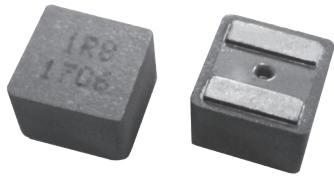




SMD Molding Type Power Inductor

TMPE Series



Features

- Shielded construction
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction

Application

- Excellent for power line DC-DC conversion applications used in power switching, personal computers and other handheld electronic equipment

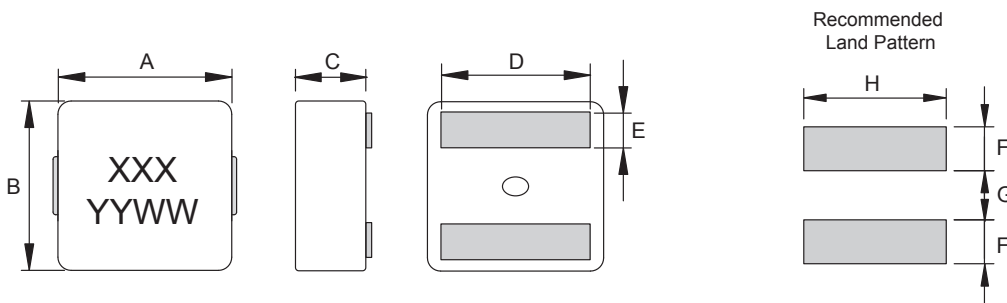
Part Numbering

TMPE 0402 - **R47** **M** -

1
 2
 3
 4
 5
 6

- 1 Product Group
- 2 Dimension Code
- 3 Type Code
- 4 Inductance Code: R means decimal point
Ex: R47→0.47μH
- 5 Inductance Tolerance M=±20%
- 6 Control Code

Shapes and Dimension



Unit: mm

Type	A	B	C	D	E	F	G	H
TMPE0402	4.10±0.20	4.10±0.20	1.90±0.20	3.40±0.30	0.88±0.20	1.00 (Typ.)	1.40 (Typ.)	3.80 (Typ.)
TMPE0502	5.50±0.20	5.30±0.20	1.90±0.20	4.30±0.30	1.10±0.20	1.25 (Typ.)	2.00 (Typ.)	4.70 (Typ.)
TMPE0503	5.50±0.20	5.30±0.20	2.90±0.20	4.30±0.30	1.10±0.20	1.25 (Typ.)	2.00 (Typ.)	4.70 (Typ.)
TMPE0603	6.60±0.20	6.40±0.20	2.80±0.20 (1.2μH and below)	See Spec table	1.40±0.20	1.55 (Typ.)	2.50 (Typ.)	5.60 (Typ.)
			2.90±0.20 (1.5μH and above)					
TMPE0605	6.60±0.20	6.40±0.20	4.80±0.20	See Spec table	1.40±0.20	1.55 (Typ.)	2.50 (Typ.)	5.60 (Typ.)
TMPE0702	7.80±0.25	7.60±0.20	1.85±0.20	See Spec table	1.75±0.20	2.30 (Typ.)	2.80 (Typ.)	7.20 (Typ.)
TMPE0703	7.80±0.25	7.60±0.20	2.90±0.20	See Spec table	1.75±0.20	2.30 (Typ.)	2.80 (Typ.)	7.20 (Typ.)

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SMD Molding Type Power Inductor

TMPE Series

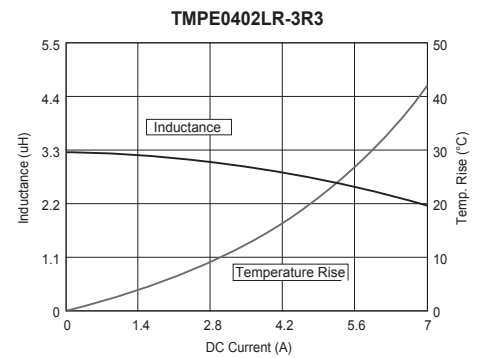
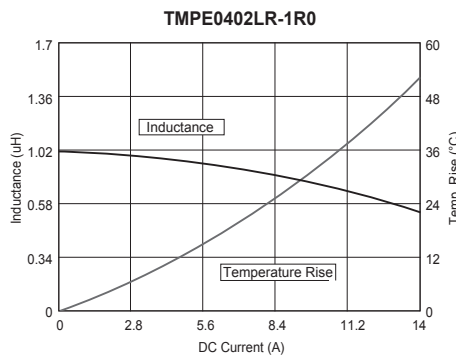
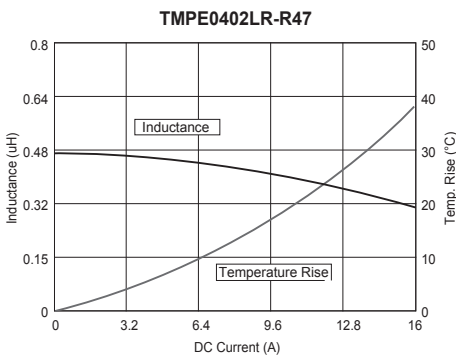
General Technical Data

Operating Temperature Range	-40°C ~ +125°C
Storage Temperature	40°C Max. , 70%RHMax.

Electrical Characteristics

Part Number	Inductance	Test Frequency	DC Resistance (RDC) Max.	Saturation Current (I_{SAT}) Max./Typ.	Temperature Rise Current (I_{RMS}) Typ.	
					@20°C	@40°C
TMPE0402LR Series						
TMPE0402LR-R47M-□	0.47μH±20%	100KHz	6.80mΩ	12.5A / 14.0A	9.8A	13.2A
TMPE0402LR-R68M-□	0.68μH±20%	100KHz	8.20mΩ	10.0A / 11.6A	9.2A	12.0A
TMPE0402LR-R82M-□	0.82μH±20%	100KHz	9.50mΩ	9.0A / 10.2A	8.5A	11.5A
TMPE0402LR-1R0M-□	1.00μH±20%	100KHz	11.70mΩ	8.0A / 9.2A	8.0A	11.0A
TMPE0402LR-1R2M-□	1.20μH±20%	100KHz	13.40mΩ	7.5A / 8.6A	7.2A	9.5A
TMPE0402LR-1R5M-□	1.50μH±20%	100KHz	15.80mΩ	6.7A / 7.5A	6.7A	9.1A
TMPE0402LR-2R0M-□	2.00μH±20%	100KHz	23.30mΩ	5.0A / 6.2A	6.2A	8.2A
TMPE0402LR-2R2M-□	2.20μH±20%	100KHz	23.50mΩ	4.8A / 6.0A	6.0A	8.0A
TMPE0402LR-3R3M-□	3.30μH±20%	100KHz	38.30mΩ	4.4A / 5.3A	4.4A	5.5A

- Saturation Current for Inductance becomes 30% lower than its initial value
- Temperature Rise Current for a 40°C rise above 25°C ambient



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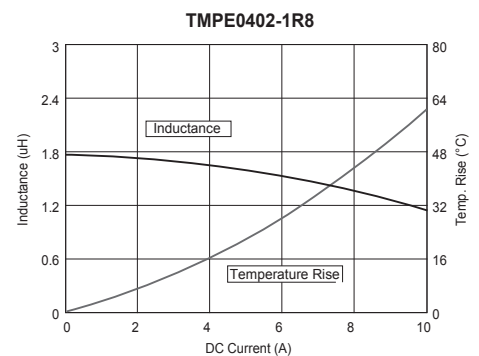
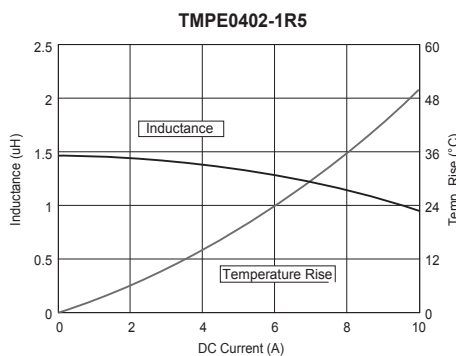
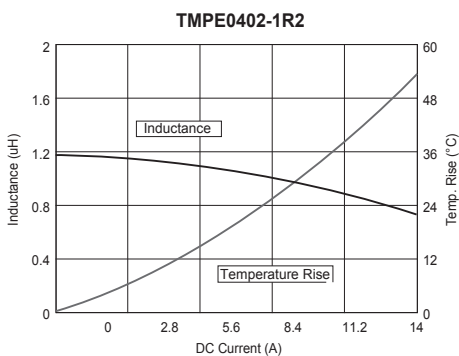
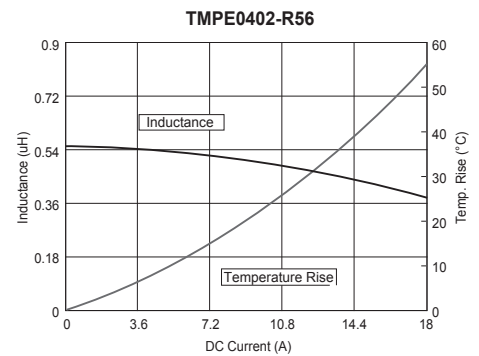
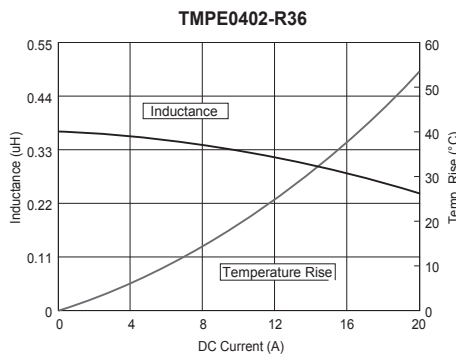
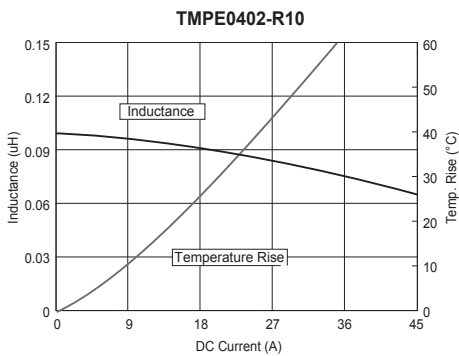
SMD Molding Type Power Inductor

TMPE Series

Electrical Characteristics

Part Number	Inductance	Test Frequency	DC Resistance (RDC) Max.	Saturation Current (I_{SAT}) Max./Typ.	Temperature Rise Current (I_{RMS}) Typ.	
					@20°C	@40°C
TMPE0402 Series						
TMPE0402-R10M-□	0.10 μ H \pm 20%	100KHz	2.42m Ω	33.0A / 38.0A	13.5A	18.0A
TMPE0402-R22M-□	0.22 μ H \pm 20%	100KHz	4.60m Ω	18.8A / 19.5A	13.0A	16.8A
TMPE0402-R36M-□	0.36 μ H \pm 20%	100KHz	6.30m Ω	15.0A / 17.0A	11.0A	14.5A
TMPE0402-R40M-□	0.40 μ H \pm 20%	100KHz	7.73m Ω	13.5A / 15.5A	10.0A	14.0A
TMPE0402-R56M-□	0.56 μ H \pm 20%	100KHz	9.30m Ω	12.6A / 14.0A	8.5A	12.0A
TMPE0402-R72M-□	0.72 μ H \pm 20%	100KHz	11.60m Ω	10.6A / 12.0A	7.6A	10.5A
TMPE0402-1R0M-□	1.00 μ H \pm 20%	100KHz	14.60m Ω	8.8A / 9.6A	6.8A	9.6A
TMPE0402-1R2M-□	1.20 μ H \pm 20%	100KHz	17.90m Ω	7.8A / 9.0A	6.6A	9.0A
TMPE0402-1R5M-□	1.50 μ H \pm 20%	100KHz	23.50m Ω	7.4A / 8.0A	5.8A	7.6A
TMPE0402-1R8M-□	1.80 μ H \pm 20%	100KHz	28.00m Ω	7.0A / 7.5A	5.2A	7.0A

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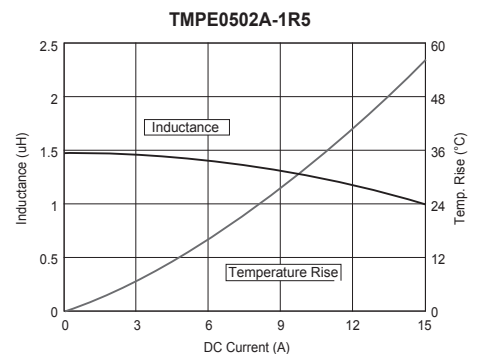
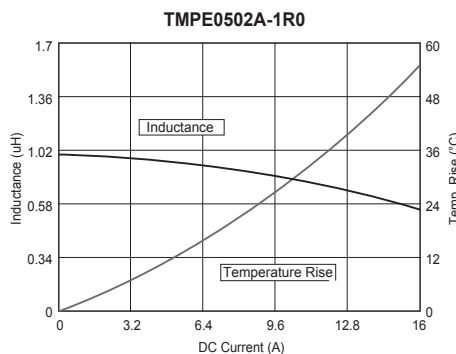
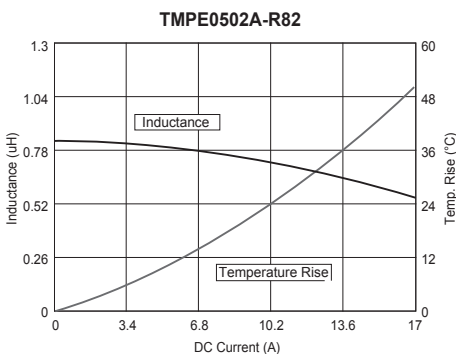
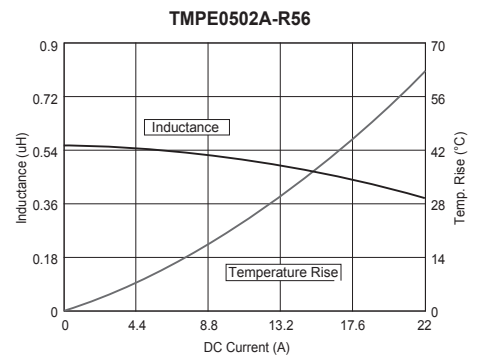
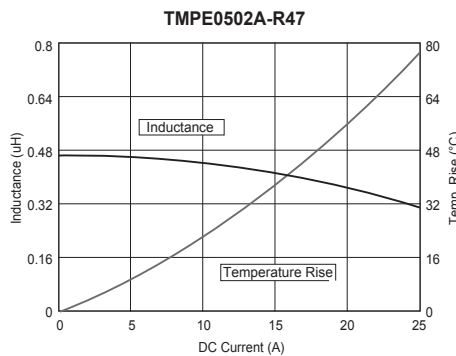
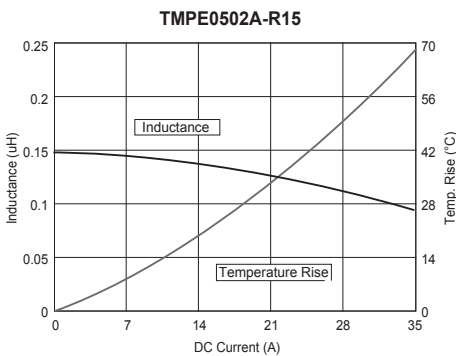
SMD Molding Type Power Inductor

TMPE Series

Electrical Characteristics

Part Number	Inductance	Test Frequency	DC Resistance (RDC) Max.	Saturation Current (I_{SAT}) Max./Typ.	Temperature Rise Current (I_{RMS}) Typ.	
					@20°C	@40°C
TMPE0502A Series						
TMPE0502A-R15M-□	0.15μH±20%	100KHz	4.60mΩ	27.0A / 30.0A	13.9A	18.8A
TMPE0502A-R16M-□	0.16μH±20%	100KHz	4.60mΩ	27.0A / 30.0A	13.9A	18.8A
TMPE0502A-R33M-□	0.33μH±20%	100KHz	7.00mΩ	24.0A / 26.0A	10.5A	14.4A
TMPE0502A-R47M-□	0.47μH±20%	100KHz	8.05mΩ	20.0A / 22.0A	10.1A	14.1A
TMPE0502A-R56M-□	0.56μH±20%	100KHz	9.54mΩ	16.0A / 19.0A	9.9A	13.9A
TMPE0502A-R68M-□	0.68μH±20%	100KHz	10.20mΩ	14.0A / 16.0A	9.6A	13.4A
TMPE0502A-R80M-□	0.80μH±20%	100KHz	11.80mΩ	13.5A / 15.5A	9.4A	13.0A
TMPE0502A-R82M-□	0.82μH±20%	100KHz	12.70mΩ	13.0A / 15.0A	8.5A	12.0A
TMPE0502A-1R0M-□	1.00μH±20%	100KHz	13.80mΩ	12.8A / 14.5A	7.5A	10.5A
TMPE0502A-1R2M-□	1.20μH±20%	100KHz	16.30mΩ	12.2A / 14.0A	6.8A	9.4A
TMPE0502A-1R5M-□	1.50μH±20%	100KHz	18.70mΩ	11.7A / 13.3A	6.4A	8.8A

- Saturation Current for Inductance becomes 30% lower than its initial value
- Temperature Rise Current for a 40°C rise above 25°C ambient



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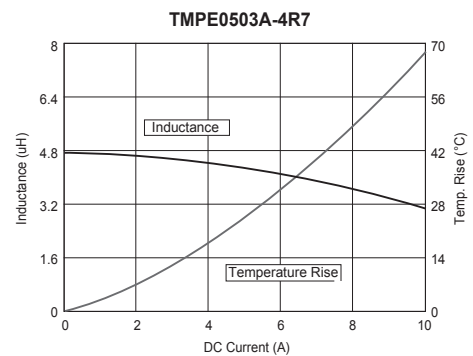
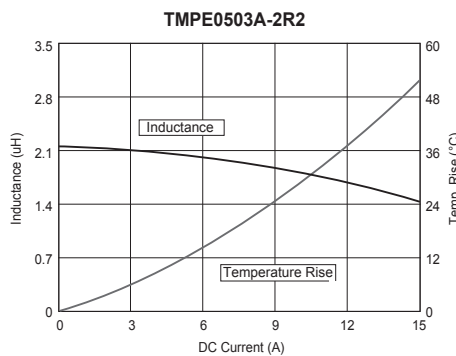
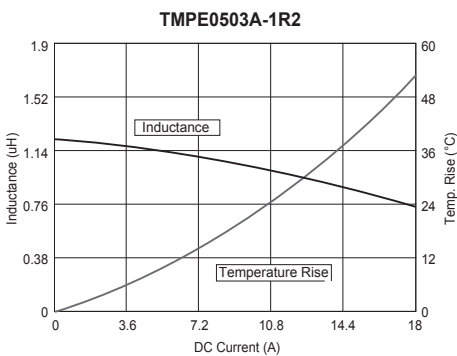
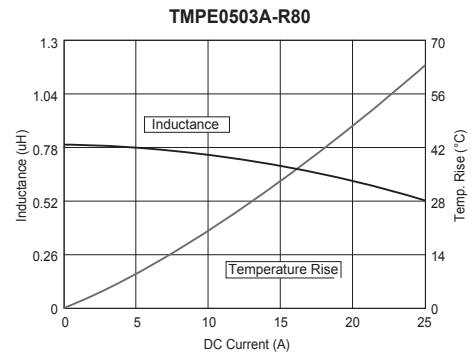
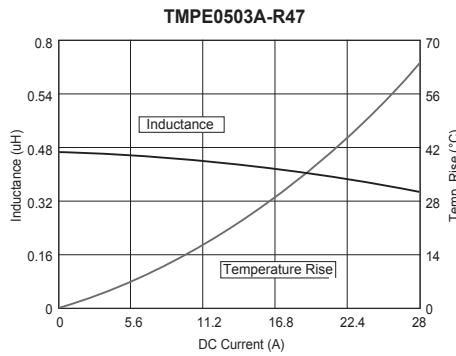
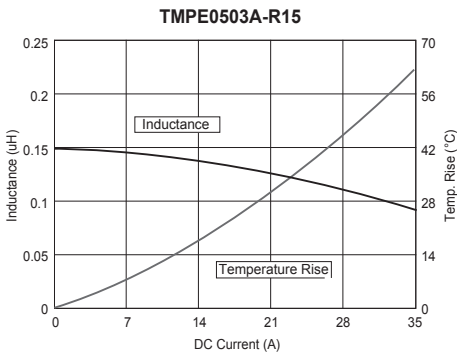
SMD Molding Type Power Inductor

TMPE Series

Electrical Characteristics

Part Number	Inductance	Test Frequency	DC Resistance (RDC) Max.	Saturation Current (I_{SAT}) Max./Typ.	Temperature Rise Current (I_{RMS}) Typ.	
					@20°C	@40°C
TMPE0503A Series						
TMPE0503A-R15M-□	0.15μH±20%	100KHz	2.31mΩ	32.5A / 36.0A	14.3A	22.2A
TMPE0503A-R33M-□	0.33μH±20%	100KHz	3.52mΩ	26.0A / 28.0A	13.8A	19.2A
TMPE0503A-R47M-□	0.47μH±20%	100KHz	4.13mΩ	24.0A / 26.0A	13.7A	18.4A
TMPE0503A-R56M-□	0.56μH±20%	100KHz	4.52mΩ	20.2A / 22.2A	13.6A	17.7A
TMPE0503A-R80M-□	0.80μH±20%	100KHz	5.65mΩ	18.0A / 20.0A	10.1A	13.1A
TMPE0503A-1R0M-□	1.00μH±20%	100KHz	7.60mΩ	14.3A / 16.5A	9.0A	12.2A
TMPE0503A-1R2M-□	1.20μH±20%	100KHz	9.70mΩ	13.5A / 15.0A	8.5A	11.0A
TMPE0503A-1R5M-□	1.50μH±20%	100KHz	11.20mΩ	12.5A / 14.0A	8.0A	10.5A
TMPE0503A-1R8M-□	1.80μH±20%	100KHz	12.70mΩ	11.3A / 12.3A	7.6A	10.1A
TMPE0503A-2R2M-□	2.20μH±20%	100KHz	14.50mΩ	9.0A / 10.0A	7.2A	9.7A
TMPE0503A-3R3M-□	3.30μH±20%	100KHz	23.10mΩ	8.7A / 9.5A	5.9A	8.1A
TMPE0503A-4R7M-□	4.70μH±20%	100KHz	36.30mΩ	7.0A / 8.2A	4.3A	5.9A

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- Temperature Rise Current for a 40°C rise above 25°C ambient



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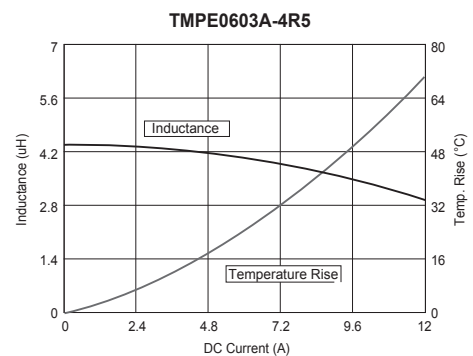
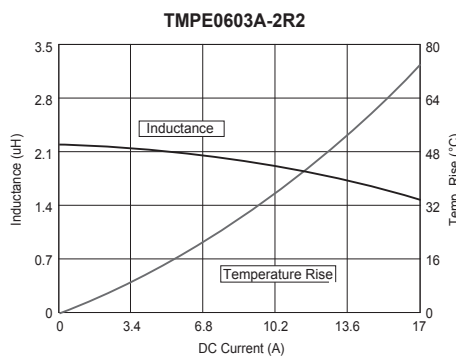
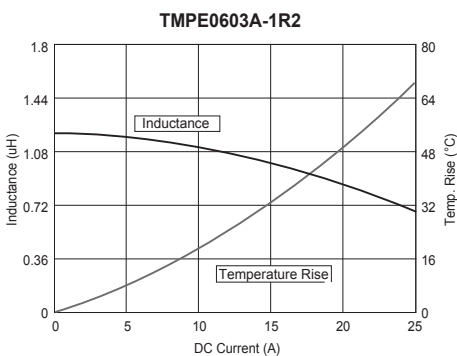
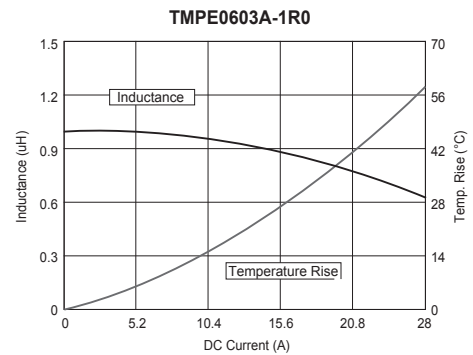
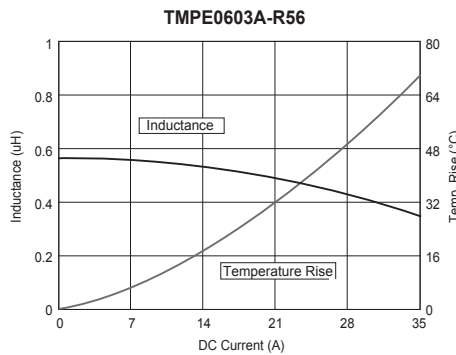
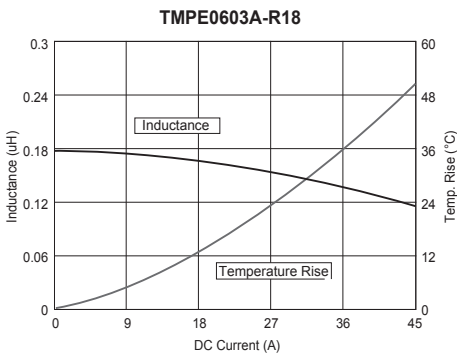
SMD Molding Type Power Inductor

TMPE Series

Electrical Characteristics

Part Number	Inductance	Test Frequency	DC Resistance (RDC) Max.	Saturation Current (I_{SAT}) Max./Typ.	Temperature Rise Current (I_{RMS}) Typ.		Dimension D(mm)
					@20°C	@40°C	
TMPE0603A Series							
TMPE0603A-R18M-□	0.18 μ H \pm 20%	100KHz	1.75m Ω	36.0A / 40.0A	24.0A	32.0A	5.30 \pm 0.30
TMPE0603A-R33M-□	0.33 μ H \pm 20%	100KHz	2.50m Ω	28.0A / 32.0A	20.0A	25.0A	5.55 \pm 0.30
TMPE0603A-R56M-□	0.56 μ H \pm 20%	100KHz	3.31m Ω	25.0A / 29.0A	17.0A	22.0A	5.30 \pm 0.30
TMPE0603A-1R0M-□	1.00 μ H \pm 20%	100KHz	6.05m Ω	18.0A / 23.0A	13.0A	18.0A	5.20 \pm 0.30
TMPE0603A-1R2M-□	1.20 μ H \pm 20%	100KHz	7.40m Ω	16.0A / 22.0A	12.0A	16.0A	5.15 \pm 0.30
TMPE0603A-1R8M-□	1.80 μ H \pm 20%	100KHz	10.20m Ω	13.0A / 18.2A	10.0A	14.0A	5.10 \pm 0.30
TMPE0603A-2R2M-□	2.20 μ H \pm 20%	100KHz	12.20m Ω	11.0A / 15.9A	7.0A	10.0A	5.05 \pm 0.30
TMPE0603A-3R3M-□	3.30 μ H \pm 20%	100KHz	20.80m Ω	9.0A / 12.2A	6.0A	8.0A	5.00 \pm 0.30
TMPE0603A-4R5M-□	4.50 μ H \pm 20%	100KHz	25.30m Ω	8.0A / 10.0A	5.0A	7.0A	5.00 \pm 0.30

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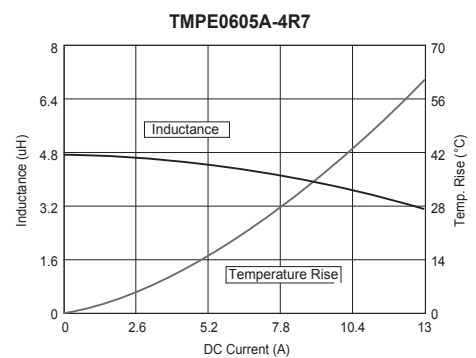
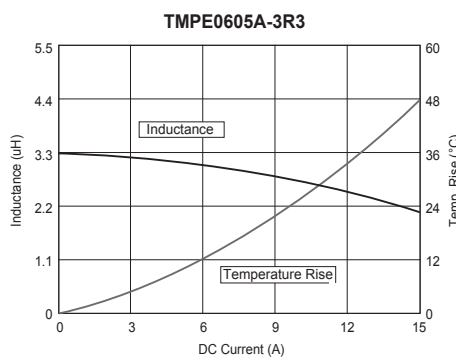
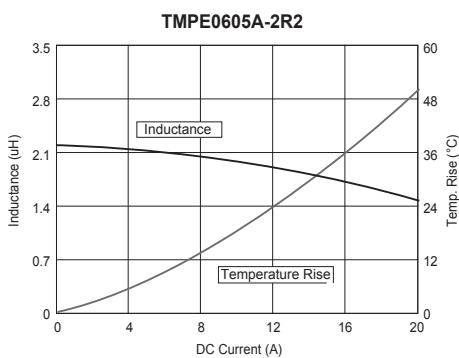
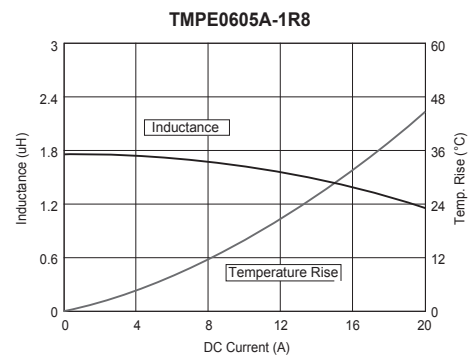
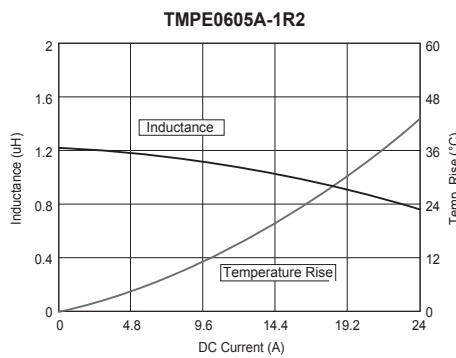
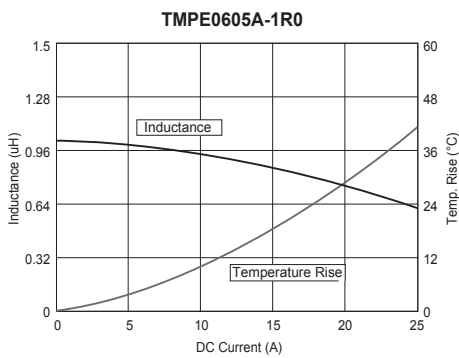
SMD Molding Type Power Inductor

TMPE Series

Electrical Characteristics

Part Number	Inductance	Test Frequency	DC Resistance (RDC) Max.	Saturation Current (I_{SAT}) Max./Typ.	Temperature Rise Current (I_{RMS}) Typ.		Dimension D(mm)
					@20°C	@40°C	
TMPE0605A Series							
TMPE0605A-1R0M-□	1.00 μ H \pm 20%	100KHz	4.52m Ω	18.0A / 23.0A	15.0A	20.0A	5.30 \pm 0.30
TMPE0605A-1R2M-□	1.20 μ H \pm 20%	100KHz	5.83m Ω	16.0A / 22.0A	14.0A	18.0A	5.30 \pm 0.30
TMPE0605A-1R5M-□	1.50 μ H \pm 20%	100KHz	6.30m Ω	14.5A / 19.5A	13.0A	17.0A	5.30 \pm 0.30
TMPE0605A-1R8M-□	1.80 μ H \pm 20%	100KHz	7.10m Ω	13.5A / 18.5A	12.0A	16.0A	5.30 \pm 0.30
TMPE0605A-2R2M-□	2.20 μ H \pm 20%	100KHz	8.50m Ω	12.0A / 16.0A	10.0A	13.0A	5.20 \pm 0.30
TMPE0605A-3R3M-□	3.30 μ H \pm 20%	100KHz	12.50m Ω	10.0A / 12.5A	8.5A	11.0A	5.20 \pm 0.30
TMPE0605A-4R3M-□	4.30 μ H \pm 20%	100KHz	16.20m Ω	8.5A / 11.0A	7.0A	9.0A	5.20 \pm 0.30
TMPE0605A-4R7M-□	4.70 μ H \pm 20%	100KHz	18.40m Ω	8.0A / 10.5A	6.5A	8.5A	5.20 \pm 0.30

- Saturation Current for Inductance becomes 30% lower than its initial value
- Temperature Rise Current for a 40°C rise above 25°C ambient



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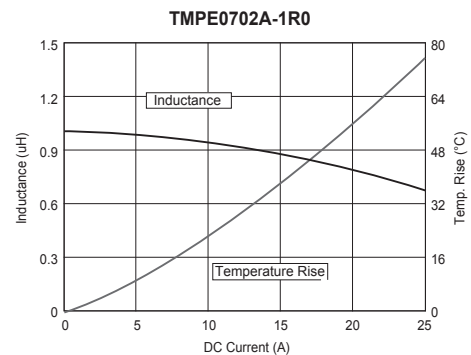
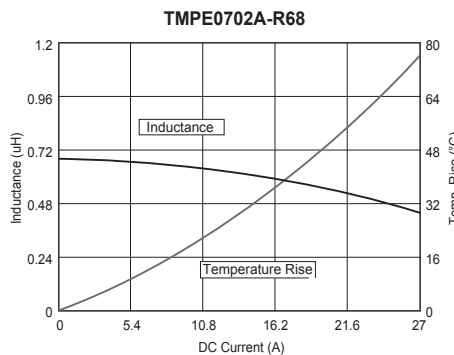
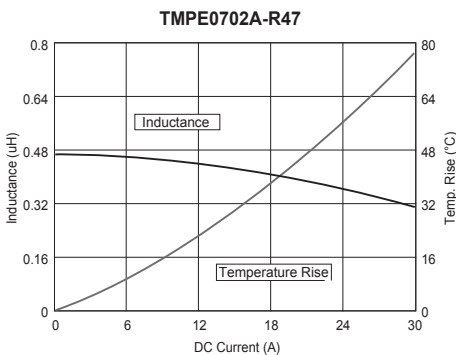
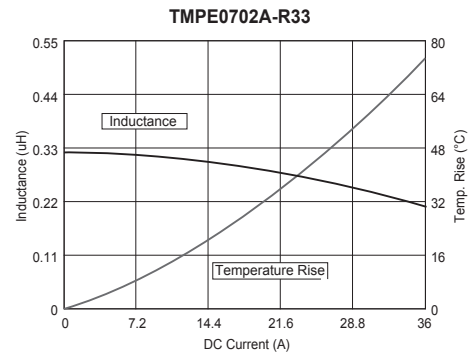
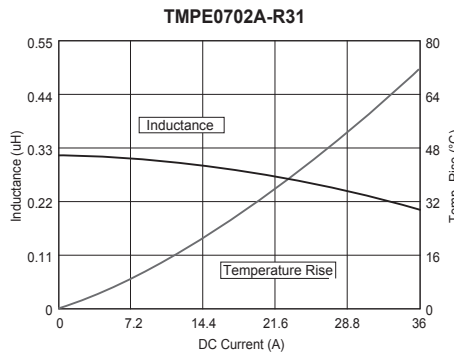
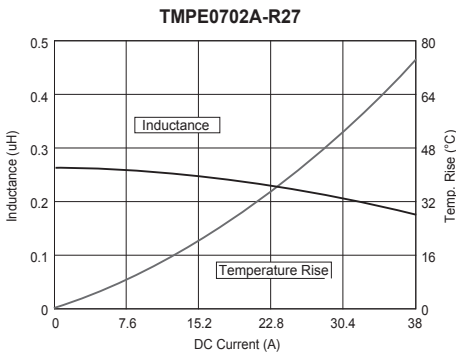
SMD Molding Type Power Inductor

TMPE Series

Electrical Characteristics

Part Number	Inductance	Test Frequency	DC Resistance (RDC) Max.	Saturation Current (I_{SAT}) Max./Typ.	Temperature Rise Current (I_{RMS}) Typ.		Dimension D(mm)
					@20°C	@40°C	
TMPE0702A Series							
TMPE0702A-R27M-□	0.27 μ H \pm 20%	100KHz	3.50m Ω	32.0A / 35.0A	16.0A	21.0A	6.60 \pm 0.30
TMPE0702A-R31M-□	0.31 μ H \pm 20%	100KHz	4.80m Ω	31.0A / 34.0A	14.0A	20.0A	6.20 \pm 0.30
TMPE0702A-R33M-□	0.33 μ H \pm 20%	100KHz	4.80m Ω	31.0A / 34.0A	13.0A	19.0A	6.20 \pm 0.30
TMPE0702A-R47M-□	0.47 μ H \pm 20%	100KHz	6.20m Ω	25.0A / 28.0A	12.0A	17.0A	6.20 \pm 0.30
TMPE0702A-R68M-□	0.68 μ H \pm 20%	100KHz	9.20m Ω	23.0A / 25.0A	10.0A	13.0A	6.20 \pm 0.30
TMPE0702A-1R0M-□	1.00 μ H \pm 20%	100KHz	10.80m Ω	20.0A / 23.0A	8.0A	11.0A	6.20 \pm 0.30

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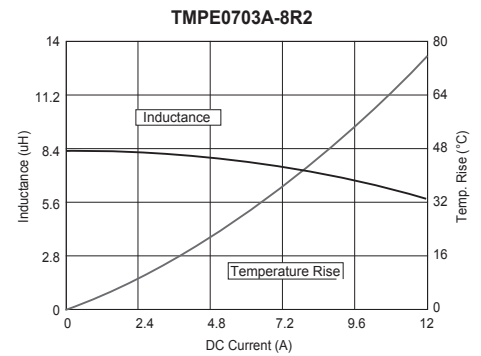
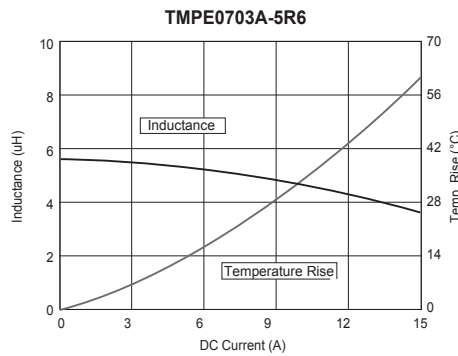
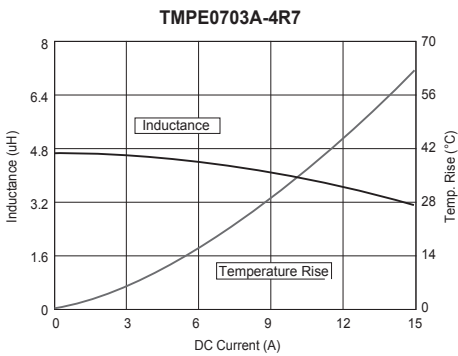
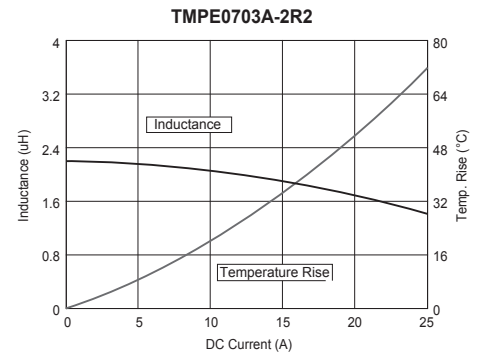
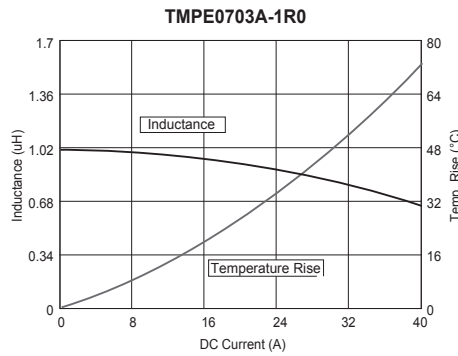
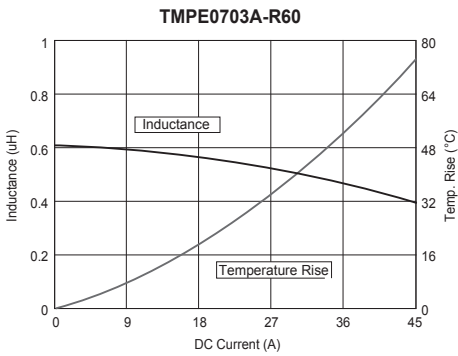
SMD Molding Type Power Inductor

TMPE Series

Electrical Characteristics

Part Number	Inductance	Test Frequency	DC Resistance (RDC) Max.	Saturation Current (I_{SAT}) Max./Typ.	Temperature Rise Current (I_{RMS}) Typ.		Dimension D(mm)
					@20°C	@40°C	
TMPE0703A Series							
TMPE0703A-R60M-□	0.60μH±20%	100KHz	3.20mΩ	32.0A / 36.0A	18.0A	23.0A	6.6±0.30
TMPE0703A-1R0M-□	1.00μH±20%	100KHz	5.00mΩ	28.0A / 30.0A	16.1A	21.8A	6.6±0.30
TMPE0703A-1R5M-□	1.50μH±20%	100KHz	8.25mΩ	23.5A / 25.0A	12.0A	15.3A	6.6±0.30
TMPE0703A-2R2M-□	2.20μH±20%	100KHz	13.70mΩ	17.0A / 19.0A	10.0A	13.0A	6.2±0.30
TMPE0703A-3R3M-□	3.30μH±20%	100KHz	18.00mΩ	13.0A / 15.0A	8.0A	10.0A	6.2±0.30
TMPE0703A-4R7M-□	4.70μH±20%	100KHz	26.70mΩ	12.2A / 13.5A	6.9A	9.0A	6.2±0.30
TMPE0703A-5R6M-□	5.60μH±20%	100KHz	33.20mΩ	11.5A / 12.5A	5.3A	7.3A	6.2±0.30
TMPE0703A-6R8M-□	6.80μH±20%	100KHz	42.50mΩ	11.0A / 12.0A	4.5A	6.8A	6.2±0.30
TMPE0703A-8R2M-□	8.20μH±20%	100KHz	48.73mΩ	9.0A / 10.2A	3.0A	5.9A	6.2±0.30

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