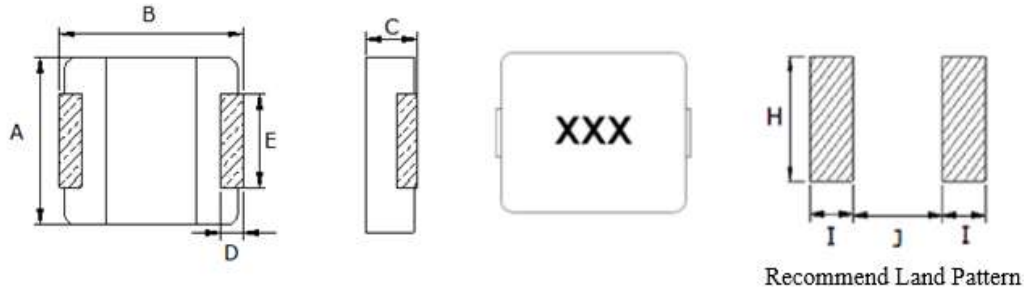
⑤ Packing	
T	Tape & Reel

⑥ Design Code	
□□□	Design Code
* Conventional product is blank	

## SHAPE AND DIMENSIONS



Remark: MWSA0412S ~ MWSA1265S Series



Remark: MWSA1707S ~ MWSA2213S Series

Unit: mm

Series	A	B	C	D	E	I Typ.	J Typ.	H Typ.
MWSA0412S	4.2±0.25	4.4±0.35	1.0±0.2	0.8±0.3	2.0±0.3	1.5	2.2	2.5
MWSA0402S	4.2±0.25	4.4±0.35	1.8±0.2	0.8±0.3	2.0±0.3	1.5	2.2	2.5
MWSA0518S	5.2±0.2	5.4±0.35	1.6±0.2	1.2±0.2	2.2±0.3	1.9	2.2	2.5
MWSA0503S	5.2±0.2	5.4±0.35	2.8±0.2	1.2±0.2	2.2±0.3	1.9	2.2	2.5
MWSA0615S	6.6±0.2	7.0±0.3	1.3±0.2	1.6±0.3	3.0±0.3	2.35	3.7	3.5
MWSA0618S	6.6±0.2	7.0±0.3	1.6±0.2	1.6±0.3	3.0±0.3	2.35	3.7	3.5
MWSA0602S	6.6±0.2	7.0±0.3	1.8±0.2	1.6±0.3	3.0±0.3	2.35	3.7	3.5
MWSA0624S	6.6±0.2	7.0±0.3	2.2±0.2	1.6±0.3	3.0±0.3	2.35	3.7	3.5
MWSA0603S	6.6±0.2	7.0±0.3	2.8±0.2	1.6±0.3	3.0±0.3	2.35	3.7	3.5
MWSA0604S	6.6±0.2	7.0±0.3	3.8±0.2	1.6±0.3	3.0±0.3	2.35	3.7	3.5
MWSA0605S	6.6±0.2	7.0±0.3	4.8±0.2	1.6±0.3	3.0±0.3	2.35	3.7	3.5
MWSA0804S	8.8±0.4	8.2±0.3	3.8±0.2	1.4±0.3	5.0±0.3	2.75	4.0	5.5
MWSA1003S	10.0±0.3	11.5 Max	2.8±0.2	2.0±0.5	3.0±0.3	4.1	5.4	4.1
MWSA1004S	10.0±0.3	11.0±0.5	3.8±0.2	2.0±0.5	3.0±0.5	4.1	5.4	4.1
MWSA1005S	10.0±0.3	11.5 Max	4.8±0.2	2.0±0.5	3.0±0.5	4.1	5.4	4.1
MWSA1204S	12.8±0.5	13.45±0.35	4.0Max.	2.0±0.5	See Remarks	3.25	8.0	5.5
MWSA1205S	12.6±0.3	13.45±0.35	4.8±0.2	2.0±0.5	See Remarks	3.25	8.0	5.5
MWSA1206S	12.6±0.3	13.45±0.35	5.8±0.2	2.0±0.5	See Remarks	3.25	8.0	5.5
MWSA1265S	12.6±0.3	13.45±0.35	6.5Max.	2.0±0.5	5.0±0.3	3.25	8.0	5.5
MWSA1707S	17.15Max	17.15±0.35	6.7±0.3	2.5±0.5	12.0±0.3	3.50	11.2	12.8
MWSA2213S	23.5±0.5	22.0±0.3	12.6±0.4	5.0±0.4	19.0±0.3	5.75	12.5	19.6

## SHAPE AND DIMENSIONS

### Remarks:

Series	E(mm)	Dimensions
MWSA1204S	3.85±0.5	R22/R47
	5.0±0.3	R68/R82/1R0/1R5/2R2/3R3/4R7/6R8/100/150/220
MWSA1205S	3.85±0.5	R22/R36/R50/R68/R82/1R0/1R5/2R2
	5.0±0.3	3R3/4R7/6R8/100/150/220/330/470
MWSA1206S	3.85±0.5	R68/1R5/2R2
	5.0±0.3	3R3/4R7/5R6/6R8/8R2/100/120/150/180/220/270/330/470/680/101/121/151

## SPECIFICATIONS

### MWSA0412S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0412S-R15MT	0.15±20%	9	12.0	15.0	6.80	7.50
MWSA0412S-R22MT	0.22±20%	11	8.80	11.0	6.50	7.00
MWSA0412S-R33MT	0.33±20%	19	6.70	8.40	5.70	6.50
MWSA0412S-R47MT	0.47±20%	21	5.40	6.80	5.20	6.00
MWSA0412S-R68MT	0.68±20%	36	4.80	6.00	4.20	4.70
MWSA0412S-1R0MT	1.0±20%	47	4.40	5.50	3.80	4.50
MWSA0412S-1R5MT	1.5±20%	75	3.20	4.00	2.70	3.25
MWSA0412S-2R2MT	2.2±20%	83.5	2.40	3.00	2.20	2.75
MWSA0412S-3R3MT	3.3±20%	160	2.38	2.70	1.77	2.00
MWSA0412S-4R7MT	4.7±20%	195	1.80	2.20	1.45	1.80

### MWSA0402S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0402S-R10MT	0.10±20%	4	17.6	22.0	11.2	13.0
MWSA0402S-R22MT	0.22±20%	6.6	10.0	12.5	8.20	9.50
MWSA0402S-R33MT	0.33±20%	11	9.60	12.0	8.60	10.0
MWSA0402S-R47MT	0.47±20%	14	7.60	9.50	6.65	7.50
MWSA0402S-R56MT	0.56±20%	16	7.20	9.00	6.10	7.00
MWSA0402S-R68MT	0.68±20%	18	6.40	8.00	6.15	7.00
MWSA0402S-1R0MT	1.0±20%	27	5.60	7.00	5.40	6.00
MWSA0402S-1R2MT	1.2±20%	27	5.20	6.50	5.40	6.00
MWSA0402S-1R5MT	1.5±20%	46	4.40	5.50	4.30	5.00
MWSA0402S-2R2MT	2.2±20%	58	4.00	5.00	3.80	4.50
MWSA0402S-3R3MT	3.3±20%	87	2.80	3.50	2.80	3.30
MWSA0402S-4R7MT	4.7±20%	105	2.40	3.00	2.20	2.80
MWSA0402S-6R8MT	6.8±20%	175	2.00	2.50	1.90	2.40
MWSA0402S-100MT	10±20%	282	1.60	2.00	1.30	1.60
MWSA0402S-220MT	22±20%	363	1.12	1.40	0.90	1.20

## SPECIFICATIONS

### MWSA0518S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	$\mu$ H	m $\Omega$	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0518S-R47MT	0.47 $\pm$ 20%	9	9.60	12.0	9.50	10.5
MWSA0518S-R56MT	0.56 $\pm$ 20%	10	8.80	11.0	8.20	9.50
MWSA0518S-R68MT	0.68 $\pm$ 20%	13.8	9.30	10.5	7.70	8.70
MWSA0518S-1R0MT	1.0 $\pm$ 20%	17	7.20	9.00	7.20	8.00
MWSA0518S-1R5MT	1.5 $\pm$ 20%	26	6.40	8.00	6.60	7.50
MWSA0518S-2R2MT	2.2 $\pm$ 20%	35	4.80	6.00	4.20	5.00
MWSA0518S-3R3MT	3.3 $\pm$ 20%	58	3.84	4.80	3.80	4.50
MWSA0518S-4R7MT	4.7 $\pm$ 20%	85	3.20	4.00	3.00	3.50
MWSA0518S-6R8MT	6.8 $\pm$ 20%	120	2.72	3.40	2.40	2.80
MWSA0518S-100MT	10 $\pm$ 20%	155	2.00	2.50	2.20	2.50

### MWSA0503S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	$\mu$ H	m $\Omega$	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0503S-R10MT	0.10 $\pm$ 20%	3	24.0	30.0	23.0	25.0
MWSA0503S-R20MT	0.20 $\pm$ 20%	3.9	16.0	20.0	13.0	14.0
MWSA0503S-R33MT	0.33 $\pm$ 20%	5.5	14.4	18.0	13.1	14.0
MWSA0503S-R47MT	0.47 $\pm$ 20%	8.5	12.0	15.0	10.0	11.0
MWSA0503S-R68MT	0.68 $\pm$ 20%	12	9.20	11.5	8.20	9.00
MWSA0503S-R82MT	0.82 $\pm$ 20%	10.4	9.20	10.5	9.00	10.5
MWSA0503S-1R0MT	1.0 $\pm$ 20%	14	8.00	10.0	7.80	8.50
MWSA0503S-1R2MT	1.2 $\pm$ 20%	16	7.60	9.50	7.85	8.50
MWSA0503S-1R5MT	1.5 $\pm$ 20%	25	7.20	9.00	7.60	8.20
MWSA0503S-2R2MT	2.2 $\pm$ 20%	29	5.60	7.00	6.40	7.00
MWSA0503S-3R3MT	3.3 $\pm$ 20%	38	4.80	6.00	5.00	5.50
MWSA0503S-4R7MT	4.7 $\pm$ 20%	60	3.68	4.60	4.00	4.50
MWSA0503S-6R8MT	6.8 $\pm$ 20%	90	2.88	3.60	2.90	3.50
MWSA0503S-100MT	10 $\pm$ 20%	125	2.80	3.50	2.80	3.20
MWSA0503S-150MT	15 $\pm$ 20%	170	2.00	2.20	1.60	1.80

### MWSA0615S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	$\mu$ H	m $\Omega$	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0615S-R47MT	0.47 $\pm$ 20%	8.5	14.16	16.0	8.85	10.0
MWSA0615S-R56MT	0.56 $\pm$ 20%	11	12.38	14.0	7.96	9.00
MWSA0615S-R68MT	0.68 $\pm$ 20%	12	10.62	12.0	7.52	8.50
MWSA0615S-R82MT	0.82 $\pm$ 20%	17	8.85	10.0	7.08	8.00
MWSA0615S-1R0MT	1.0 $\pm$ 20%	21	7.96	9.00	5.30	6.00
MWSA0615S-1R5MT	1.5 $\pm$ 20%	40	7.00	8.00	4.40	5.00
MWSA0615S-2R2MT	2.2 $\pm$ 20%	54	6.19	7.00	3.36	3.80
MWSA0615S-3R3MT	3.3 $\pm$ 20%	63	4.87	5.50	3.10	3.50
MWSA0615S-4R7MT	4.7 $\pm$ 20%	85	4.42	5.00	2.83	3.20
MWSA0615S-6R8MT	6.8 $\pm$ 20%	135	3.54	4.00	2.21	2.50
MWSA0615S-100MT	10 $\pm$ 20%	175	2.65	3.00	1.77	2.00
MWSA0615S-220MT	22 $\pm$ 20%	510	2.20	2.50	1.32	1.40

## SPECIFICATIONS

### MWSA0618S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0618S-R10MT	0.10±20%	2.3	30.4	38.0	23.0	25.0
MWSA0618S-R22MT	0.22±20%	3.5	19.2	24.0	20.0	22.0
MWSA0618S-R47MT	0.47±20%	8.4	14.4	18.0	10.0	11.5
MWSA0618S-R68MT	0.68±20%	12	13.2	16.5	8.40	9.50
MWSA0618S-1R0MT	1.0±20%	16	9.60	12.0	7.60	8.50
MWSA0618S-1R5MT	1.5±20%	26	7.36	9.20	7.10	8.00
MWSA0618S-2R2MT	2.2±20%	35	6.40	8.00	6.20	7.00
MWSA0618S-3R3MT	3.3±20%	50	4.80	6.00	3.80	4.50
MWSA0618S-4R7MT	4.7±20%	62	4.00	5.00	3.50	4.00
MWSA0618S-6R8MT	6.8±20%	110	3.60	4.50	2.40	3.00
MWSA0618S-8R2MT	8.2±20%	135	2.90	3.60	2.10	2.40
MWSA0618S-100MT	10±20%	155	3.20	4.00	1.95	2.30
MWSA0618S-220MT	22±20%	350	1.84	2.30	1.40	1.80

### MWSA0602S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0602S-1R5MT	1.5±20%	18	10.0	12.0	7.00	8.00
MWSA0602S-4R7MT	4.7±20%	60	-	5.50	-	4.30
MWSA0602S-100MT	10±20%	145	-	4.00	-	2.80

### MWSA0624S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0624S-R22MT	0.22±20%	3	24.0	30.0	19.0	21.0
MWSA0624S-R33MT	0.33±20%	4.1	19.6	24.5	16.0	18.0
MWSA0624S-R47MT	0.47±20%	5.1	16.0	20.0	13.5	15.0
MWSA0624S-R56MT	0.56±20%	6.5	13.6	17.0	11.5	13.0
MWSA0624S-R68MT	0.68±20%	7	12.8	16.0	10.5	12.0
MWSA0624S-1R0MT	1.0±20%	13.5	12.0	15.0	8.00	9.00
MWSA0624S-1R5MT	1.5±20%	20	10.8	13.5	7.00	8.20
MWSA0624S-2R2MT	2.2±20%	28	8.00	10.0	6.20	7.00
MWSA0624S-3R3MT	3.3±20%	39	6.40	8.00	4.80	5.50
MWSA0624S-4R7MT	4.7±20%	50	5.20	6.50	4.30	5.00
MWSA0624S-6R8MT	6.8±20%	70	4.80	6.00	3.20	4.00
MWSA0624S-100MT	10±20%	101	3.20	4.00	2.40	3.10
MWSA0624S-150MT	15±20%	160	2.64	3.30	2.00	2.50
MWSA0624S-220MT	22±20%	230	2.00	2.50	1.60	2.00

## SPECIFICATIONS

### MWSA0603S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0603S-R10MT	0.10±20%	1.7	53.0	60.0	28.5	32.5
MWSA0603S-R12MT	0.12±20%	0.77±7%	30.0	40.0	32.0	38.0
MWSA0603S-R22MT	0.22±20%	3	27.2	34.0	21.0	24.0
MWSA0603S-R24MT	0.24±20%	3.1	22.4	28.0	18.4	23.0
MWSA0603S-R24MTY02	0.24±20%	1.19±7%	30.0	35.0	26.0	30.0
MWSA0603S-R33MT	0.33±20%	3.5	20.0	25.0	19.0	21.0
MWSA0603S-R47MT	0.47±20%	4.1	16.0	20.0	16.5	18.0
MWSA0603S-R56MT	0.56±20%	4.5	14.4	18.0	15.0	16.5
MWSA0603S-R68MT	0.68±20%	5.3	13.6	17.0	14.5	16.0
MWSA0603S-R82MT	0.82±20%	6.0	12.8	16.0	12.5	14.0
MWSA0603S-1R0MT	1.0±20%	7.4	12.0	15.0	10.5	12.0
MWSA0603S-1R5MT	1.5±20%	12.1	9.60	12.0	10.5	12.0
MWSA0603S-1R5MTB01	1.5±20%	11	-	14.0	-	10.5
MWSA0603S-1R8MT	1.8±20%	12.6	9.40	11.8	8.20	9.30
MWSA0603S-2R2MT	2.2±20%	15	8.00	10.0	8.50	9.50
MWSA0603S-3R3MT	3.3±20%	22	7.60	9.50	7.50	8.50
MWSA0603S-4R7MT	4.7±20%	33	7.20	9.00	5.00	6.00
MWSA0603S-5R6MT	5.6±20%	42	5.20	6.50	4.80	5.50
MWSA0603S-6R8MT	6.8±20%	48	4.80	6.00	4.20	5.00
MWSA0603S-8R2MT	8.2±20%	60	4.40	5.50	4.20	5.00
MWSA0603S-100MT	10±20%	68	4.40	5.50	3.80	4.50
MWSA0603S-150MT	15±20%	113	3.20	4.00	2.30	3.00
MWSA0603S-220MT	22±20%	170	2.40	3.00	2.00	2.50
MWSA0603S-330MT	33±20%	270	2.00	2.50	1.60	2.00
MWSA0603S-330MTB01	33±20%	210	2.00	2.50	1.70	2.20
MWSA0603S-470MT	47±20%	385	1.60	2.00	1.20	1.50

### MWSA0604S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0604S-R68MT	0.68±20%	4.8	17.0	19.0	16.0	17.0
MWSA0604S-1R0MT	1.0±20%	6.6	15.0	16.0	12.5	13.5
MWSA0604S-1R5MT	1.5±20%	10	12.0	12.5	11.0	12.4
MWSA0604S-2R2MT	2.2±20%	14	10.0	11.0	8.50	10.0
MWSA0604S-3R3MT	3.3±20%	20	8.70	9.50	7.80	8.50
MWSA0604S-4R7MT	4.7±20%	30	8.00	9.00	6.00	6.50
MWSA0604S-6R8MT	6.8±20%	45	6.00	6.50	5.00	5.50
MWSA0604S-100MT	10±20%	65	5.00	6.00	4.00	4.80
MWSA0604S-100MTB01	10±20%	63	5.50	6.50	4.10	5.00
MWSA0604S-150MT	15±20%	95	4.00	4.50	3.20	3.70
MWSA0604S-220MT	22±20%	125	3.50	4.00	3.00	3.30
MWSA0604S-330MT	33±20%	240	2.50	3.00	2.00	2.20
MWSA0604S-470MT	47±20%	320	2.00	2.50	1.60	1.80

# SPECIFICATIONS

## MWSA0605S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0605S-R47MT	0.47±20%	3.9	16.8	21.0	17.0	20.0
MWSA0605S-R68MT	0.68±20%	4.5	14.4	18.0	14.5	16.5
MWSA0605S-1R0MT	1.0±20%	6.6	12.8	16.0	10.0	12.0
MWSA0605S-1R5MT	1.5±20%	10	10.4	13.0	8.20	9.50
MWSA0605S-2R2MT	2.2±20%	12.5	8.80	11.0	8.00	9.00
MWSA0605S-3R3MT	3.3±20%	22	8.00	10.0	7.60	8.50
MWSA0605S-4R7MT	4.7±20%	29	6.40	8.00	5.00	6.00
MWSA0605S-6R8MT	6.8±20%	41	5.04	6.30	4.00	5.80
MWSA0605S-8R2MT	8.2±20%	48	4.40	5.50	4.80	5.50
MWSA0605S-100MT	10±20%	60	4.24	5.30	3.80	4.50
MWSA0605S-150MT	15±20%	90	3.20	4.00	2.60	3.10
MWSA0605S-220MT	22±20%	140	2.80	3.50	2.00	2.60
MWSA0605S-330MT	33±20%	190	2.40	3.00	1.80	2.30
MWSA0605S-470MT	47±20%	230	2.08	2.60	1.50	2.00

## MWSA0804S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA0804S-R22MT	0.22±20%	1.8	55.0	60.0	30.0	36.0
MWSA0804S-R33MT	0.33±20%	2.4	40.0	45.0	25.0	30.0
MWSA0804S-R47MT	0.47±20%	2.8	36.0	42.0	25.0	28.0
MWSA0804S-R56MT	0.56±20%	3.2	23.0	26.0	22.0	24.0
MWSA0804S-R68MT	0.68±20%	3.8	22.0	24.0	21.0	23.0
MWSA0804S-R82MT	0.82±20%	4.4	19.0	21.0	19.0	21.0
MWSA0804S-1R0MT	1.0±20%	4.62	17.0	19.0	17.0	19.0
MWSA0804S-1R5MT	1.5±20%	7.6	15.0	17.0	15.0	17.0
MWSA0804S-1R8MT	1.8±20%	11	13.5	15.0	12.5	15.0
MWSA0804S-2R2MT	2.2±20%	11.4	12.0	14.0	12.0	14.0
MWSA0804S-3R3MT	3.3±20%	15	11.0	12.5	10.0	12.0
MWSA0804S-4R7MT	4.7±20%	26.5	10.5	11.5	8.50	9.50
MWSA0804S-5R6MT	5.6±20%	30	10.0	11.0	8.00	9.00
MWSA0804S-6R8MT	6.8±20%	36.8	8.00	9.00	7.00	8.00
MWSA0804S-8R2MT	8.2±20%	46	7.70	8.70	6.00	7.00
MWSA0804S-100MT	10±20%	59	7.00	8.00	5.50	6.50
MWSA0804S-150MT	15±20%	71	4.90	5.50	4.80	5.40
MWSA0804S-220MT	22±20%	113	4.50	5.00	4.20	4.80
MWSA0804S-330MT	33±20%	156	3.30	3.50	3.00	3.50
MWSA0804S-470MT	47±20%	225	2.90	3.10	2.50	2.90



## SPECIFICATIONS

### MWSA1003S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA1003S-R22MT	0.22±20%	1.2	44.24	50.0	29.2	33.0
MWSA1003S-R33MT	0.33±20%	1.6	28.3	32.0	20.35	23.0
MWSA1003S-R36MT	0.36±20%	1.6	24.8	28.0	20.35	23.0
MWSA1003S-R47MT	0.47±20%	2.5	23.0	26.0	19.47	22.0
MWSA1003S-R82MT	0.82±20%	3.7	20.35	23.0	15.93	18.0
MWSA1003S-1R0MT	1.0±20%	6	18.58	21.0	13.27	15.0
MWSA1003S-1R5MT	1.5±20%	7.5	17.69	20.0	11.5	13.0
MWSA1003S-2R2MT	2.2±20%	9	12.38	14.0	9.73	11.0
MWSA1003S-3R3MT	3.3±20%	16	10.61	12.0	7.96	9.00
MWSA1003S-4R7MT	4.7±20%	22.5	8.84	10.0	6.19	7.00
MWSA1003S-8R2MT	8.2±20%	45	6.20	7.00	4.42	5.00
MWSA1003S-100MT	10±20%	55	5.75	6.50	3.98	4.50
MWSA1003S-330MT	33±20%	160	3.53	4.00	2.30	2.60

### MWSA1004S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA1004S-R13MT	0.13±20%	0.52 (±5%)	63.0	92.0	63.0	72.0
MWSA1004S-R15MT	0.15±20%	0.65	60.0	75.0	40.0	45.0
MWSA1004S-R22MT	0.22±20%	1	48.0	60.0	30.0	35.0
MWSA1004S-R30MT	0.30±20%	1.1	36.0	45.0	30.0	35.0
MWSA1004S-R36MT	0.36±20%	1.2	36.0	45.0	25.0	30.0
MWSA1004S-R45MT	0.45±20%	1.5	34.0	43.0	25.0	30.0
MWSA1004S-R47MT	0.47±20%	1.7	32.0	40.0	25.0	30.0
MWSA1004S-R56MT	0.56±20%	1.8	26.4	33.0	20.0	25.0
MWSA1004S-R68MT	0.68±20%	2.4	24.0	30.0	19.0	23.0
MWSA1004S-R80MT	0.80±20%	2.7	23.2	29.0	19.0	23.0
MWSA1004S-1R0MT	1.0±20%	3.3	22.4	28.0	16.0	19.0
MWSA1004S-1R5MT	1.5±20%	4.2	19.2	24.0	14.0	16.0
MWSA1004S-2R2MT	2.2±20%	7	13.2	16.5	10.0	12.0
MWSA1004S-3R3MT	3.3±20%	11.8	12.8	16.0	9.50	11.0
MWSA1004S-4R7MT	4.7±20%	20	10.4	13.0	7.50	9.00
MWSA1004S-6R8MT	6.8±20%	25	9.60	12.0	7.00	8.50
MWSA1004S-8R2MT	8.2±20%	27	7.20	9.00	6.80	8.00
MWSA1004S-100MT	10±20%	30	6.80	8.50	6.90	7.80
MWSA1004S-150MT	15±20%	45	5.60	7.00	5.60	6.50
MWSA1004S-220MT	22±20%	66	4.40	5.50	4.20	5.00
MWSA1004S-330MT	33±20%	92	3.84	4.80	3.80	4.40
MWSA1004S-470MT	47±20%	145	3.10	3.50	2.80	3.30
MWSA1004S-680MT	68±20%	195	2.40	3.00	2.00	2.50
MWSA1004S-820MT	82±20%	285	2.30	2.80	2.10	2.30
MWSA1004S-101MT	100±20%	340	2.10	2.30	1.80	2.00



## SPECIFICATIONS

### MWSA1005S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA1005S-R22MT	0.22±20%	0.8	57.5	65.0	32.5	37.0
MWSA1005S-R68MT	0.68±20%	1.95	34.0	37.0	21.0	23.0
MWSA1005S-1R0MT	1.0±20%	3	28.0	30.0	20.3	23.0
MWSA1005S-1R5MT	1.5±20%	3.8	22.0	25.0	18.5	21.0
MWSA1005S-2R2MT	2.2±20%	6	16.8	19.0	13.2	15.0
MWSA1005S-3R3MT	3.3±20%	10	14.0	16.0	11.5	13.0
MWSA1005S-4R7MT	4.7±20%	14	13.2	15.0	9.70	11.0
MWSA1005S-5R6MT	5.6±20%	17	12.3	14.0	8.50	9.50
MWSA1005S-6R8MT	6.8±20%	18.5	12.3	14.0	8.00	9.00
MWSA1005S-100MT	10±20%	28	8.80	10.0	7.00	8.00
MWSA1005S-150MT	15±20%	42	6.50	7.50	5.70	6.50
MWSA1005S-220MT	22±20%	50	5.30	6.00	5.00	5.50
MWSA1005S-330MT	33±20%	86	4.60	5.20	4.20	4.80
MWSA1005S-470MT	47±20%	127	4.00	4.50	3.20	3.70
MWSA1005S-680MT	68±20%	185	2.80	3.20	2.40	2.70
MWSA1005S-820MT	82±20%	280	3.00	3.50	1.70	2.00
MWSA1005S-101MT	100±20%	290	2.50	2.80	1.80	2.10

### MWSA1204S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA1204S-R22MT	0.22±20%	0.9	40.0	50.0	38.0	42.0
MWSA1204S-R47MT	0.47±20%	2	38.4	48.0	29.0	33.0
MWSA1204S-R68MT	0.68±20%	3.5	37.6	47.0	24.0	28.0
MWSA1204S-R82MT	0.82±20%	4.5	32.0	40.0	24.0	28.0
MWSA1204S-1R0MT	1.0±20%	7.5	28.0	35.0	20.0	24.0
MWSA1204S-1R5MT	1.5±20%	9.5	24.4	30.5	17.0	20.0
MWSA1204S-2R2MT	2.2±20%	11.5	20.8	26.0	15.0	18.0
MWSA1204S-3R3MT	3.3±20%	13	16.8	21.0	13.0	15.0
MWSA1204S-4R7MT	4.7±20%	14.5	14.4	18.0	11.0	13.0
MWSA1204S-6R8MT	6.8±20%	20	11.2	14.0	8.00	9.00
MWSA1204S-100MT	10±20%	25	8.00	10.0	7.00	8.00
MWSA1204S-150MT	15±20%	39	6.00	7.50	5.80	6.50
MWSA1204S-220MT	22±20%	51	4.80	6.00	3.80	4.50

### MWSA1205S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA1205S-R22MT	0.22±20%	0.7	60.0	75.0	45.0	50.0
MWSA1205S-R36MT	0.36±20%	0.85	40.0	50.0	37.0	42.0
MWSA1205S-R50MT	0.50±20%	1.15	38.4	48.0	33.0	38.0
MWSA1205S-R68MT	0.68±20%	1.55	36.8	46.0	29.0	33.0

## SPECIFICATIONS

### MWSA1205S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA1205S-R82MT	0.82±20%	1.67	31.2	39.0	26.0	30.0
MWSA1205S-1R0MT	1.0±20%	2.2	28.0	35.0	22.0	26.0
MWSA1205S-1R5MT	1.5±20%	3.2	26.4	33.0	19.0	23.0
MWSA1205S-2R2MT	2.2±20%	5	19.2	24.0	13.0	15.0
MWSA1205S-3R3MT	3.3±20%	7	17.6	22.0	12.0	14.0
MWSA1205S-4R7MT	4.7±20%	9	16.0	20.0	11.0	13.0
MWSA1205S-6R8MT	6.8±20%	18	12.8	16.0	10.0	12.0
MWSA1205S-100MT	10±20%	22	9.60	12.0	8.00	9.00
MWSA1205S-150MT	15±20%	30	8.00	10.0	7.00	8.00
MWSA1205S-220MT	22±20%	58	5.20	6.50	3.80	4.50
MWSA1205S-330MT	33±20%	84	4.80	6.00	2.80	3.50
MWSA1205S-470MT	47±20%	130	4.00	5.00	2.60	3.00

### MWSA1206S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA1206S-1R5MT	1.5±20%	2.9	27.0	30.0	23.0	27.0
MWSA1206S-2R2MT	2.2±20%	4.2	24.0	28.0	18.0	22.0
MWSA1206S-3R3MT	3.3±20%	6.8	21.0	25.0	14.0	17.0
MWSA1206S-4R7MT	4.7±20%	9	19.2	24.0	12.0	15.0
MWSA1206S-5R6MT	5.6±20%	11	18.0	22.5	11.0	13.0
MWSA1206S-6R8MT	6.8±20%	13.5	15.2	19.0	10.0	12.0
MWSA1206S-8R2MT	8.2±20%	16	10.8	13.5	9.00	11.0
MWSA1206S-100MT	10±20%	20.7	11.1	12.5	8.50	10.0
MWSA1206S-120MT	12±20%	23	8.00	10.0	7.80	9.00
MWSA1206S-150MT	15±20%	29	7.20	9.00	7.50	8.50
MWSA1206S-180MT	18±20%	35	6.40	8.00	6.50	7.50
MWSA1206S-220MT	22±20%	39.5	6.00	7.50	6.00	7.00
MWSA1206S-270MT	27±20%	56	5.20	6.50	5.00	6.00
MWSA1206S-330MT	33±20%	75	4.80	6.00	4.80	5.50
MWSA1206S-470MT	47±20%	90	4.40	5.50	4.20	5.00
MWSA1206S-680MT	68±20%	140	3.60	4.50	3.20	4.00
MWSA1206S-101MT	100±20%	200	2.80	3.50	2.50	3.00
MWSA1206S-121MT	120±20%	235	2.56	3.20	1.70	2.00
MWSA1206S-151MT	150±20%	350	2.16	2.70	1.20	1.50

### MWSA1265S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA1265S-4R7MT	4.7±20%	8.5	-	24.0	-	16.0
MWSA1265S-5R6MT	5.6±20%	10.5	-	22.5	-	14.0
MWSA1265S-6R8MT	6.8±20%	12	-	19.0	-	13.0
MWSA1265S-8R2MT	8.2±20%	14	-	16.0	-	12.0

## SPECIFICATIONS

### MWSA1265S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA1265S-100MT	10±20%	16.5	-	15.0	-	11.0
MWSA1265S-150MT	15±20%	26	-	11.0	-	9.50
MWSA1265S-220MT	22±20%	36	-	9.00	-	8.00
MWSA1265S-330MT	33±20%	65	-	8.00	-	6.50
MWSA1265S-470MT	47±20%	70	-	6.80	-	5.50
MWSA1265S-470MTB01	47±20%	67	-	7.60	-	8.00
MWSA1265S-680MT	68±20%	120	-	5.20	-	4.80
MWSA1265S-820MT	82±20%	135	-	4.50	-	4.00
MWSA1265S-101MT	100±20%	170	-	4.00	-	3.50

### MWSA1707S Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA1707S-2R2MT	2.2±20%	2.5	-	34.0	-	29.0
MWSA1707S-3R3MT	3.3±20%	3.95	-	30.0	-	24.0
MWSA1707S-4R7MT	4.7±20%	4.75	-	24.0	-	21.0
MWSA1707S-6R8MT	6.8±20%	7.5	-	22.0	-	17.0
MWSA1707S-8R2MT	8.2±20%	8.7	-	20.0	-	13.0
MWSA1707S-100MT	10±20%	9.9	-	19.0	-	12.0
MWSA1707S-150MT	15±20%	17	-	14.5	-	11.0
MWSA1707S-220MT	22±20%	23	-	11.5	-	8.50
MWSA1707S-330MT	33±20%	37	-	10.0	-	8.00
MWSA1707S-470MT	47±20%	47	-	7.50	-	6.00
MWSA1707S-680MT	68±20%	85	-	6.50	-	5.20
MWSA1707S-101MT	100±20%	130	-	5.00	-	3.70

### MWSA2213 Series

Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MWSA2213S-2R2MT	2.2±20%	1.25	43.0	48.0	52.0	58.0
MWSA2213S-3R3MT	3.3±20%	1.75	37	41	47	49
MWSA2213S-4R7MT	4.7±20%	2.2	34.0	38.0	44.0	47.0
MWSA2213S-100MT	10±20%	4.15	20.0	28.0	30.0	33.0
MWSA2213S-150MT	15±20%	6.12	18.0	23.0	23.0	26.0
MWSA2213S-680MT	68±20%	29.5	9.00	12.0	12.0	14.0

※1: All test data is referenced to 20°C ambient;

※2: Rated current: Isat or Irms, whichever is smaller;

※3: Isat(Typ): DC current at which the inductance drops approximate 30% from its value without current;

※4: Isat(Max): DC current at which the inductance drops approximate 20% from its value without current;

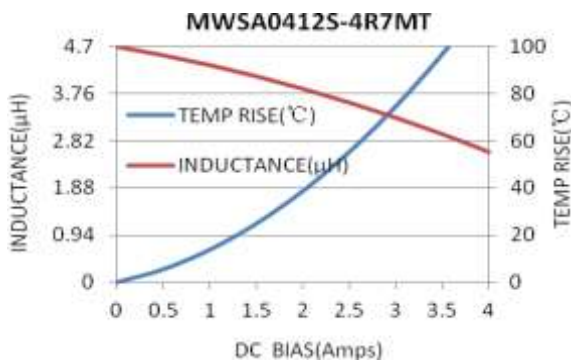
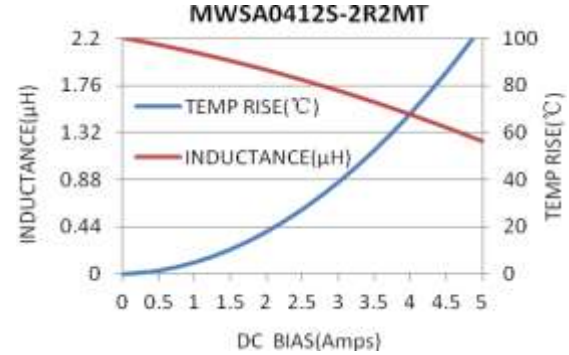
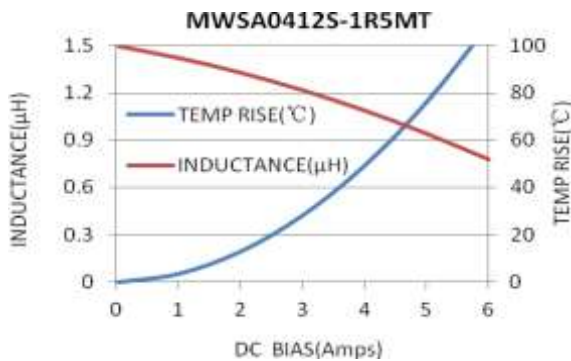
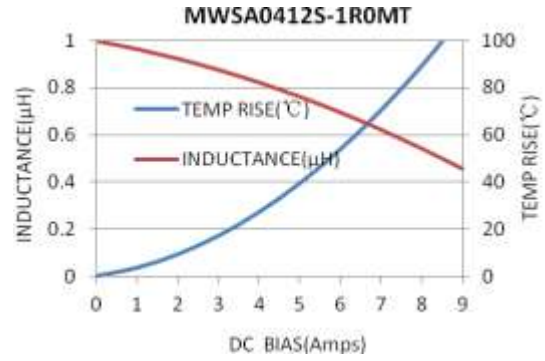
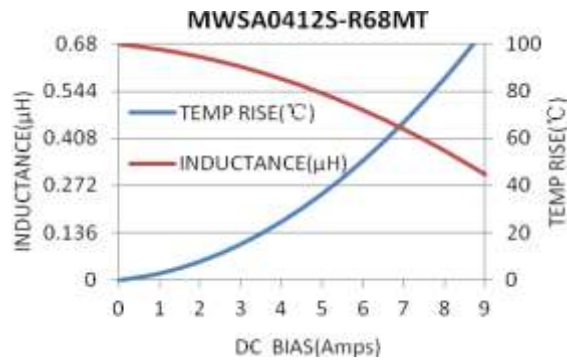
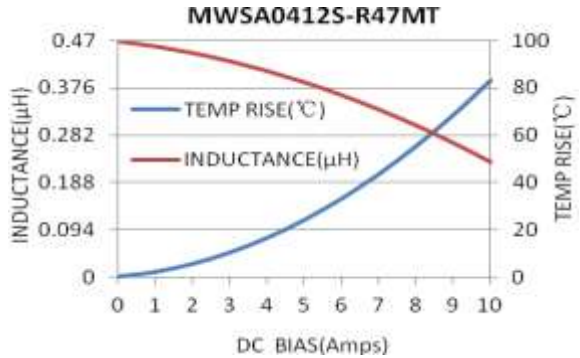
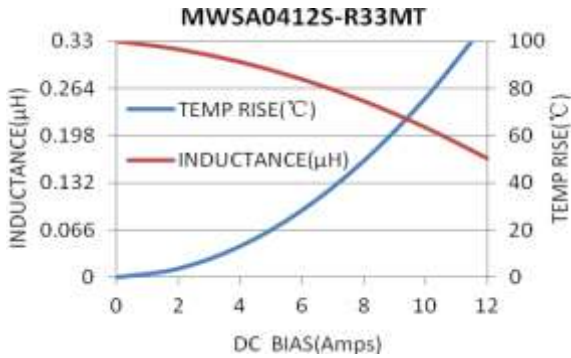
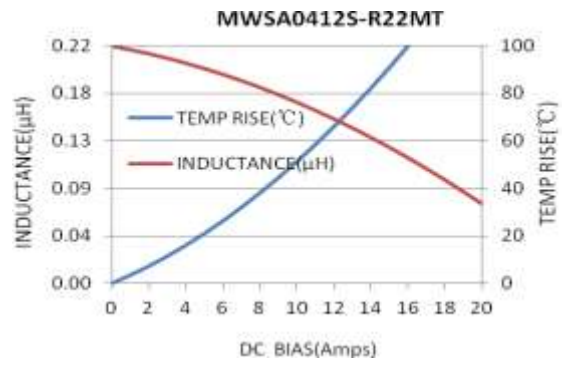
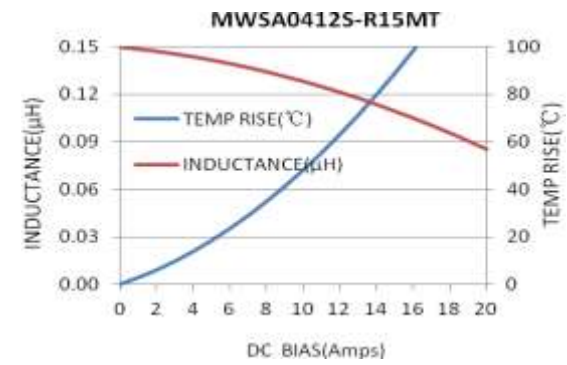
※5: Irms(Typ): DC current that causes the temperature rise ( $\Delta T = 40^\circ\text{C}$ ) from 20°C ambient.

※6: Irms(Max): DC current that causes the temperature rise ( $\Delta T = 20^\circ\text{C}$ ) from 20°C ambient.

※7: Absolute maximum voltage 30VDC

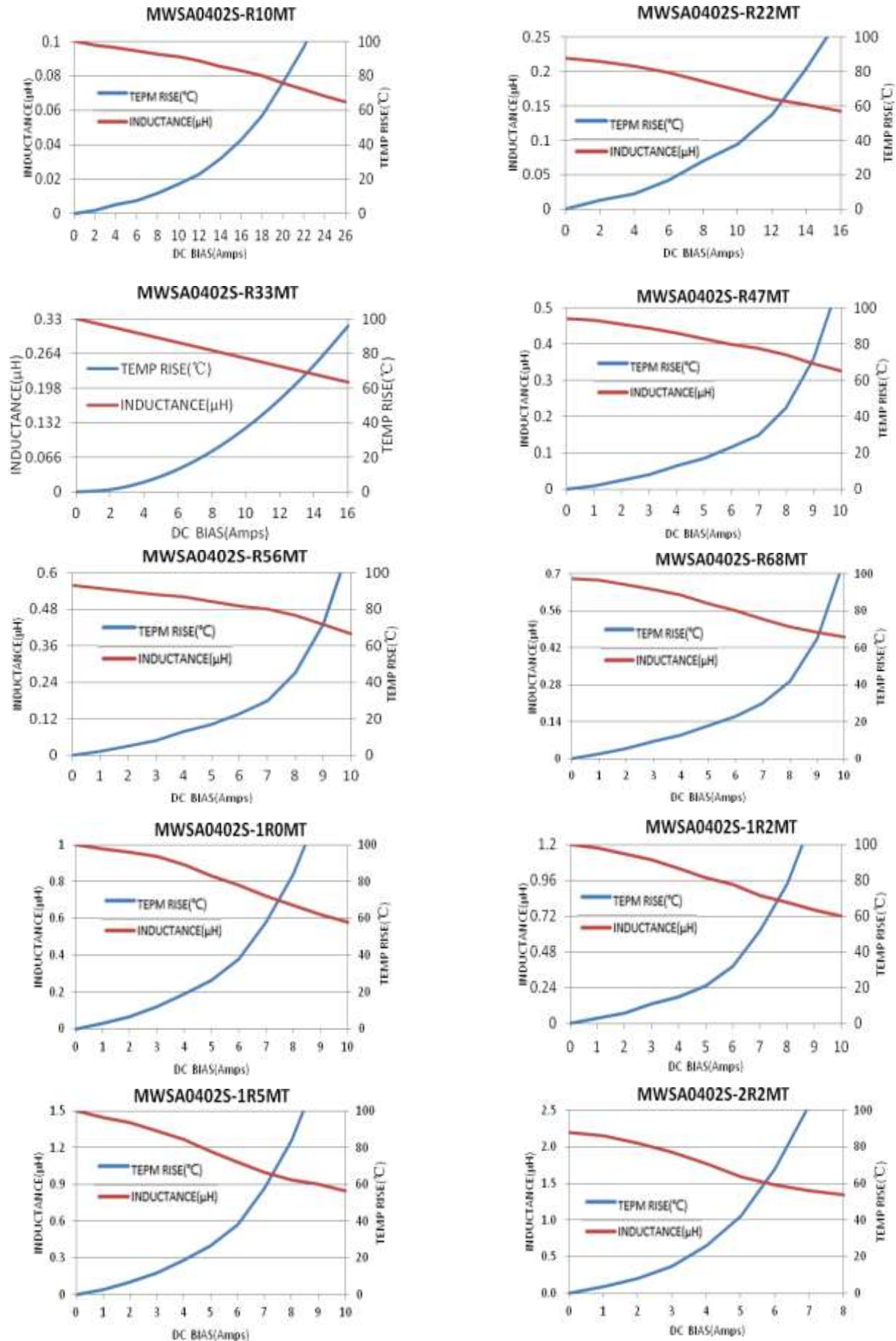
# TYPICAL ELECTRICAL CHARACTERISTICS

## MWSA0412S Series



# TYPICAL ELECTRICAL CHARACTERISTICS

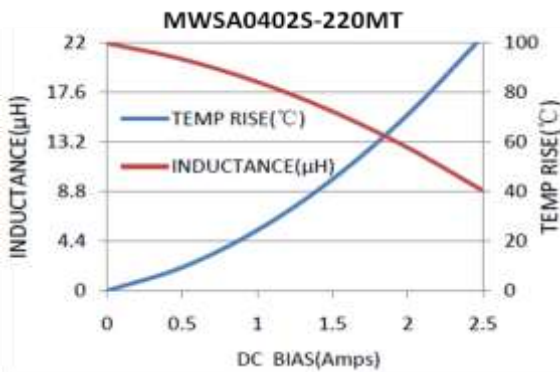
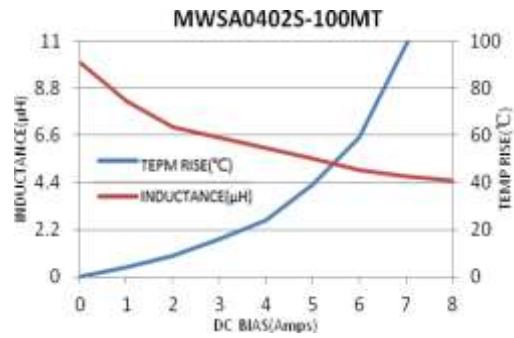
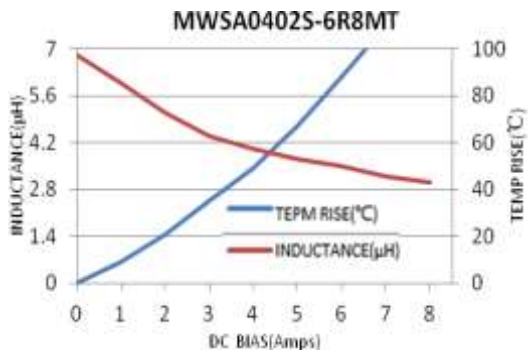
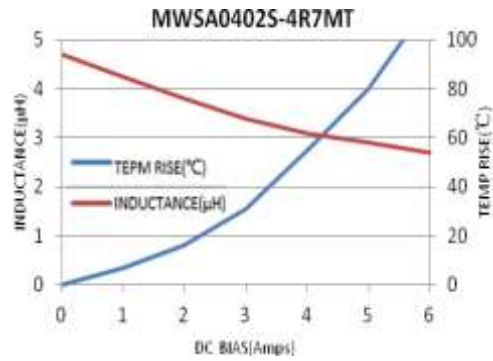
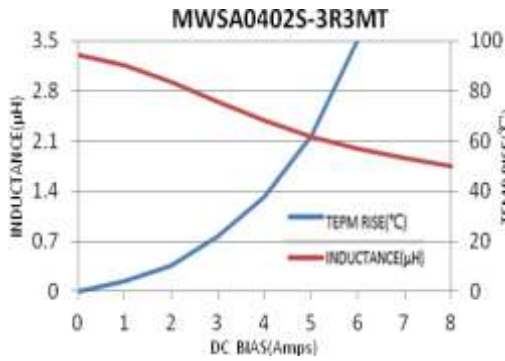
MWSA0402S Series





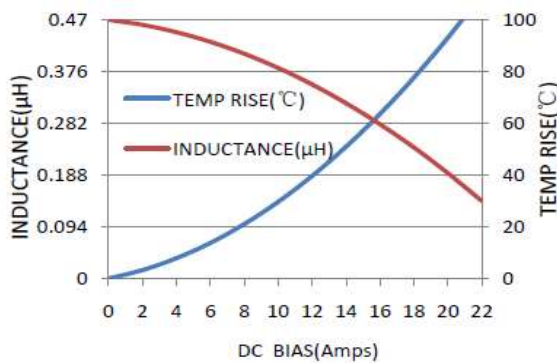
# TYPICAL ELECTRICAL CHARACTERISTICS

## MWSA0402S Series

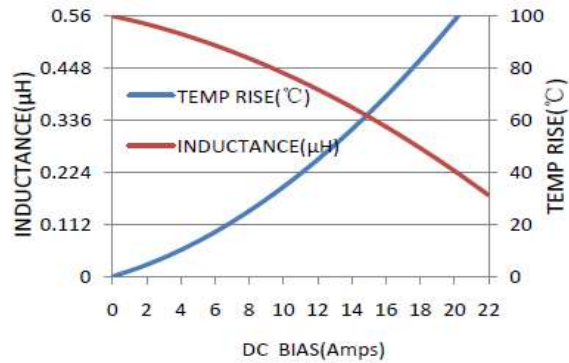


## MWSA0518S Series

### MWSA0518S-R47MT



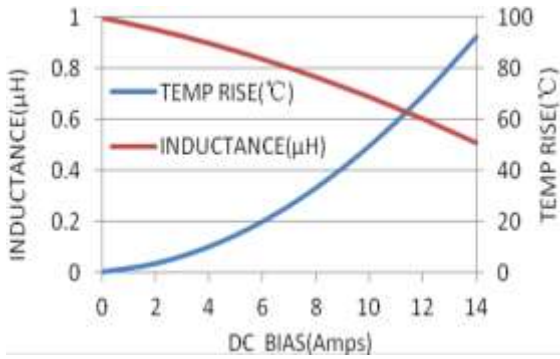
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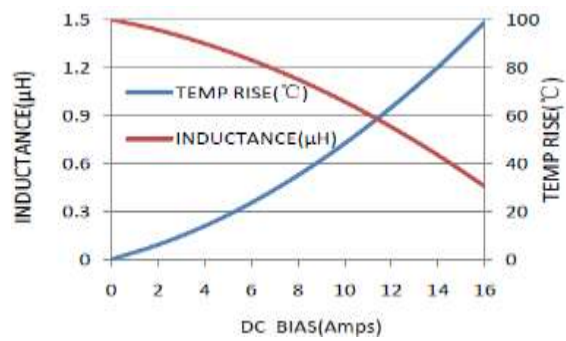
# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA0518S Series

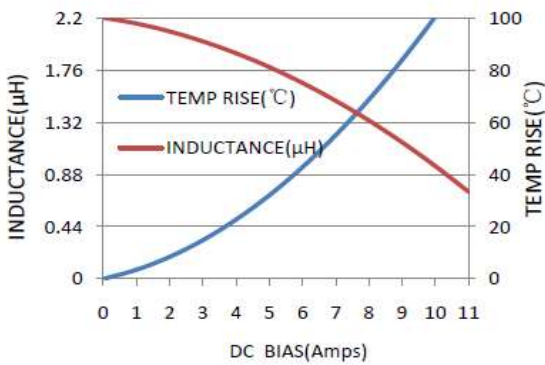
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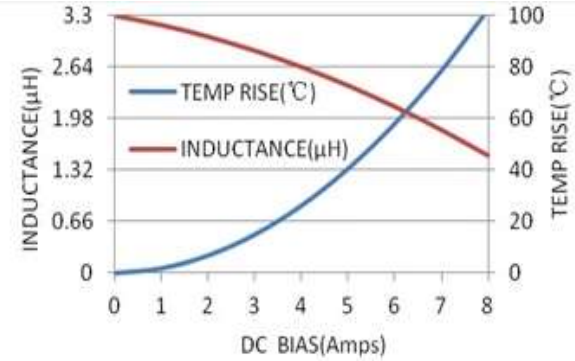
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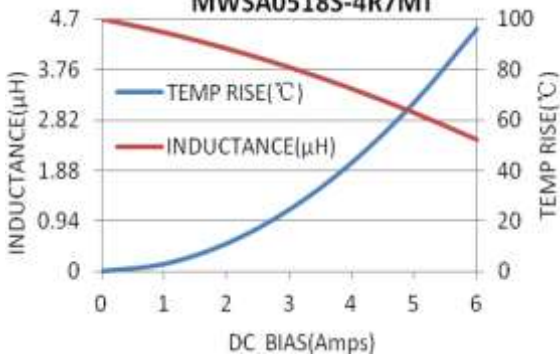
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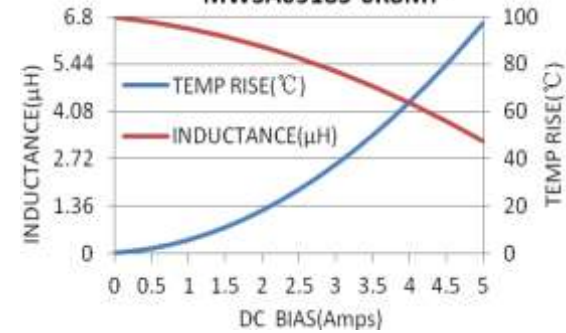
**MWSA0518S-3R3MT**



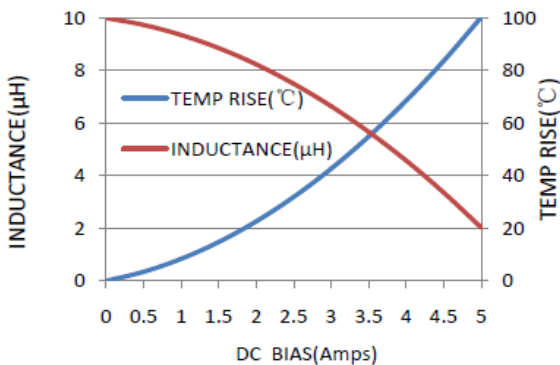
**MWSA0518S-4R7MT**



**MWSA0518S-6R8MT**



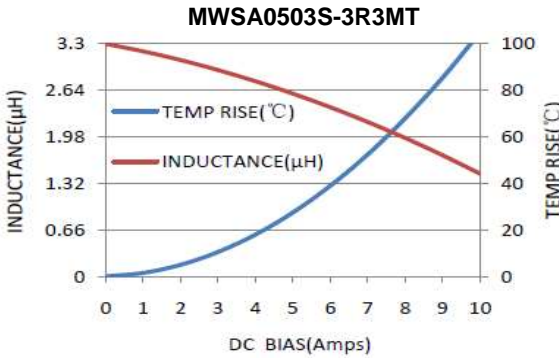
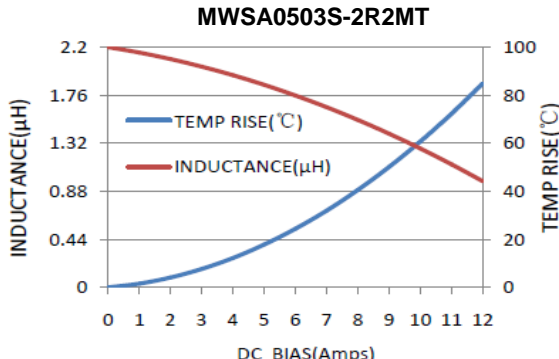
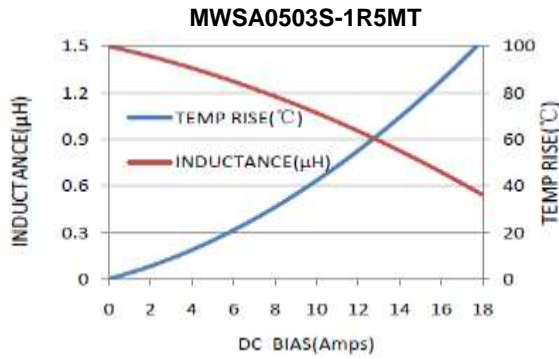
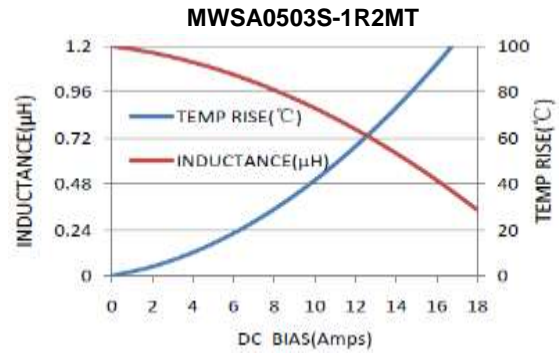
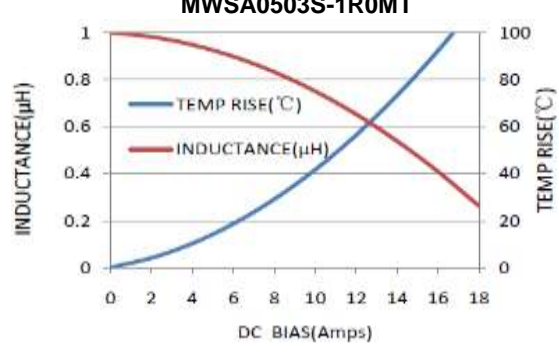
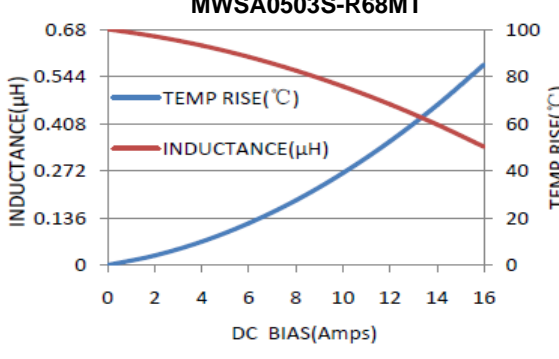
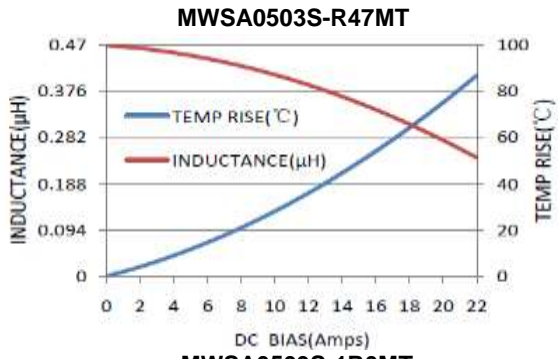
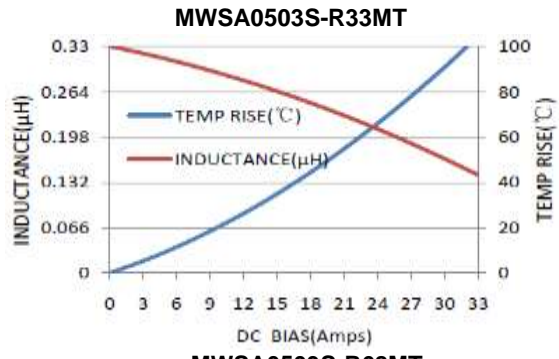
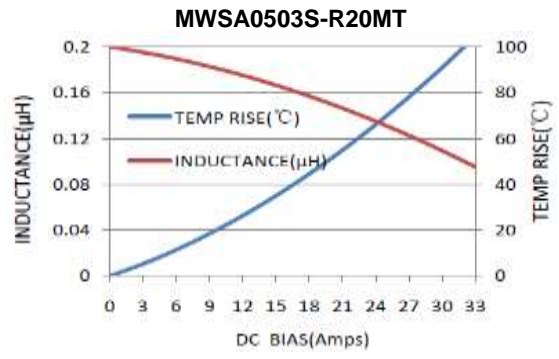
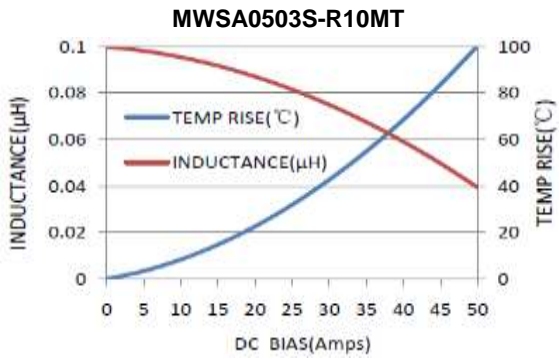
**MWSA0518S-100MT**





# TYPICAL ELECTRICAL CHARACTERISTICS

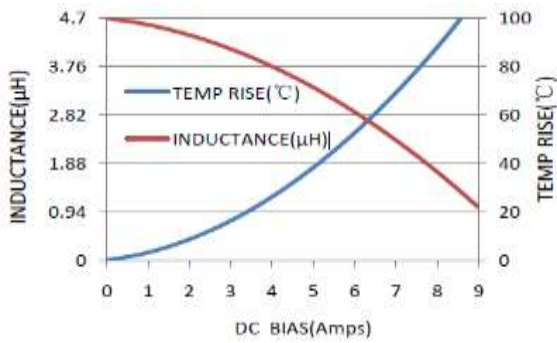
MWSA0503S Series



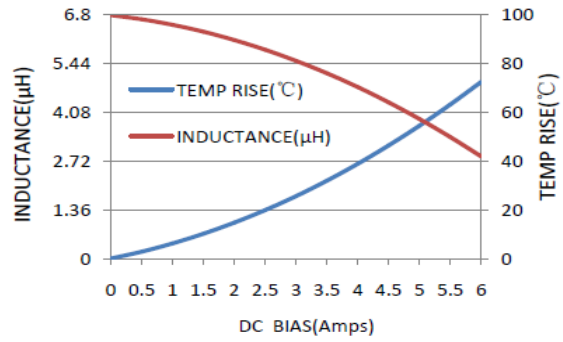
# TYPICAL ELECTRICAL CHARACTERISTICS

## MWSA0503S Series

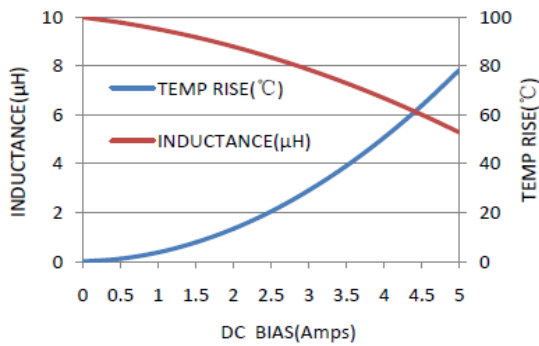
**MWSA0503S-4R7MT**



**MWSA0503S-6R8MT**

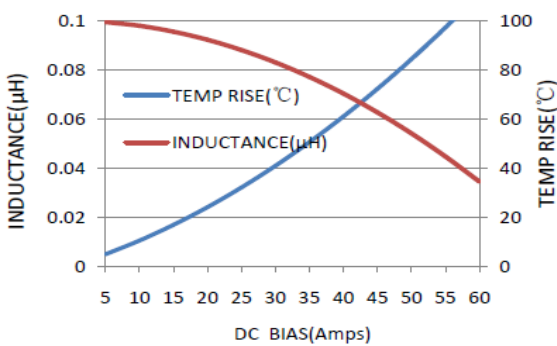


**MWSA0503S-100MT**

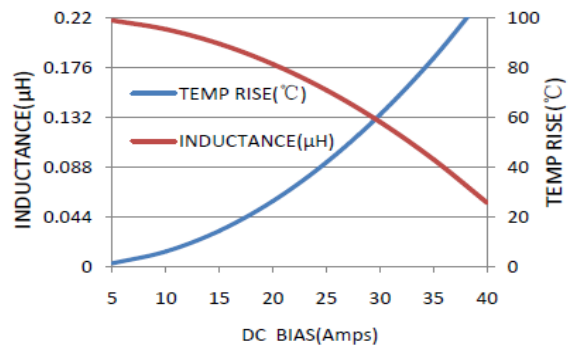


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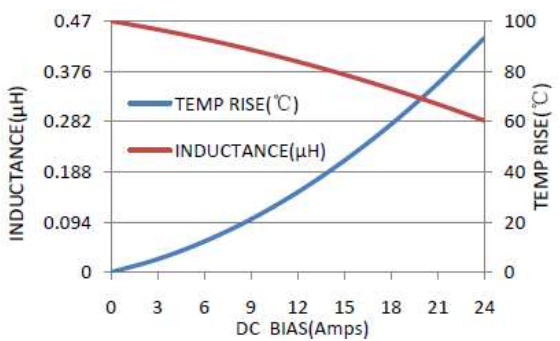
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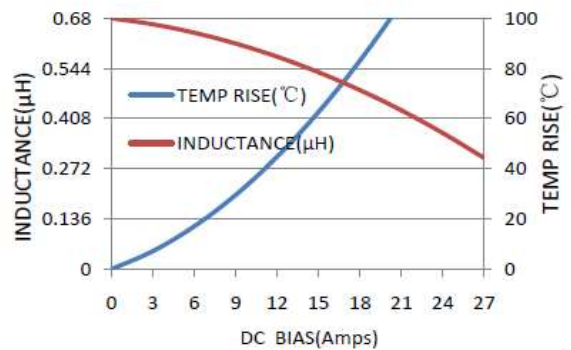
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**MWSA0618S-R47MT**

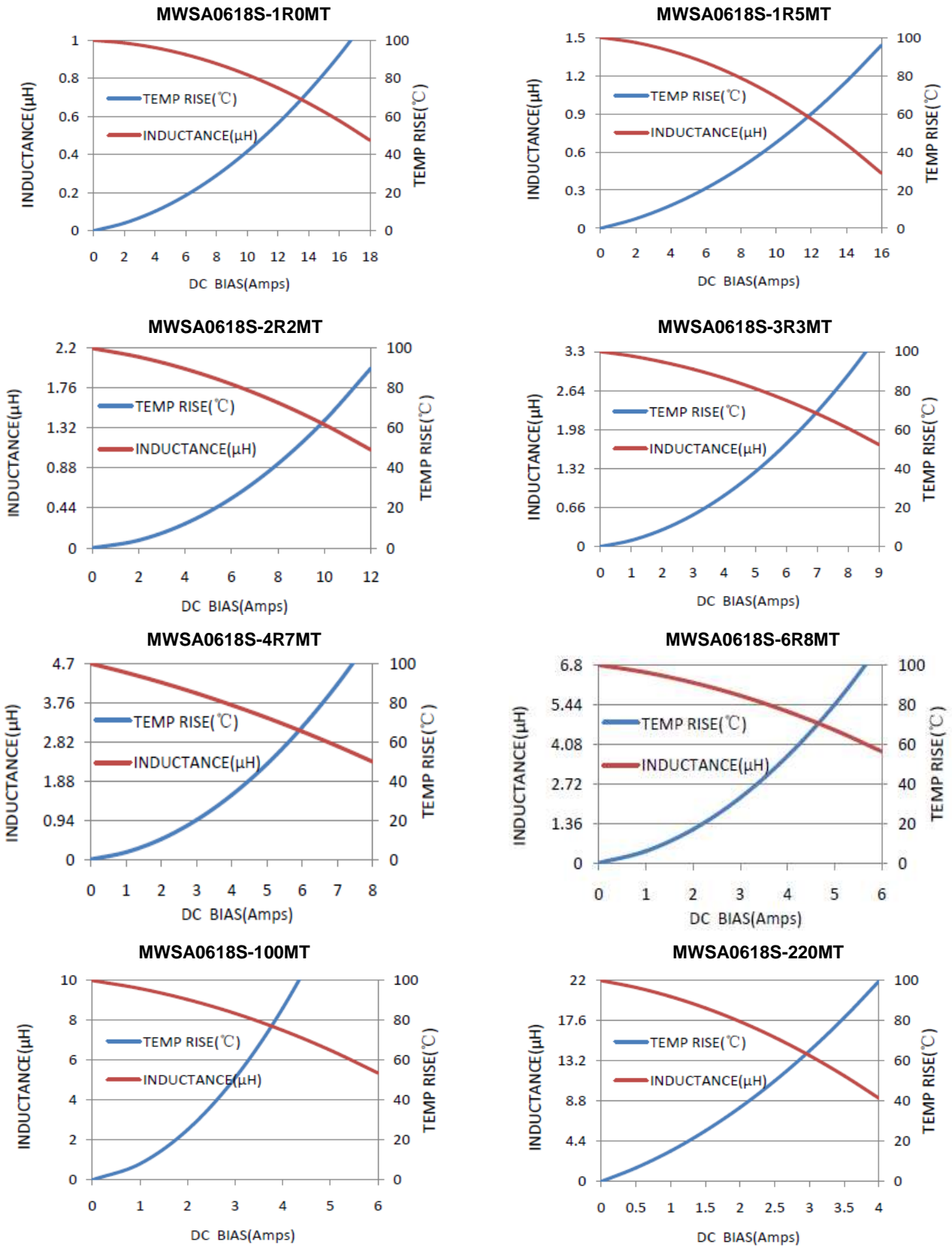


**MWSA0618S-R68MT**



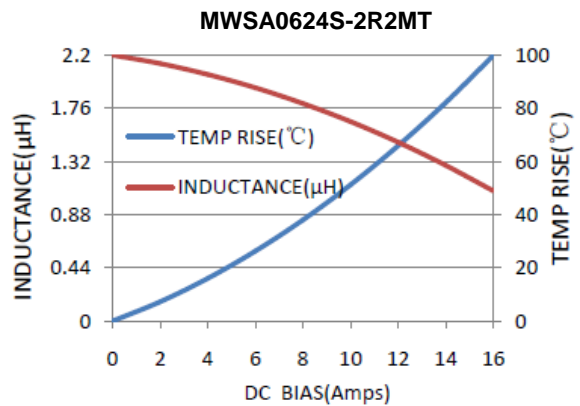
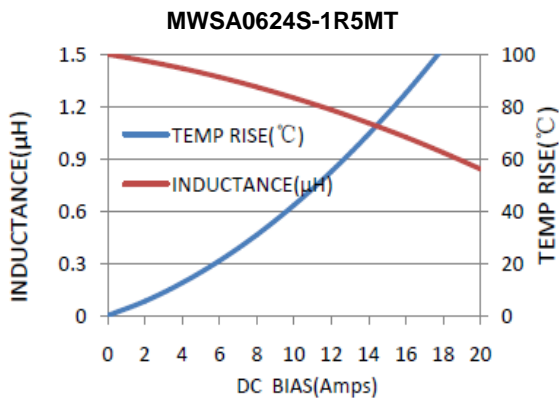
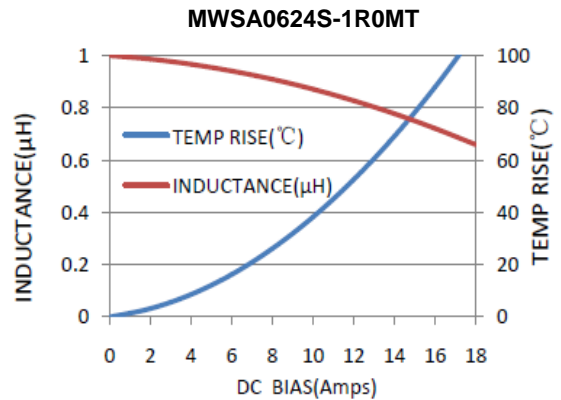
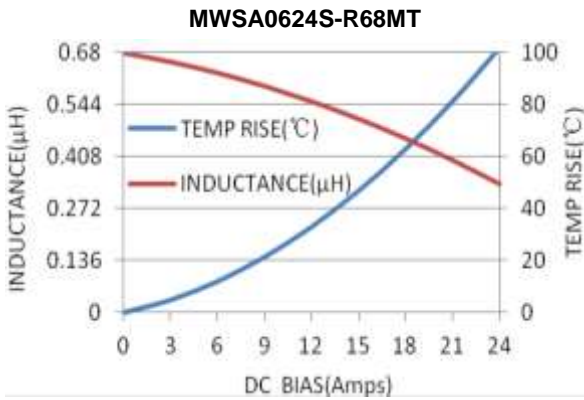
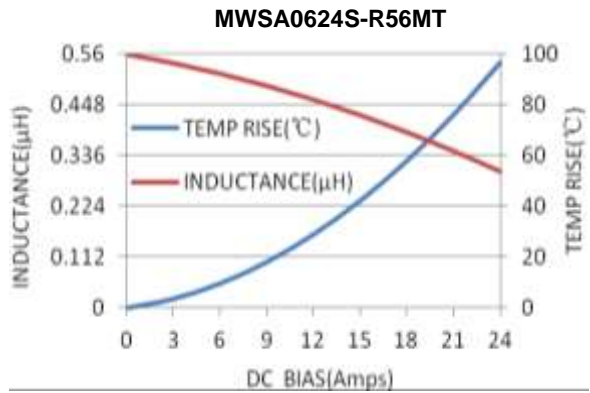
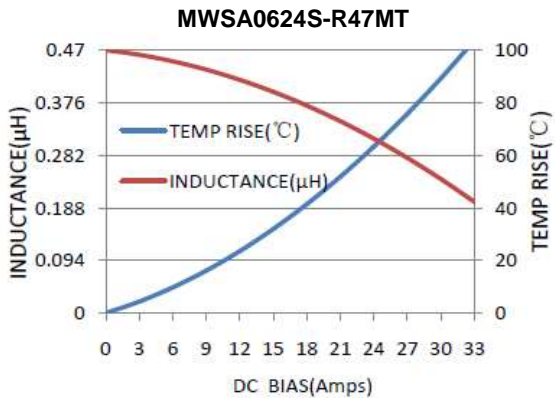
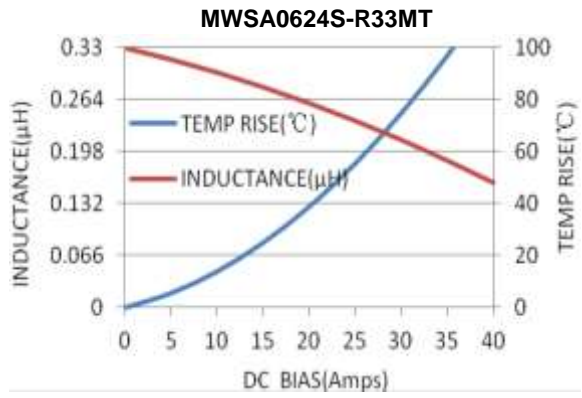
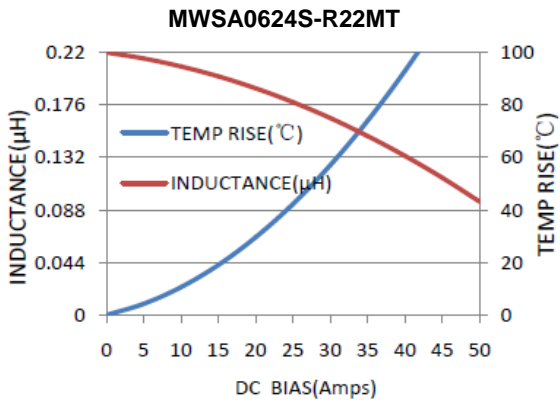
# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA0618S Series



# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA0624S Series

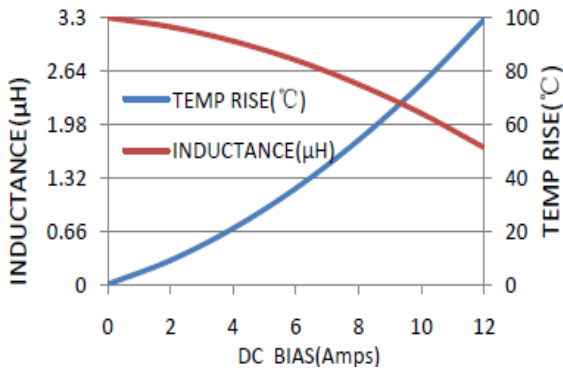




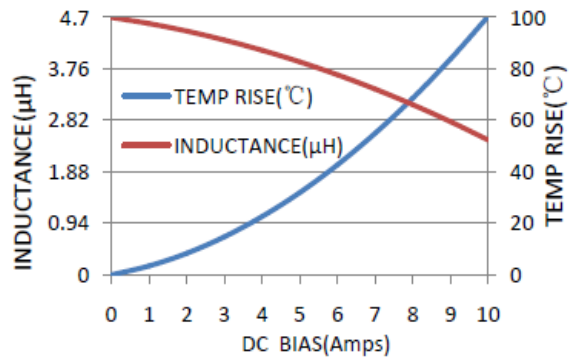
# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA0624S Series

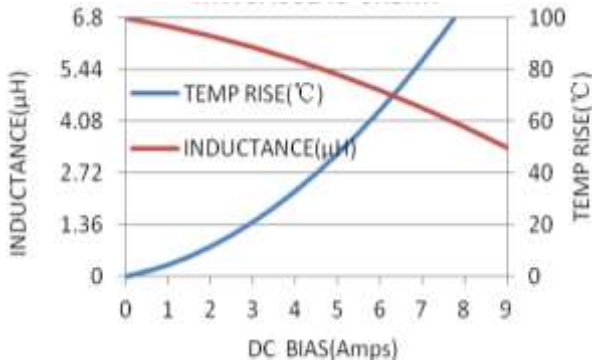
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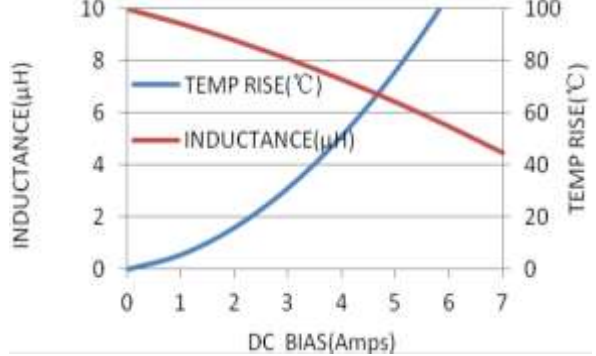
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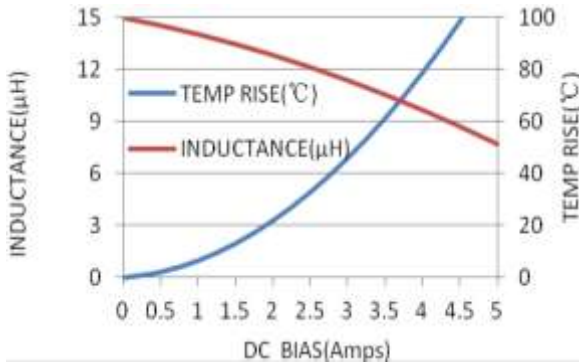
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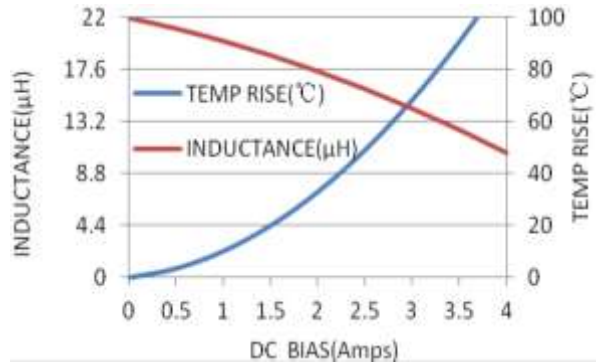
**MWSA0624S-100MT**



**MWSA0624S-150MT**

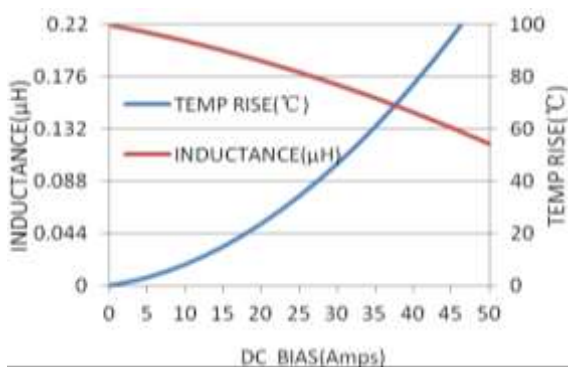


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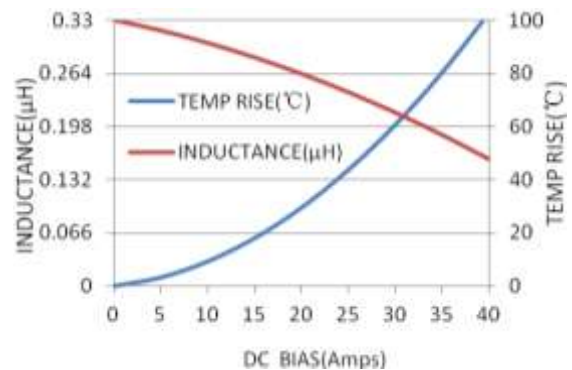


MWSA0603S Series

**MWSA0603S-R22MT**



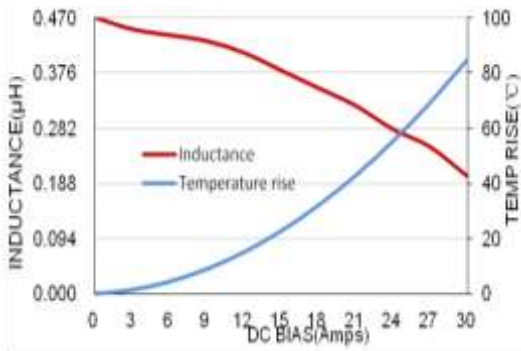
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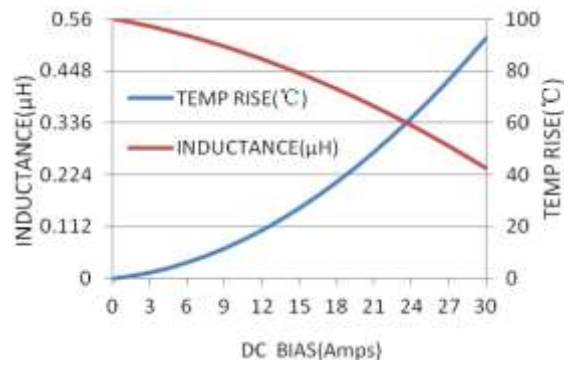
# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA0603S Series

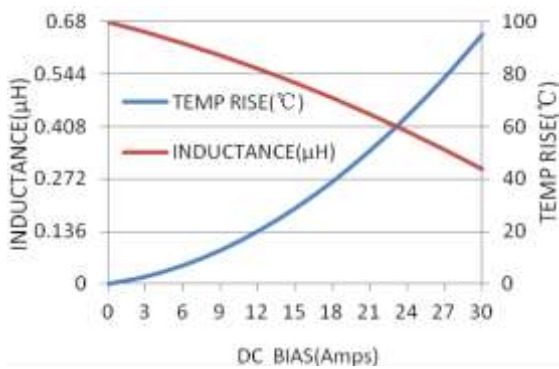
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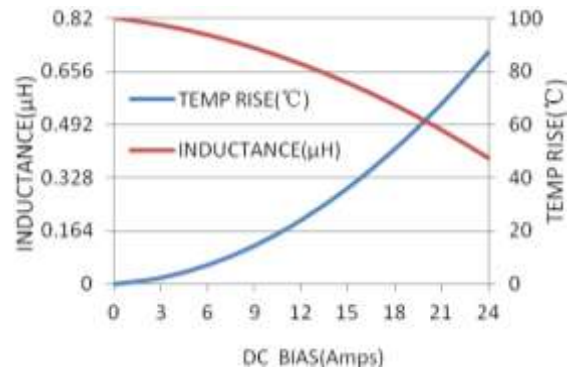
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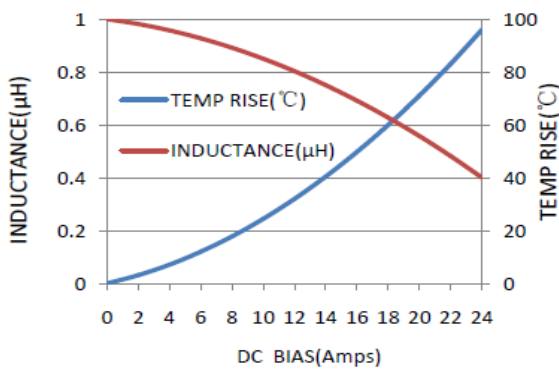
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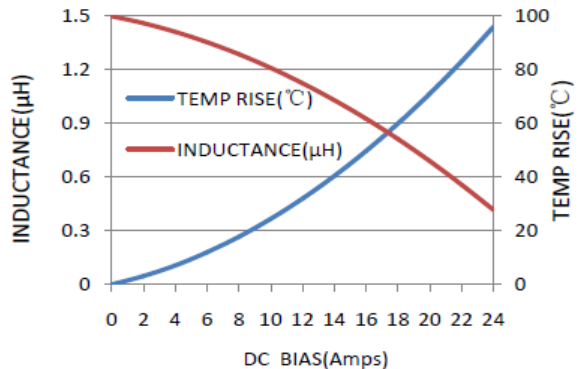
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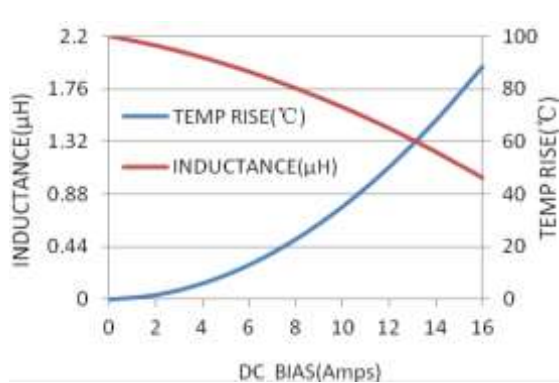
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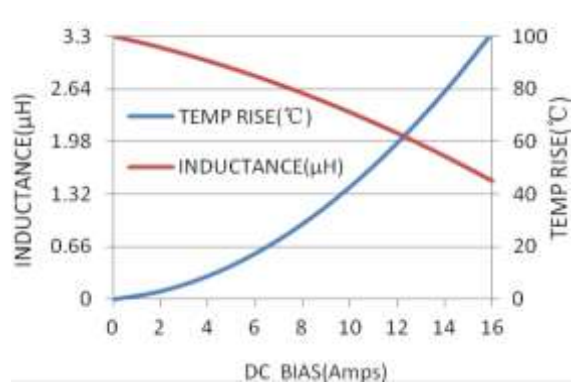
**MWSA0603S-1R5MT**



**MWSA0603S-2R2MT**



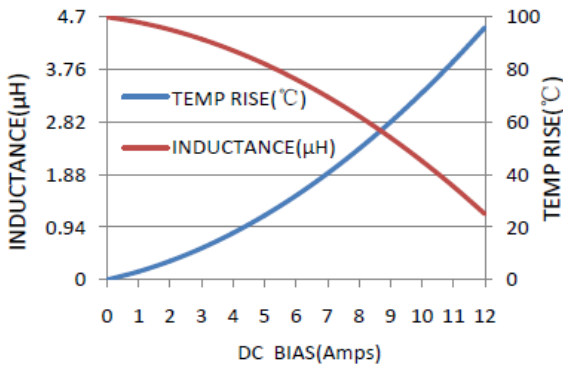
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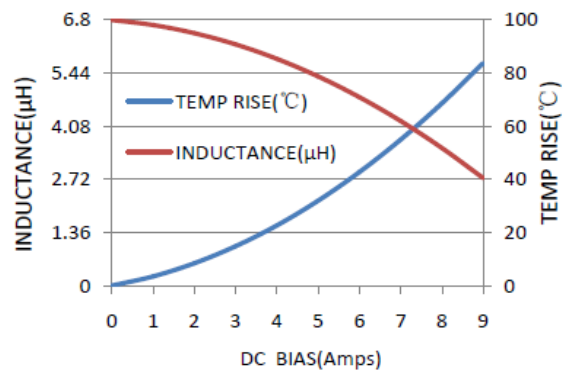
# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA0603S Series

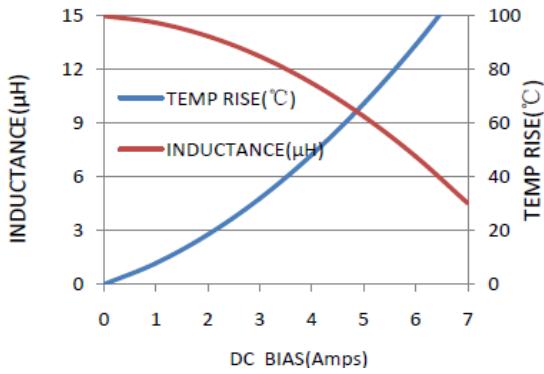
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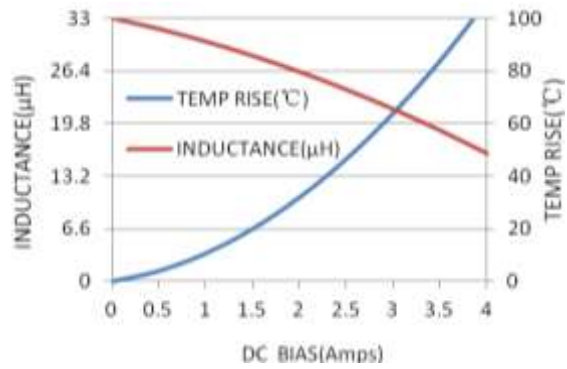
**MWSA0603S-6R8MT**



**MWSA0603S-150MT**

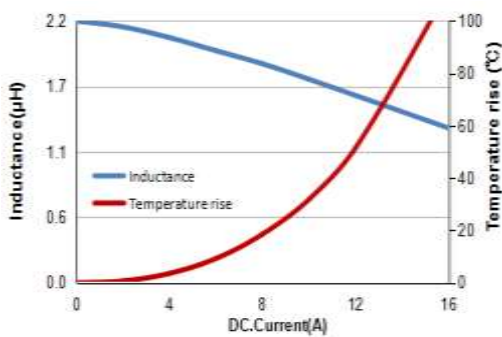


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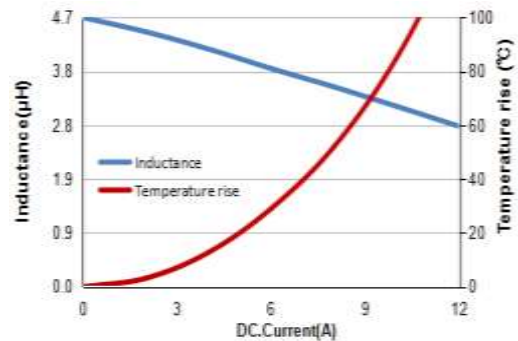


MWSA0604S Series

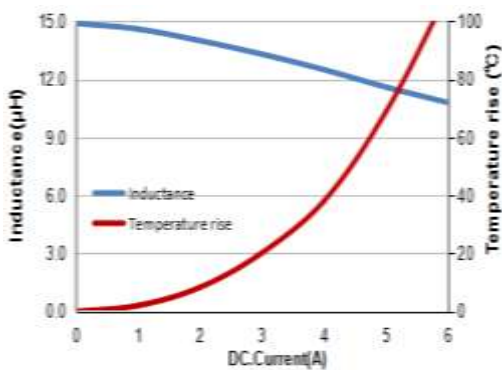
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**MWSA0604S-4R7MT**



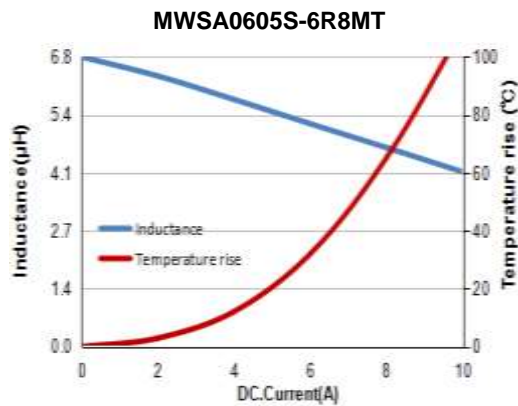
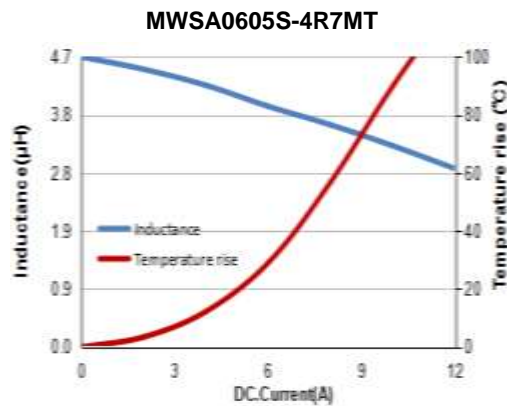
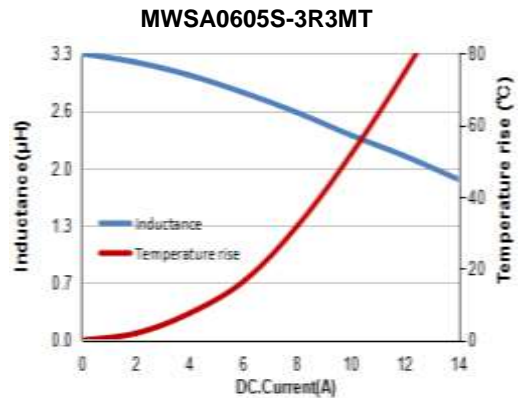
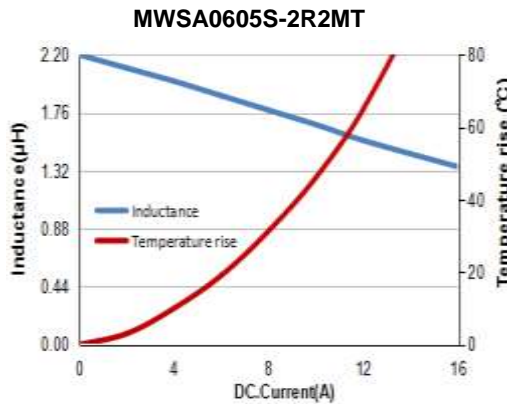
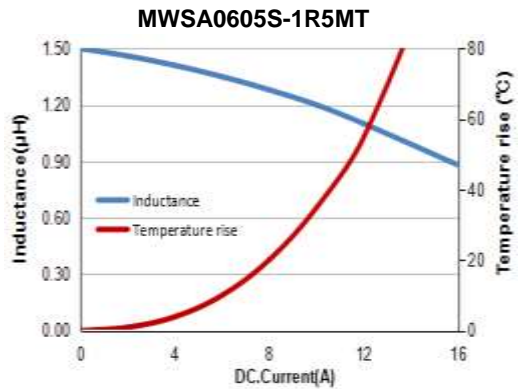
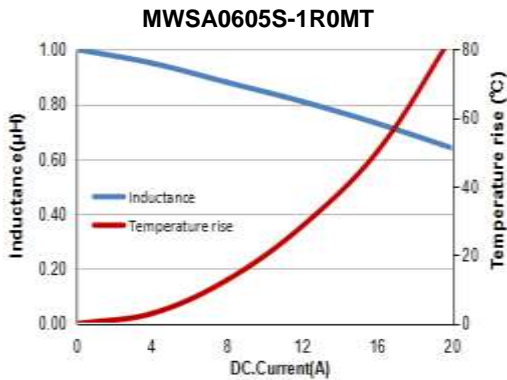
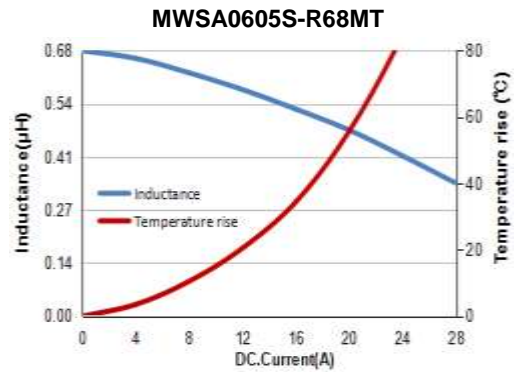
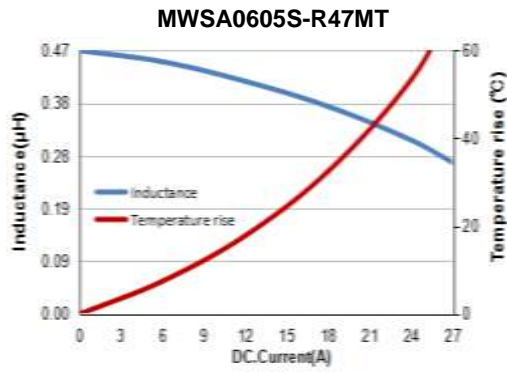
**MWSA0604S-150MT**





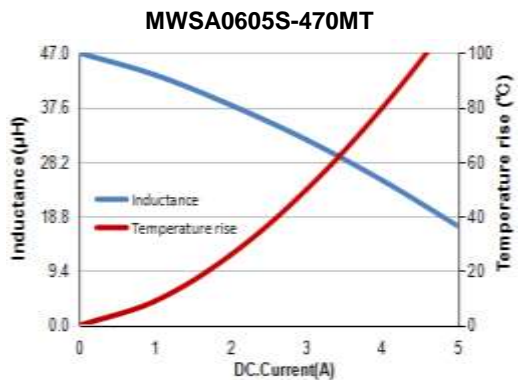
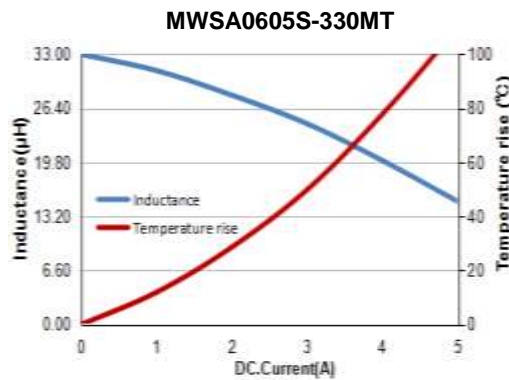
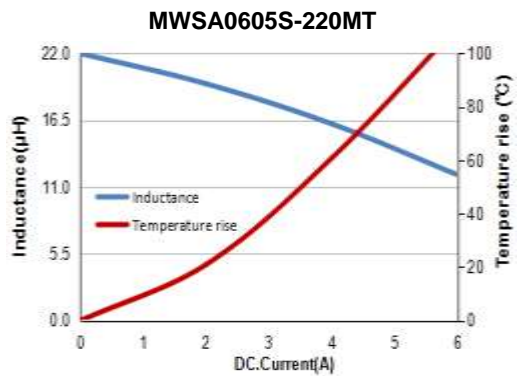
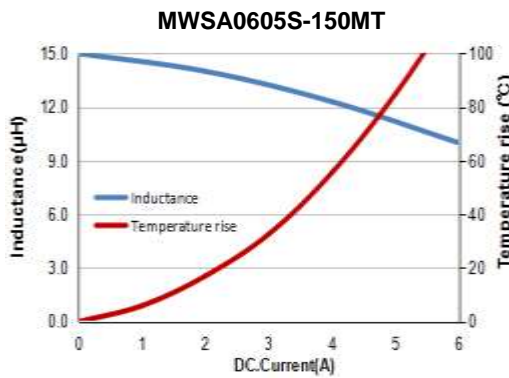
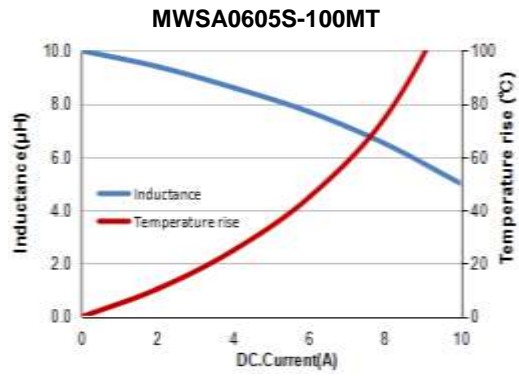
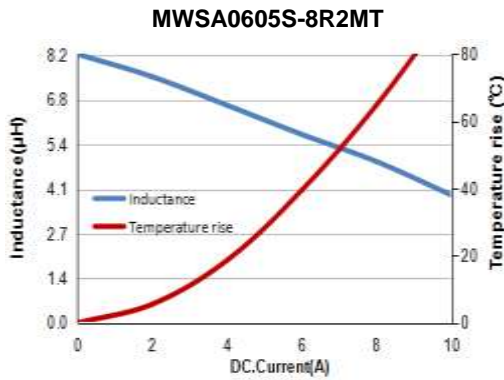
# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA0605S Series

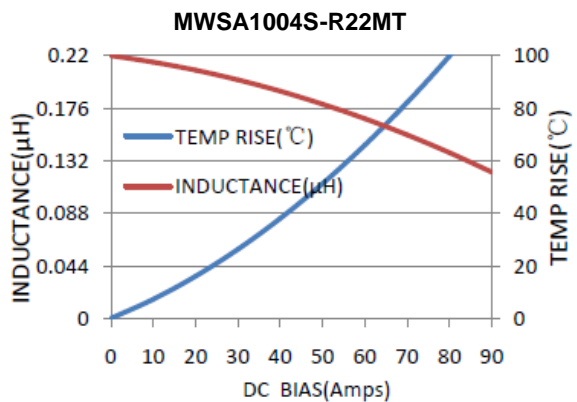
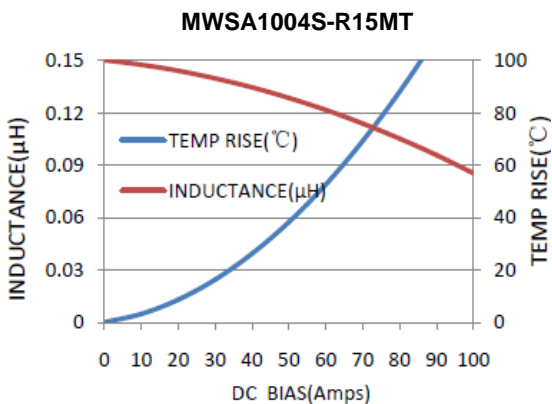


# TYPICAL ELECTRICAL CHARACTERISTICS

## MWSA0605S Series

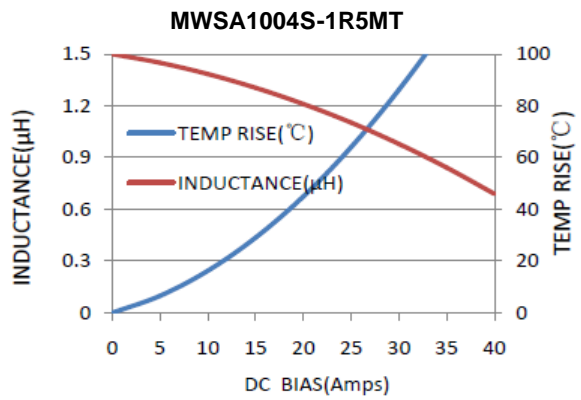
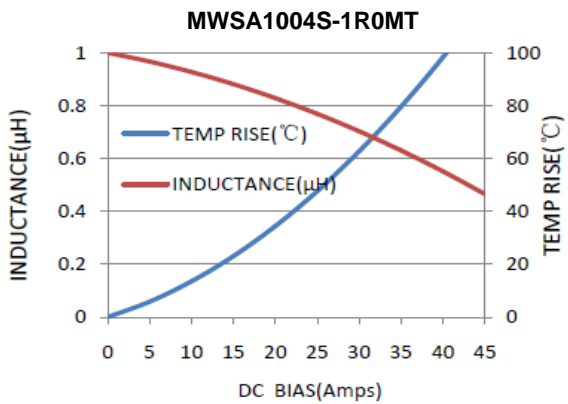
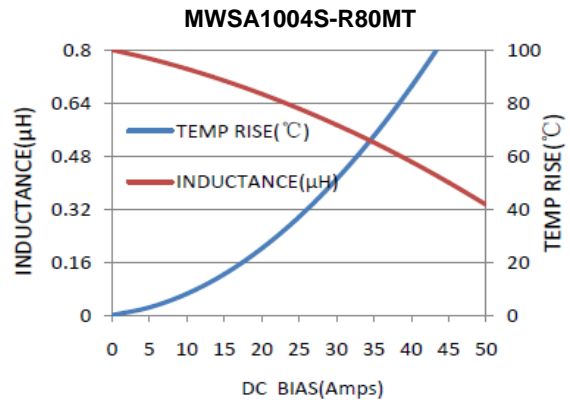
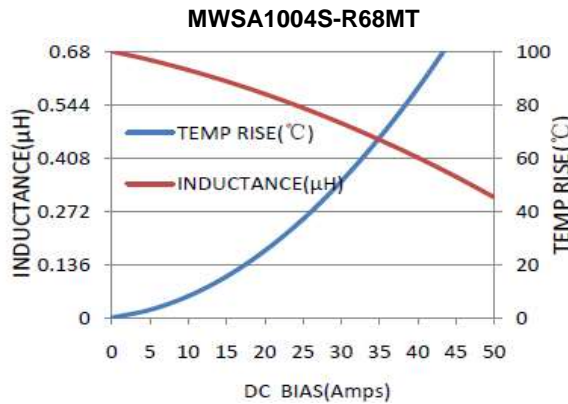
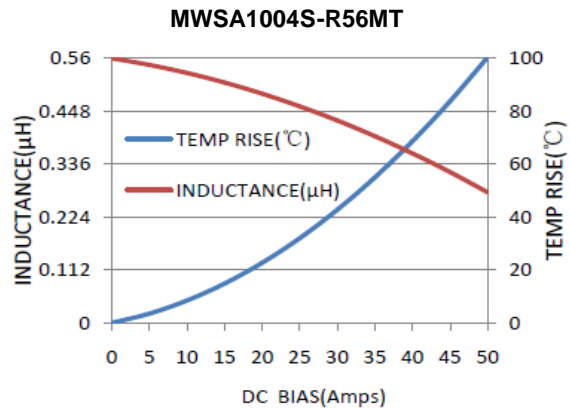
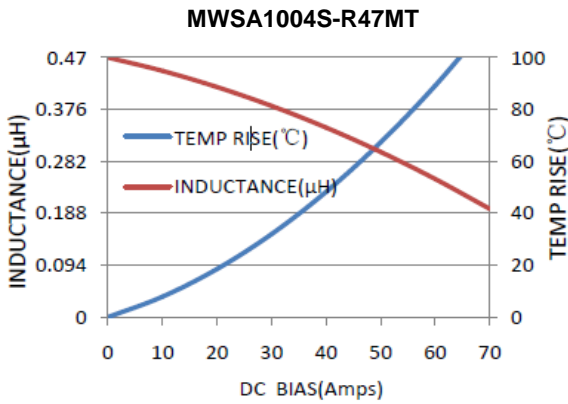
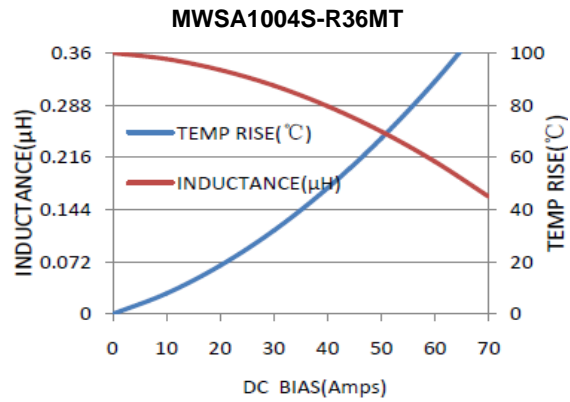
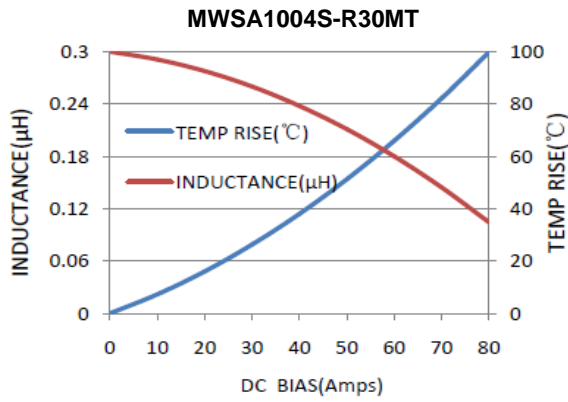


## MWSA1004S Series



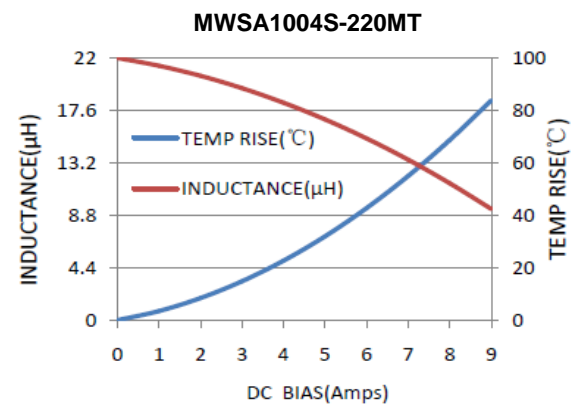
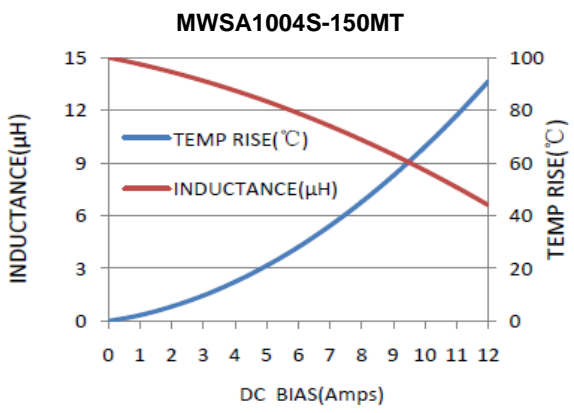
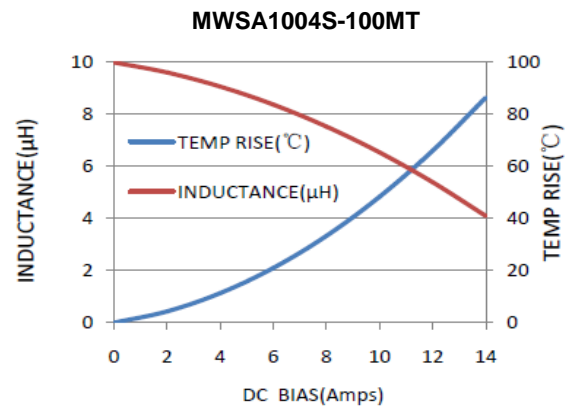
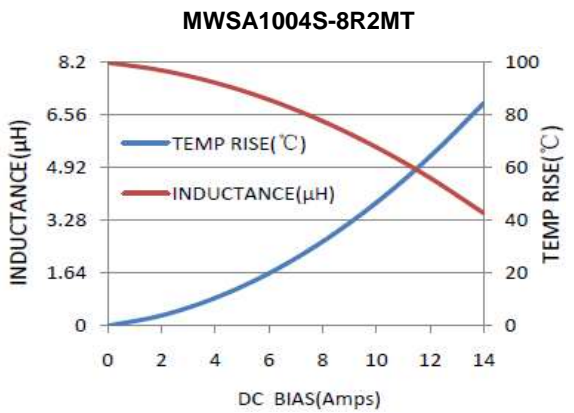
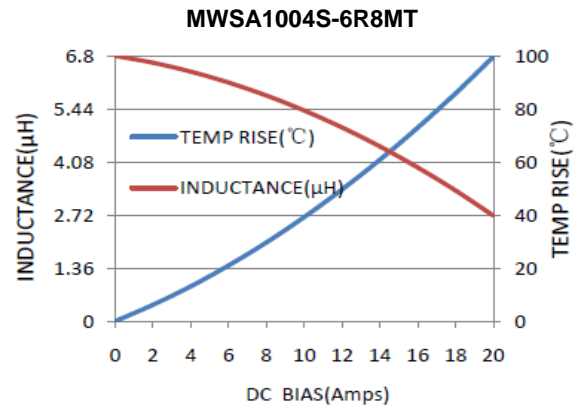
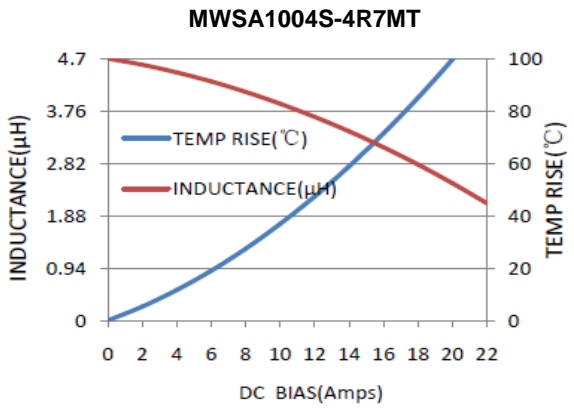
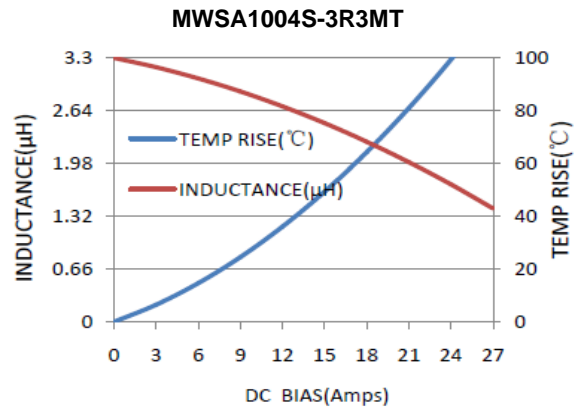
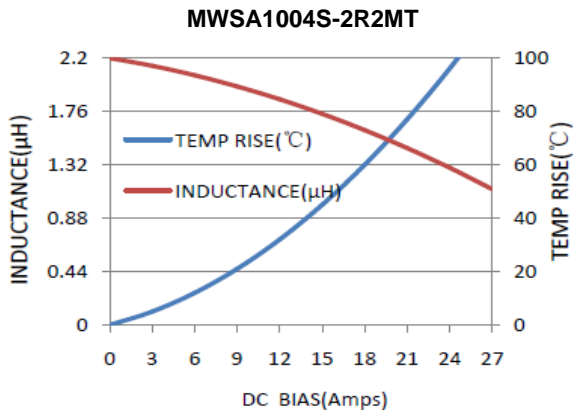
# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA1004S Series



# TYPICAL ELECTRICAL CHARACTERISTICS

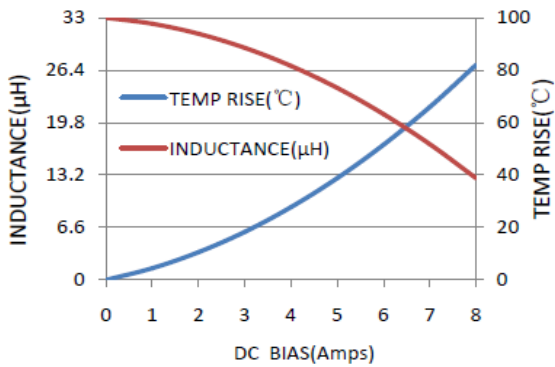
MWSA1004S Series



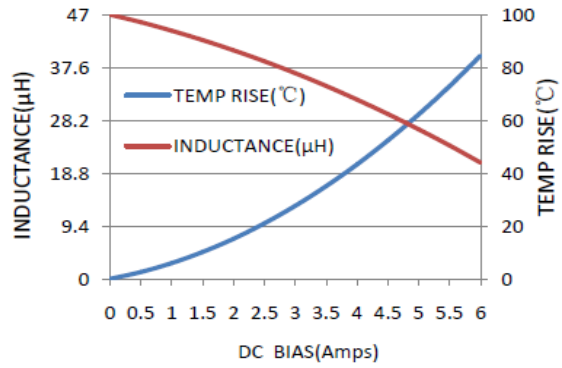
# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA1004S Series

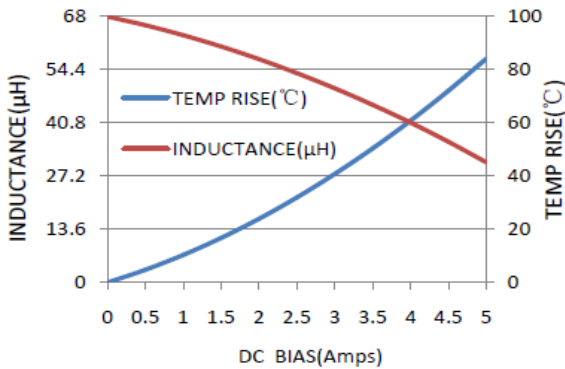
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**MWSA1004S-470MT**

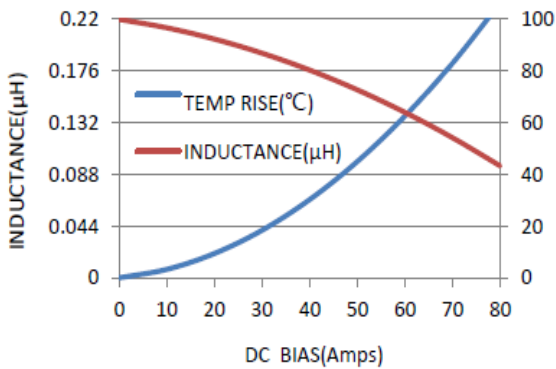


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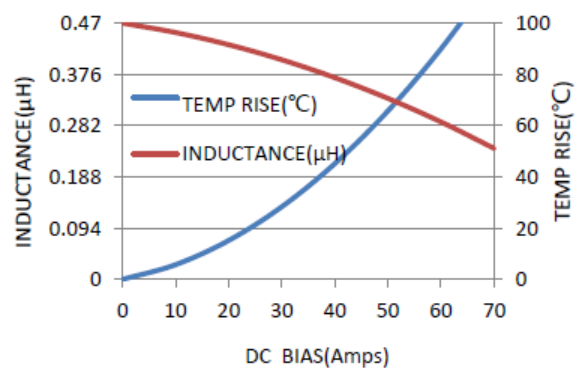


MWSA1204S Series

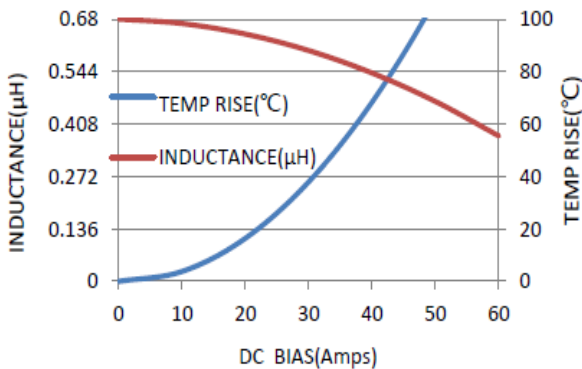
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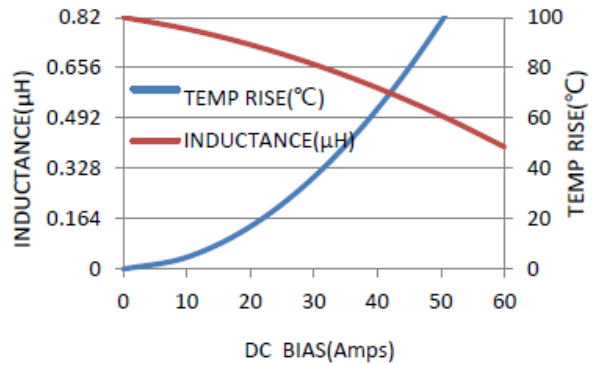
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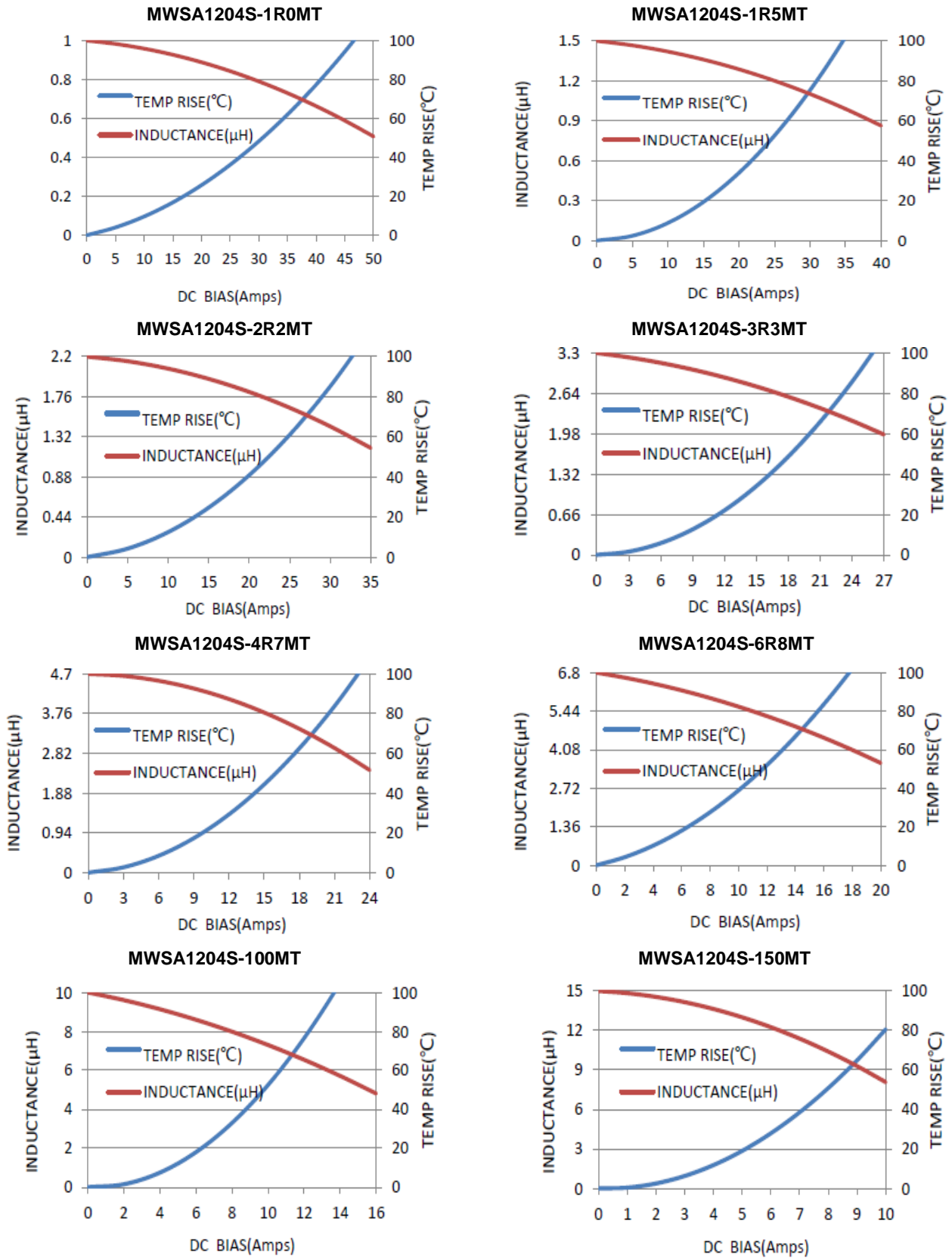
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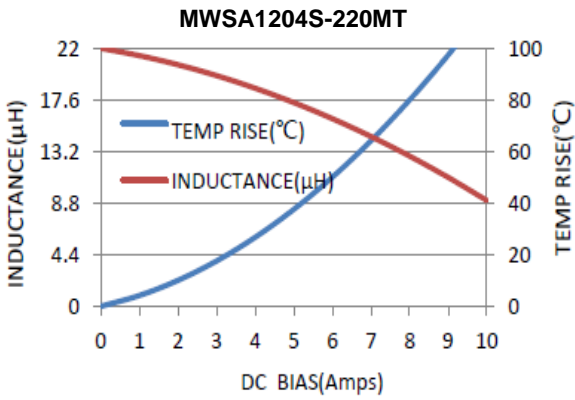
# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA1204S Series

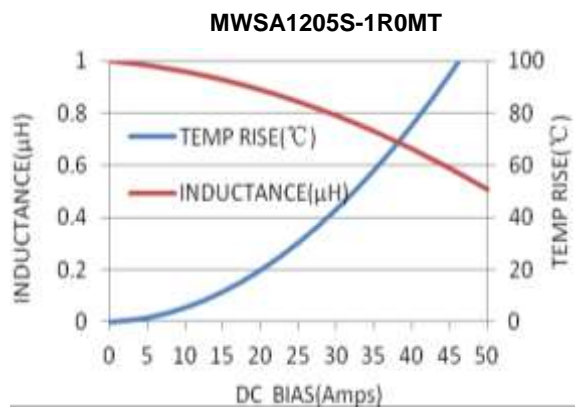
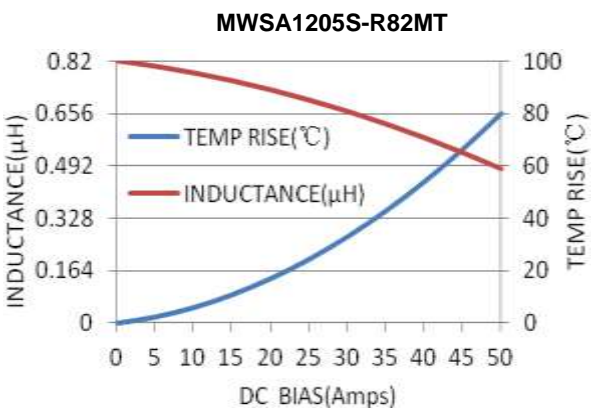
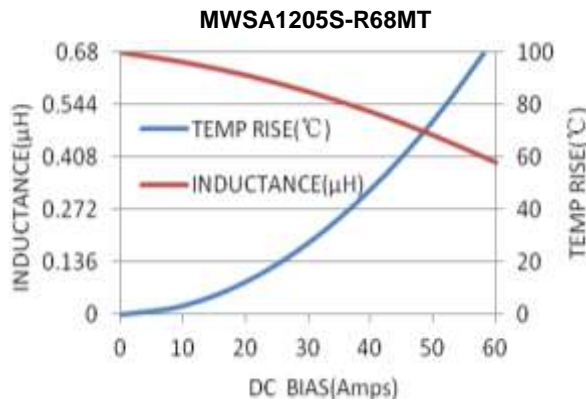
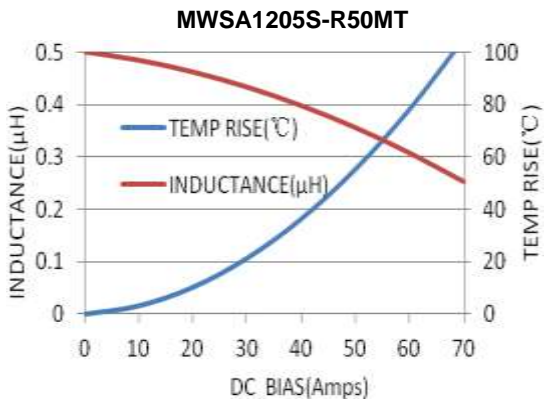
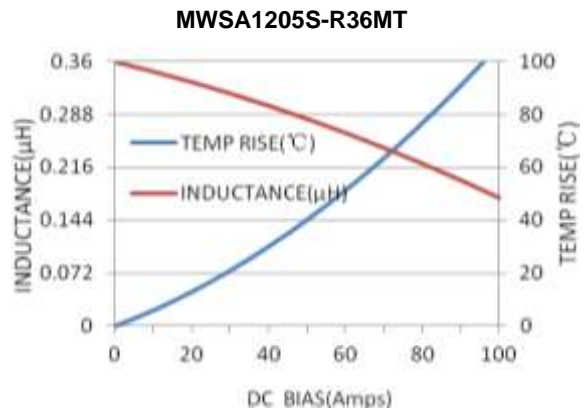
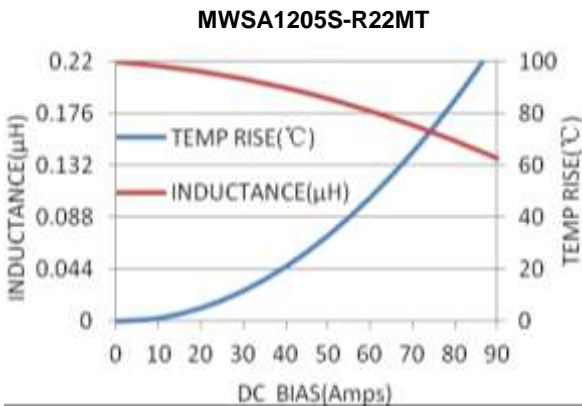


# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA1204S Series



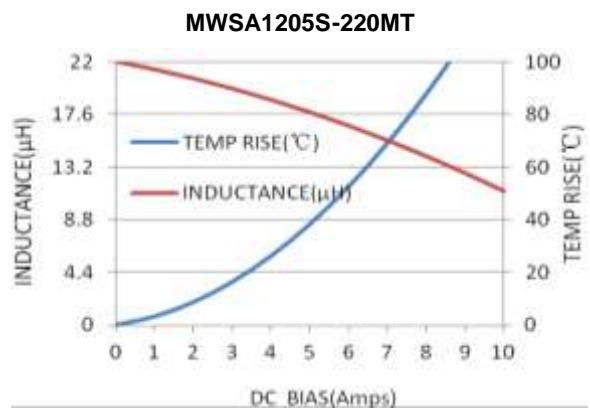
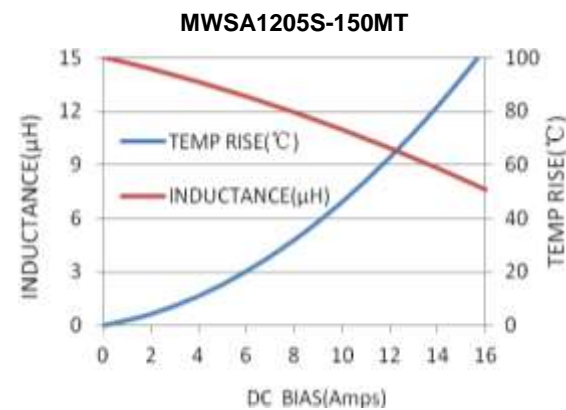
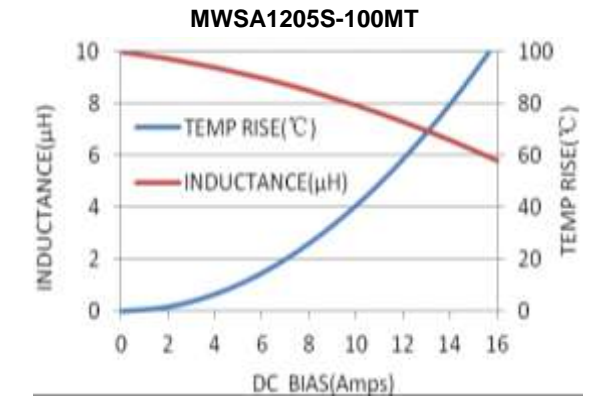
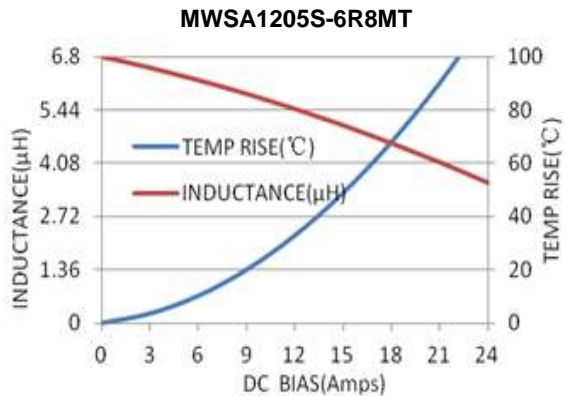
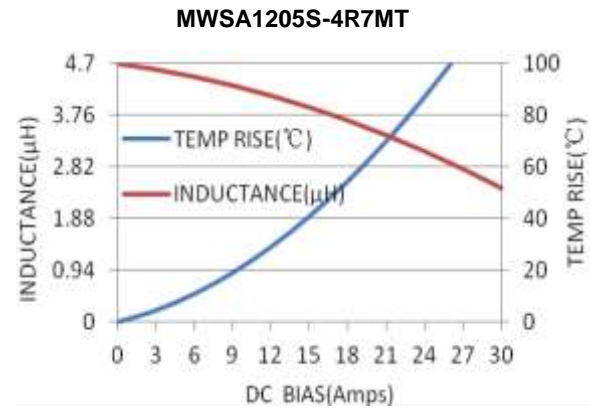
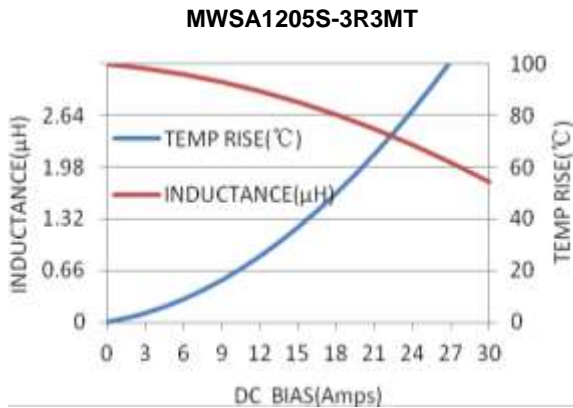
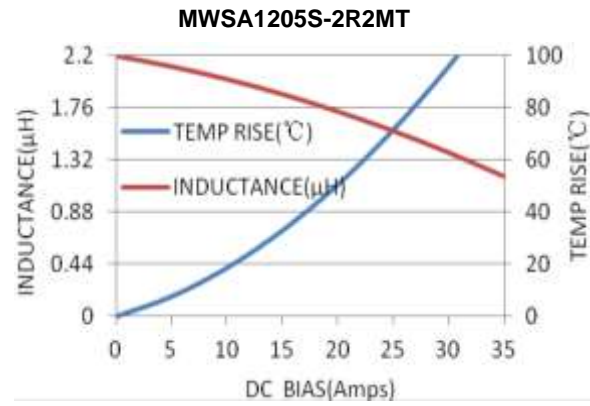
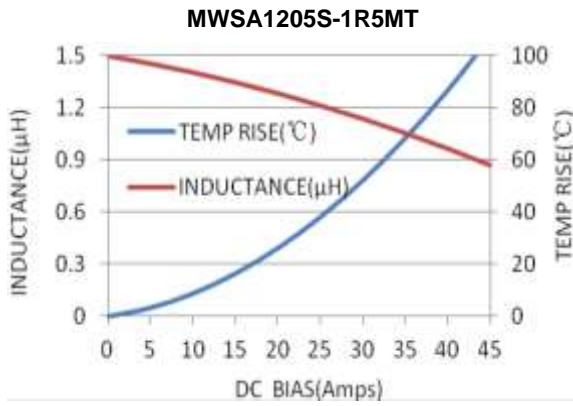
MWSA1205S Series





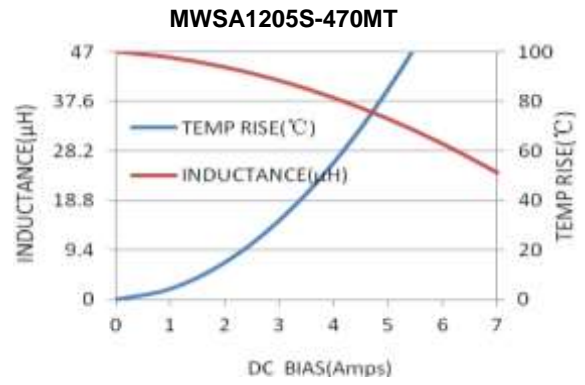
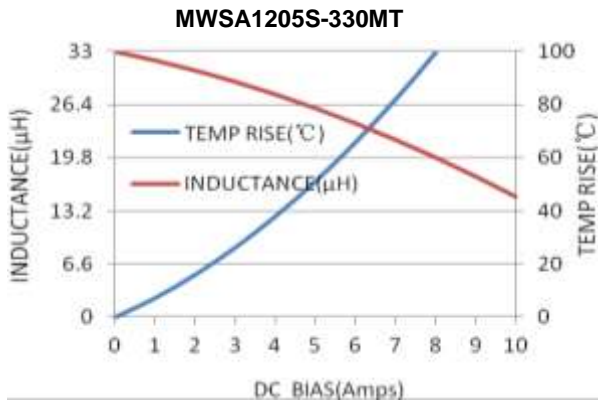
# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA1205S Series

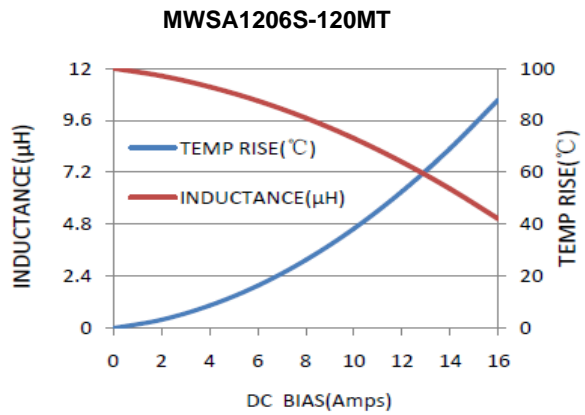
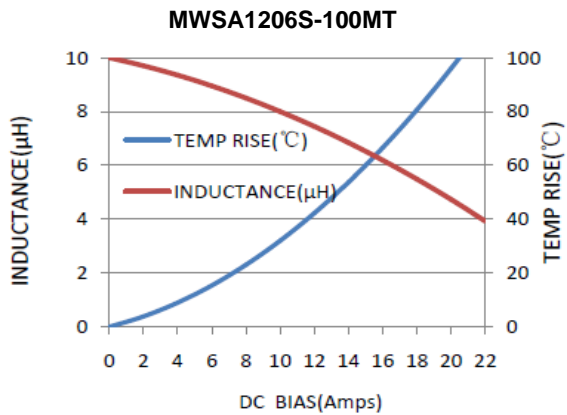
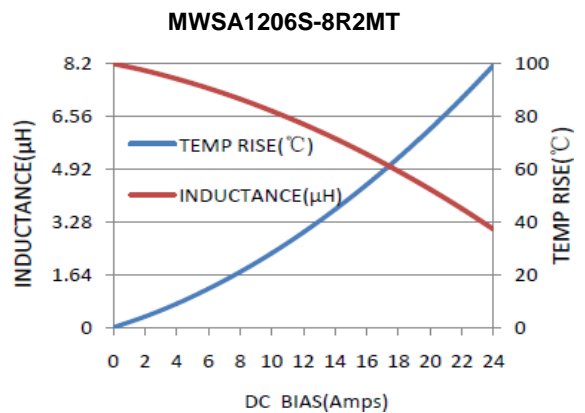
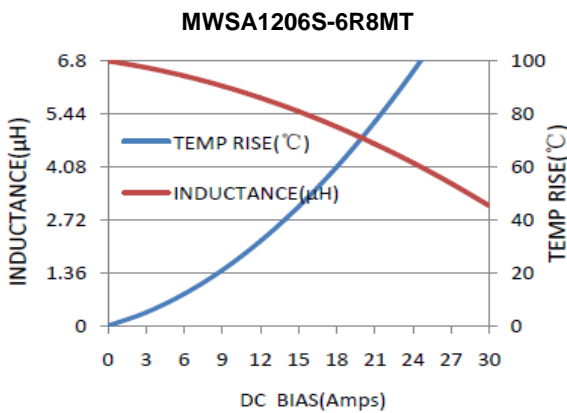
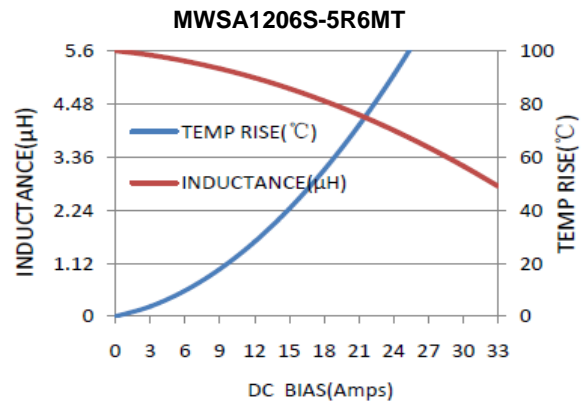
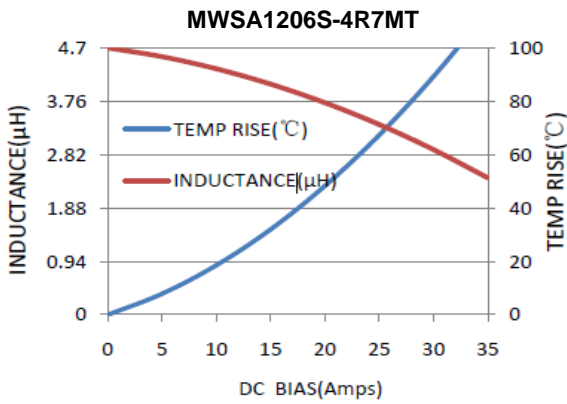


# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA1205S Series



MWSA1206S Series



# TYPICAL ELECTRICAL CHARACTERISTICS

MWSA1206S Series

