

# SURFACE MOUNT HIGH CURRENT POWER INDUCTORS /SMPI TYPE

## FEATURES

- ◆ Performance low resistance , high current rating.
- ◆ Low loss realized with low RDC.
- ◆ Low core loss.

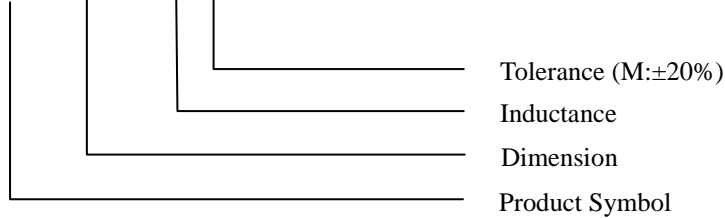
## APPLICATIONS

- ◆ High density DC/DC converters
- ◆ POL converters
- ◆ High current VRM/VRD for notebook/ Server/ desktop CPUs
- ◆ High speed charger

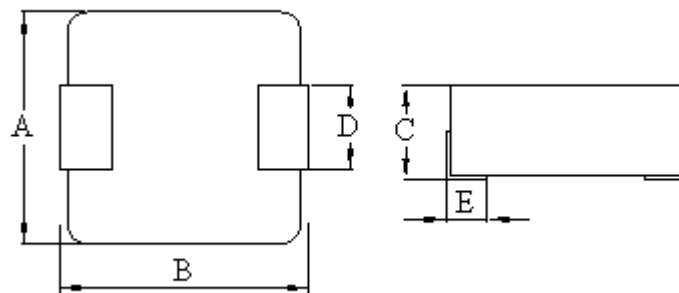


## ORDERING CODE

SMPI □□□□ - 1R0 □



## SHAPES



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## SURFACE MOUNT HIGH CURRENT POWER INDUCTORS /SMPI TYPE

**DIMENSIONS UNIT: mm (inch)**

Part No.	A	B	C	D	E
SMP I04020	4.3 ± 0.5	4.0 ± 0.2	2.0 (MAX)	1.5 ± 0.5	0.8 ± 0.5
SMP I05020	5.2 ± 0.5	4.7 ± 0.3	2.0 (MAX)	2.0 ± 0.5	1.0 ± 0.5
SMP I05030	5.2 ± 0.5	4.7 ± 0.3	3.0 (MAX)	2.0 ± 0.5	1.0 ± 0.5
SMP I06020	6.6 ± 0.3	7.2 ± 0.3	2.0 (MAX)	3.0 ± 0.3	1.6 ± 0.5
SMP I06030	6.6 ± 0.3	7.2 ± 0.3	3.0 (MAX)	3.0 ± 0.3	1.6 ± 0.5
SMP I06030A	6.6 ± 0.3	7.2 ± 0.3	3.0 (MAX)	3.0 ± 0.3	1.6 ± 0.5
SMPI 07050	7.2 ± 0.3	7.8 ± 0.3	5.0 (MAX)	3.0 ± 0.3	1.6 ± 0.5
SMPI 10040	10.5 ± 0.5	11.5 ± 1.0	4.0 (MAX)	3.0 (REF)	2.3 (REF)
SMPI 10040A	10.5 ± 0.5	11.5 ± 1.0	4.0 (MAX)	3.0 (REF)	2.3 (REF)
SMPI 10040B	10.5 ± 0.5	11.5 ± 1.0	4.0 (MAX)	3.0 (REF)	2.3 (REF)
SMPI 10040C	10.5 ± 0.5	11.5 ± 1.0	4.0 (MAX)	3.0 (REF)	2.3 (REF)
SMPI 10040CT	10.0 ± 0.3	11.5(MAX)	4.0 (MAX)	3.0 ± 0.5	2.5 ± 0.5
SMPI 10040DT	10.0 ± 0.3	11.5(MAX)	4.0 (MAX)	3.0 ± 0.5	2.5 ± 0.5
SMPI 10040ET	10.0 ± 0.3	11.5(MAX)	4.0 (MAX)	3.0 ± 0.5	2.5 ± 0.5
SMPI 12040	12.8 ± 0.5	13.5 ± 1.0	4.0 (MAX)	3.8 (REF)	2.5(REF)
SMPI 12050	12.8 ± 0.5	13.5 ± 1.0	5.0 (MAX)	3.8 (REF)	2.5(REF)
SMPI 12065	12.8 ± 0.5	13.5 ± 1.0	6.5 (MAX)	3.8 (REF)	2.5(REF)

### ELECTRICAL CHARACTERISTICS FOR SMPI 04020

Part No.	Inductance (uH)	Test Frequency (MHz)	RDC (mΩ) Max	IDC (A) Max
SMPI04020-R10M	0.10	100KHz/0.25V	4.0	22
SMPI04020-R22M	0.22	100KHz/0.25V	7.0	12.5
SMPI04020-R47M	0.47	100KHz/0.25V	13.8	9.5
SMPI04020-1R0M	1.0	100KHz/0.25V	28.0	7.0
SMPI04020-1R5M	1.5	100KHz/0.25V	36.0	6.0
SMPI04020-2R2M	2.2	100KHz/0.25V	55.0	5.0
SMPI04020-3R3M	3.3	100KHz/0.25V	87.0	4.0
SMPI04020-4R7M	4.7	100KHz/0.25V	150.0	3.0



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## SURFACE MOUNT HIGH CURRENT POWER INDUCTORS /SMPI TYPE

### ELECTRICAL CHARACTERISTICS FOR SMPI 05020

Part No.	Inductance ( $\mu$ H)	Test Frequency (MHz)	RDC (m $\Omega$ ) Max	IDC (A) Max
SMPI05020-R33M	0.33	100KHz/0.25V	8.0	18.0
SMPI05020-R47M	0.47	100KHz/0.25V	10.0	15.0
SMPI05020-1R0M	1.0	100KHz/0.25V	19.2	9.0
SMPI05020-1R5M	1.5	100KHz/0.25V	32.0	8.0
SMPI05020-2R2M	2.2	100KHz/0.25V	42.5	7.0
SMPI05020-3R3M	3.3	100KHz/0.25V	70.0	5.8
SMPI05020-4R7M	4.7	100KHz/0.25V	90.0	4.5
SMPI05020-5R6M	5.6	100KHz/0.25V	97.0	4.0
SMPI05020-6R8M	6.8	100KHz/0.25V	150.0	3.0

### ELECTRICAL CHARACTERISTICS FOR SMPI 05030

Part No.	Inductance ( $\mu$ H)	Test Frequency (MHz)	RDC (m $\Omega$ ) Max	IDC (A) Max
SMPI0530-R10M	0.10	100KHz/0.25V	3.5	25.0
SMPI0530-R22M	0.22	100KHz/0.25V	6.0	20.0
SMPI0530-R47M	0.47	100KHz/0.25V	8.0	13.0
SMPI0530-R68M	0.68	100KHz/0.25V	13.0	14.0
SMPI0530-1R0M	1.0	100KHz/0.25V	15.0	11.0
SMPI0530-1R5M	1.5	100KHz/0.25V	25.0	10.0
SMPI0530-2R2M	2.2	100KHz/0.25V	35.0	9.0
SMPI0530-3R3M	3.3	100KHz/0.25V	38.0	7.0
SMPI0530-4R7M	4.7	100KHz/0.25V	65.0	6.0
SMPI0530-6R8M	6.8	100KHz/0.25V	120.0	4.0
SMPI0530-100M	10.0	100KHz/0.25V	130.0	3.0

### ELECTRICAL CHARACTERISTICS FOR SMPI 06020

Part No.	Inductance ( $\mu$ H)	Test Frequency (MHz)	RDC (m $\Omega$ ) Max	IDC (A) Max
SMPI06020-R10M	0.10	100KHz/0.25V	3.0	45.0
SMPI06020-R33M	0.33	100KHz/0.25V	8.0	22.0
SMPI06020-R47M	0.47	100KHz/0.25V	10.0	18.0
SMPI06020-R68M	0.68	100KHz/0.25V	15.0	17.0
SMPI06020-1R0M	1.0	100KHz/0.25V	18.0	14.0
SMPI06020-2R2M	2.2	100KHz/0.25V	43.0	9.0
SMPI06020-4R7M	4.7	100KHz/0.25V	91.0	5.0
SMPI06020-6R8M	6.8	100KHz/0.25V	115.0	4.5
SMPI06020-100M	10.0	100KHz/0.25V	224.0	3.5



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Part No.	Inductance (uH)	Test Frequency (MHz)	RDC (mΩ) Max	IDC (A) Max
SMPI06030-R10M	0.10	100KHz/0.25V	1.7	60
SMPI06030-R15M	0.15	100KHz/0.25V	2.5	52
SMPI06030-R20M	0.20	100KHz/0.25V	3.0	41
SMPI06030-R22M	0.22	100KHz/0.25V	2.8	40
SMPI06030-R33M	0.33	100KHz/0.25V	3.9	30
SMPI06030-R47M	0.47	100KHz/0.25V	4.2	26
SMPI06030-R68M	0.68	100KHz/0.25V	5.5	25
SMPI06030-R82M	0.82	100KHz/0.25V	8.0	24
SMPI06030-1R0M	1.0	100KHz/0.25V	10	22
SMPI06030-1R5M	1.5	100KHz/0.25V	15	18
SMPI06030-2R2M	2.2	100KHz/0.25V	20	14
SMPI06030-3R3M	3.3	100KHz/0.25V	30	13.5
SMPI06030-4R7M	4.7	100KHz/0.25V	40	10
SMPI06030-6R8M	6.8	100KHz/0.25V	60	8
SMPI06030-8R2M	8.2	100KHz/0.25V	68	7.5
SMPI06030-100M	10.0	100KHz/0.25V	105	7

## ELECTRICAL CHARACTERISTICS FOR SMPI 06030A

Part No.	Inductance (uH)	Test Frequency (MHz)	RDC (mΩ) Max	IDC (A) Max
SMPI06030A-1R0M	1.0	100KHz/0.25V	8	9.5
SMPI06030A-1R5M	1.5	100KHz/0.25V	12.5	8.0
SMPI06030A-2R2M	2.2	100KHz/0.25V	16.5	7.0
SMPI06030A-3R3M	3.3	100KHz/0.25V	26.0	6.5
SMPI06030A-4R7M	4.7	100KHz/0.25V	33.4	4.0
SMPI06030A-6R8M	6.8	100KHz/0.25V	46.8	4.0
SMPI06030A-8R2M	8.2	100KHz/0.25V	54.9	4.0
SMPI06030A-100M	10	100KHz/0.25V	71.2	3.5
SMPI06030A-220M	22	100KHz/0.25V	135	2.5

## ELECTRICAL CHARACTERISTICS FOR SMPI 07050

Part No.	Inductance (uH)	Test Frequency (MHz)	RDC (mΩ) Max	IDC (A) Max
SMPI07050-220M	22	100KHz/0.25V	140	4.0
SMPI07050-330M	33	100KHz/0.25V	150	3.5
SMPI07050-470M	47	100KHz/0.25V	249	3.0



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### ELECTRICAL CHARACTERISTICS FOR SMPI 10040

Part No.	Inductance ( $\mu$ H)	Test Frequency (MHz)	RDC (m $\Omega$ ) Max	IDC (A) Max
SMPI10040-R19M	0.19	100KHz/0.25V	0.6	44
SMPI10040-R24M	0.24	100KHz/0.25V	0.8	38
SMPI10040-R36M	0.36	100KHz/0.25V	0.95	35
SMPI10040-R47M	0.47	100KHz/0.25V	1.4	32
SMPI10040-R56M	0.56	100KHz/0.25V	1.5	30
SMPI10040-R78M	0.78	100KHz/0.25V	1.7	25
SMPI10040-1R0M	1.0	100KHz/0.25V	2.5	21
SMPI10040-1R8M	1.8	100KHz/0.25V	5.0	15
SMPI10040-2R0M	2.0	100KHz/0.25V	5.8	14
SMPI10040-2R2M	2.2	100KHz/0.25V	6.3	16

### ELECTRICAL CHARACTERISTICS FOR SMPI 10040A

Part No.	Inductance ( $\mu$ H)	Test Frequency (MHz)	RDC (m $\Omega$ ) Max	IDC (A) Max
SMPI10040A-R19M	0.19	100KHz/0.25V	0.8	60
SMPI10040A-R22M	0.22	100KHz/0.25V	0.8	50
SMPI10040A-R36M	0.36	100KHz/0.25V	1.2	50
SMPI10040A-R47M	0.47	100KHz/0.25V	1.7	45
SMPI10040A-R56M	0.56	100KHz/0.25V	1.8	40
SMPI10040A-R68M	0.68	100KHz/0.25V	1.8	30
SMPI10040A-1R0M	1.0	100KHz/0.25V	3.2	30
SMPI10040A-1R2M	1.2	100KHz/0.25V	3.7	25
SMPI10040A-1R5M	1.5	100KHz/0.25V	5.0	20
SMPI10040A-2R5M	2.5	100KHz/0.25V	9.5	18

### ELECTRICAL CHARACTERISTICS FOR SMPI 10040B

Part No.	Inductance ( $\mu$ H)	Test Frequency (MHz)	RDC (m $\Omega$ ) Max	IDC (A) Max
SMPI10040B-R19M	0.19	100KHz/0.25V	0.95	90
SMPI10040B-R36M	0.36	100KHz/0.25V	1.4	60
SMPI10040B-R56M	0.56	100KHz/0.25V	1.9	49
SMPI10040B-1R0M	1.0	100KHz/0.25V	4.1	36
SMPI10040B-1R5M	1.5	100KHz/0.25V	5.8	27.5
SMPI10040B-2R2M	2.2	100KHz/0.25V	9.0	25.5
SMPI10040B-3R3M	3.3	100KHz/0.25V	11.8	18.6
SMPI10040B-4R7M	4.7	100KHz/0.25V	16.5	17.0
SMPI10040B-5R6M	5.6	100KHz/0.25V	19.3	16.0
SMPI10040B-6R8M	6.8	100KHz/0.25V	23.0	13.5
SMPI10040B-8R2M	8.2	100KHz/0.25V	34.0	12.5
SMPI10040B-100M	10.0	100KHz/0.25V	36.5	12.0



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## SURFACE MOUNT HIGH CURRENT POWER INDUCTORS /SMPI TYPE

### ELECTRICAL CHARACTERISTICS FOR SMPI 10040C

Part No.	Inductance ( $\mu$ H)	Test Frequency (MHz)	RDC (m $\Omega$ ) Max	IDC (A) Max
SMPI10040C-R19M	0.19	100KHz/0.25V	0.80	46
SMPI10040C-R24M	0.24	100KHz/0.25V	0.95	44
SMPI10040C-R36M	0.36	100KHz/0.25V	1.15	30
SMPI10040C-R47M	0.47	100KHz/0.25V	1.68	30
SMPI10040C-R56M	0.56	100KHz/0.25V	1.80	22
SMPI10040C-R78M	0.78	100KHz/0.25V	1.90	22
SMPI10040C-1R0M	1.0	100KHz/0.25V	2.50	20
SMPI10040C-1R8M	1.8	100KHz/0.25V	5.00	16
SMPI10040C-2R0M	2.0	100KHz/0.25V	5.80	14
SMPI10040C-4R7M	4.7	100KHz/0.25V	14.2	7.6
SMPI10040C-6R8M	6.8	100KHz/0.25V	19.3	7.5
SMPI10040C-100M	10	100KHz/0.25V	30.5	7.1
SMPI10040C-150M	15	100KHz/0.25V	45.0	6.0
SMPI10040C-220M	22	100KHz/0.25V	66.0	4.5
SMPI10040C-330M	33	100KHz/0.25V	94.5	4.0
SMPI10040C-470M	47	100KHz/0.25V	145	3.0
SMPI10040C-101M	100	100KHz/0.25V	270	2.25

### ELECTRICAL CHARACTERISTICS FOR SMPI 10040CT

Part No.	Inductance ( $\mu$ H)	Test Frequency (MHz)	RDC (m $\Omega$ ) Max	IDC (A) Max
SMPI10040CT-R15M	0.15	100KHz/0.25V	0.65	75
SMPI10040CT-R19M	0.19	100KHz/0.25V	0.80	60
SMPI10040CT-R22M	0.22	100KHz/0.25V	1.00	60
SMPI10040CT-R39M	0.39	100KHz/0.25V	1.30	60
SMPI10040CT-R41M	0.41	100KHz/0.25V	1.30	60
SMPI10040CT-R45M	0.45	100KHz/0.25V	1.30	45
SMPI10040CT-R47M	0.47	100KHz/0.25V	1.80	40
SMPI10040CT-R68M	0.68	100KHz/0.25V	2.70	39
SMPI10040CT-R88M	0.88	100KHz/0.25V	3.00	38
SMPI10040CT-1R5M	1.5	100KHz/0.25V	4.20	33
SMPI10040CT-2R2M	2.2	100KHz/0.25V	7.00	27
SMPI10040CT-4R7M	4.7	100KHz/0.25V	16.5	17



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### ELECTRICAL CHARACTERISTICS FOR SMPI 10040DT

Part No.	Inductance (uH)	Test Frequency (MHz)	RDC (mΩ) Max	IDC (A) Max
SMPI10040DT-R36M	0.36	100KHz/0.25V	1.2	50
SMPI10040DT-R39M	0.39	100KHz/0.25V	1.2	45
SMPI10040DT-R45M	0.45	100KHz/0.25V	1.3	27
SMPI10040DT-R56M	0.56	100KHz/0.25V	1.8	33
SMPI10040DT-1R0M	1.0	100KHz/0.25V	3.3	28
SMPI10040DT-1R8M	1.8	100KHz/0.25V	5.0	15
SMPI10040DT-2R0M	2.0	100KHz/0.25V	5.8	14
SMPI10040DT-2R2M	2.2	100KHz/0.25V	7.0	18
SMPI10040DT-3R3M	3.3	100KHz/0.25V	11.8	16
SMPI10040DT-4R7M	4.7	100KHz/0.25V	20.0	15
SMPI10040DT-5R6M	5.6	100KHz/0.25V	23.0	14
SMPI10040DT-6R8M	6.8	100KHz/0.25V	25.0	9.0
SMPI10040DT-100M	10	100KHz/0.25V	30.0	8.5
SMPI10040DT-150M	15	100KHz/0.25V	45.0	7.0
SMPI10040DT-220M	22	100KHz/0.25V	66.0	5.5
SMPI10040DT-330M	33	100KHz/0.25V	92.0	5.0
SMPI10040DT-470M	47	100KHz/0.25V	145	3.5

### ELECTRICAL CHARACTERISTICS FOR SMPI 10040ET

Part No.	Inductance (uH)	Test Frequency (MHz)	RDC (mΩ) Max	IDC (A) Max
SMPI10040ET-1R0M	1.0	100KHz/0.25V	3.2	34
SMPI10040ET-2R2M	2.2	100KHz/0.25V	7.0	25.5
SMPI10040ET-3R3M	3.3	100KHz/0.25V	13.2	14.5
SMPI10040ET-4R7M	4.7	100KHz/0.25V	15.0	13
SMPI10040ET-5R6M	5.6	100KHz/0.25V	18.5	11
SMPI10040ET-6R8M	6.8	100KHz/0.25V	24.0	9.5

### ELECTRICAL CHARACTERISTICS FOR SMPI 12040

Part No.	Inductance (uH)	Test Frequency (MHz)	RDC (mΩ) Max	IDC (A) Max
SMPI12040-R10M	0.10	100KHz/0.25V	1.1	75
SMPI12040-R22M	0.22	100KHz/0.25V	1.4	70
SMPI12040-R33M	0.33	100KHz/0.25V	1.5	60
SMPI12040-R47M	0.47	100KHz/0.25V	1.9	55
SMPI12040-R60M	0.60	100KHz/0.25V	2.3	50
SMPI12040-R68M	0.68	100KHz/0.25V	2.5	46
SMPI12040-R82M	0.82	100KHz/0.25V	3.1	44
SMPI12040-0R9M	0.9	100KHz/0.25V	3.5	40
SMPI12040-1R0M	1.0	100KHz/0.25V	3.7	38
SMPI12040-1R2M	1.2	100KHz/0.25V	3.7	25
SMPI12040-1R5M	1.5	100KHz/0.25V	6.0	30
SMPI12040-1R8M	1.8	100KHz/0.25V	7.6	26
SMPI12040-2R2M	2.2	100KHz/0.25V	7.6	22
SMPI12040-3R3M	3.3	100KHz/0.25V	8.4	20
SMPI12040-4R7M	4.7	100KHz/0.25V	12.0	15



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### ELECTRICAL CHARACTERISTICS FOR SMPI 12050

Part No.	Inductance (uH)	Test Frequency (MHz)	RDC (mΩ) Max	IDC (A) Max
SMPI12050-R10M	0.10	100KHz/0.25V	0.6	118
SMPI12050-R22M	0.22	100KHz/0.25V	0.8	110
SMPI12050-R33M	0.33	100KHz/0.25V	1.1	80
SMPI12050-R47M	0.47	100KHz/0.25V	1.3	65
SMPI12050-R56M	0.56	100KHz/0.25V	1.5	55
SMPI12050-R68M	0.68	100KHz/0.25V	1.7	54
SMPI12050-R82M	0.82	100KHz/0.25V	2.3	53
SMPI12050-1R0M	1.0	100KHz/0.25V	2.5	50
SMPI12050-1R2M	1.2	100KHz/0.25V	3.5	49
SMPI12050-1R5M	1.5	100KHz/0.25V	4.1	48
SMPI12050-1R8M	1.8	100KHz/0.25V	4.9	40
SMPI12050-2R2M	2.2	100KHz/0.25V	5.5	32
SMPI12050-3R3M	3.3	100KHz/0.25V	9.2	32
SMPI12050-4R7M	4.7	100KHz/0.25V	15.0	27
SMPI12050-5R6M	5.6	100KHz/0.25V	16.5	22
SMPI12050-6R8M	6.8	100KHz/0.25V	18.5	21
SMPI12050-7R8M	7.8	100KHz/0.25V	20.5	18
SMPI12050-8R2M	8.2	100KHz/0.25V	22.5	18
SMPI12050-100M	10	100KHz/0.25V	25.5	16
SMPI12050-220M	22	100KHz/0.25V	58.0	8
SMPI12050-330M	33	100KHz/0.25V	115.0	5

### ELECTRICAL CHARACTERISTICS FOR SMPI 12065

Part No.	Inductance (uH)	Test Frequency (MHz)	RDC (mΩ) Max	IDC (A) Max
SMPI12065-R10M	0.10	100KHz/0.25V	0.5	120
SMPI12065-R15M	0.15	100KHz/0.25V	0.6	118
SMPI12065-R22M	0.22	100KHz/0.25V	0.7	112
SMPI12065-R30M	0.30	100KHz/0.25V	0.8	72
SMPI12065-R33M	0.33	100KHz/0.25V	0.9	65
SMPI12065-R40M	0.40	100KHz/0.25V	1.0	64
SMPI12065-R47M	0.47	100KHz/0.25V	1.2	63
SMPI12065-R56M	0.56	100KHz/0.25V	1.4	62
SMPI12065-R68M	0.68	100KHz/0.25V	1.6	60
SMPI12065-R82M	0.82	100KHz/0.25V	1.9	50
SMPI12065-1R0M	1.0	100KHz/0.25V	2.0	49
SMPI12065-1R2M	1.2	100KHz/0.25V	2.5	48
SMPI12065-1R5M	1.5	100KHz/0.25V	3.0	45
SMPI12065-1R8M	1.8	100KHz/0.25V	3.2	41
SMPI12065-2R2M	2.2	100KHz/0.25V	4.2	40
SMPI12065-3R3M	3.3	100KHz/0.25V	6.8	35
SMPI12065-4R7M	4.7	100KHz/0.25V	11.2	30
SMPI12065-5R6M	5.6	100KHz/0.25V	11.2	26.5
SMPI12065-6R8M	6.8	100KHz/0.25V	14.0	16.5
SMPI12065-8R2M	8.2	100KHz/0.25V	15.5	16.0
SMPI12065-100M	10	100KHz/0.25V	16.8	15.5
SMPI12065-180M	18	100KHz/0.25V	31.0	9.5
SMPI12065-220M	22	100KHz/0.25V	40.0	12.0
SMPI12065-330M	33	100KHz/0.25V	50.0	10.0
SMPI12065-470M	4.7	100KHz/0.25V	92.0	5.0



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## **SURFACE MOUNT HIGH CURRENT POWER INDUCTORS /SMPI TYPE**

Notes:

- 1) All test Data is referenced to 25°C ambient
- 2) Operating Temperature Range: -55°C to +125°C



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