

SMD Power Inductor Toroidal Type

SIO-81 Series

MERITEK

FEATURE

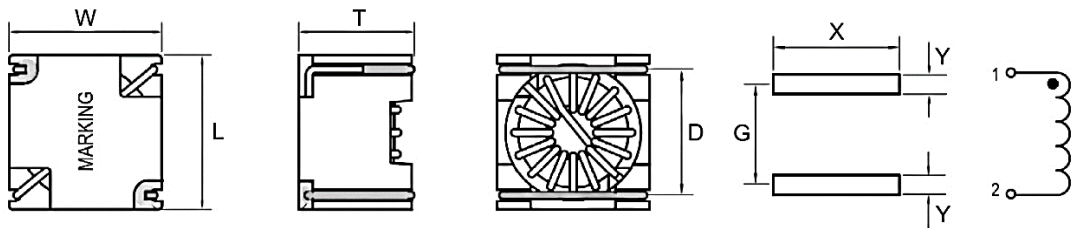
- Low Profile Surface Mount Design
- Closed Magnetic Path Construction Against Radiation
- High Current Rating
- Ideal used in DC/DC Converters



ELECTRICAL CHARACTERISTICS

Part Series	Inductance (μH)	Tolerance (%)	Max. DCR (mΩ)	Typ. SRF (MHz)	Typ. Isat (A)	Max. Irms (A)
SIO-3081	1.80 ~ 390	±20% (M)	12.0 ~ 640	150 ~ 3.00	12.0 ~ 0.60	5.50 ~ 0.94
SIO-3881	1.50 ~ 470	±20% (M)	9.30 ~ 657	133 ~ 1.20	18.0 ~ 0.71	8.00 ~ 0.90
SIO-4481	5.60 ~ 2200	±20% (M)	16.2 ~ 2500	65.0 ~ 0.60	11.0 ~ 0.38	7.80 ~ 0.70
SIO-5081	10.0 ~ 4700	±20% (M)	19.7 ~ 1932	35.0 ~ 0.45	9.00 ~ 0.31	7.20 ~ 0.71

DIMENSIONS



Unit: mm

Part Series	L Max	W Max	T Max	D	X	Y	G
SIO-3081	11.18	11.05	9.50	8.89	10.16	1.52	10.66
SIO-3881	14.35	14.22	9.50	11.43	13.21	1.52	13.20
SIO-4481	15.62	14.99	10.50	12.70	13.97	1.52	14.47
SIO-5081	17.78	17.02	10.50	14.73	15.75	1.52	16.51

PART NUMBERING SYSTEM

SIO 222M 070 44 81
(1) (2) (3) (4) (5)

No.	Item	Code	Description
(1)	Product Code	SIO	SMD Power Inductor Series, Toroidal type
(2)	Inductance	222M	2200μH ±20% (M) First two digits: Significant, Third: Multiplier
(3)	Current Code	070	0.70A Max. Irms (A)
(4)	Size Code	44	15.62x14.99x10.50mm (L x W x T) See Dimension Table
(5)	Series Code	81	Self-leaded Type

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ELECTRICAL CHARACTERISTICS – SIO-3081

Part Number	Inductance (μ H)	Max. DCR (m Ω)	Typ. SRF (MHz)	Typ. Isat (A)	Max. Irms (A)
SIO1R8M5503081	1.8 $\pm$ 20% (M)	12.0	140	12.0	5.50
SIO3R3M4803081	3.3 $\pm$ 20% (M)	19.9	110	10.0	4.80
SIO6R8M2803081	6.8 $\pm$ 20% (M)	47.2	55.0	6.50	2.80
SIO220M1403081	22 $\pm$ 20% (M)	166	15.0	3.50	1.40
SIO101M0943081	100 $\pm$ 20% (M)	640	5.0	1.60	0.94
SIO2R7M5503081	2.7 $\pm$ 20% (M)	12.0	125	7.40	5.50
SIO5R2M4803081	5.2 $\pm$ 20% (M)	19.9	102	5.40	4.80
SIO120M2803081	12 $\pm$ 20% (M)	47.2	52.0	3.50	2.80
SIO350M1403081	35 $\pm$ 20% (M)	166	12.0	2.00	1.40
SIO171M0943081	170 $\pm$ 20% (M)	640	4.0	0.95	0.94
SIO3R6M5503081	3.6 $\pm$ 20% (M)	12.0	150	5.00	5.50
SIO6R8M4803081	6.8 $\pm$ 20% (M)	19.9	110	3.70	4.80
SIO150M2803081	15 $\pm$ 20% (M)	47.2	45.0	2.50	2.80
SIO470M1403081	47 $\pm$ 20% (M)	166	14.0	1.40	1.40
SIO221M0943081	220 $\pm$ 20% (M)	640	4.2	0.64	0.94
SIO6R0M5503081	6.0 $\pm$ 20% (M)	12.0	95.0	4.60	5.50
SIO120M4803081	12 $\pm$ 20% (M)	19.9	75.0	3.40	4.80
SIO220M2803081	22 $\pm$ 20% (M)	47.2	50.0	2.40	2.80
SIO820M1403081	82 $\pm$ 20% (M)	166	10.0	1.30	1.40
SIO391M0943081	390 $\pm$ 20% (M)	640	3.0	0.60	0.94

Notes:

1. All test data referenced to 25°C ambient, Inductance test under 100KHz, 0.1V
2. Saturation Current (Isat) based on inductance drop ($\Delta L/L_0$: $\leq$ 30%) approximately.
3. Temperature Rise Current (Irms) based on temperature rise (ΔT : 40°C) approximately.
4. Ambient temperature: -40°C ~ +85°C, +85°C to +125°C with derated current.

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ELECTRICAL CHARACTERISTICS – SIO-3881

Part Number	Inductance (μ H)	Max. DCR (m Ω)	Typ. SRF (MHz)	Typ. Isat (A)	Max. Irms (A)
SIO1R5M8003881	1.5 $\pm$ 20% (M)	9.30	133	18.0	8.00
SIO3R3M5403881	3.3 $\pm$ 20% (M)	18.7	73.0	12.0	5.40
SIO8R2M2703881	8.2 $\pm$ 20% (M)	63.0	24.0	7.50	2.70
SIO270M1303881	27 $\pm$ 20% (M)	290	12.0	4.00	1.30
SIO101M0903881	100 $\pm$ 20% (M)	657	4.00	2.10	0.90
SIO3R8M8003881	3.8 $\pm$ 20% (M)	9.30	133	8.80	8.00
SIO7R5M5403881	7.5 $\pm$ 20% (M)	18.7	73.0	5.80	5.40
SIO220M2703881	22 $\pm$ 20% (M)	63.0	34.0	3.50	2.70
SIO730M1303881	73 $\pm$ 20% (M)	290	5.00	2.00	1.30
SIO291M0903881	290 $\pm$ 20% (M)	657	2.00	0.98	0.90
SIO4R7M8003881	4.7 $\pm$ 20% (M)	9.30	133	6.50	8.00
SIO100M5403881	10 $\pm$ 20% (M)	18.7	62.0	4.40	5.40
SIO330M2703881	33 $\pm$ 20% (M)	63.0	25.0	2.40	2.70
SIO101M1303881	100 $\pm$ 20% (M)	290	5.00	1.40	1.30
SIO391M0903881	390 $\pm$ 20% (M)	657	1.80	0.71	0.90
SIO6R8M8003881	6.8 $\pm$ 20% (M)	9.30	133	6.20	8.00
SIO150M5403881	15 $\pm$ 20% (M)	18.7	58.0	4.20	5.40
SIO390M2703881	39 $\pm$ 20% (M)	63.0	18.0	2.60	2.70
SIO121M1303881	120 $\pm$ 20% (M)	290	4.00	1.60	1.30
SIO471M0903881	470 $\pm$ 20% (M)	657	1.20	0.74	0.90

Notes:

1. All test data referenced to 25°C ambient, Inductance test under 100KHz, 0.1V
2. Saturation Current (Isat) based on inductance drop ($\Delta L/L_0$: $\leq$ 30%) approximately.
3. Temperature Rise Current (Irms) based on temperature rise (ΔT : 40°C) approximately.
4. Ambient temperature: -40°C ~ +85°C, +85°C to +125°C with derated current.

SMD Power Inductor Toroidal Type

SIO-81 Series

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ELECTRICAL CHARACTERISTICS – SIO-4481

Part Number	Inductance (μ H)	Max. DCR (m Ω)	Typ. SRF (MHz)	Typ. Isat (A)	Max. Irms (A)
SIO5R6M7804481	5.6 $\pm$ 20% (M)	16.2	65.0	11.0	7.80
SIO100M5504481	10 $\pm$ 20% (M)	23.6	40.0	9.00	5.50
SIO150M4004481	15 $\pm$ 20% (M)	39.0	25.0	7.40	4.00
SIO270M2704481	27 $\pm$ 20% (M)	85.0	12.0	5.40	2.70
SIO681M0704481	680 $\pm$ 20% (M)	1908	1.40	1.00	0.70
SIO7R9M7804481	7.9 $\pm$ 20% (M)	16.2	49.0	6.60	7.80
SIO140M5504481	14 $\pm$ 20% (M)	23.6	33.0	5.20	5.50
SIO220M4004481	22 $\pm$ 20% (M)	39.0	23.0	4.10	4.00
SIO410M2704481	41 $\pm$ 20% (M)	85.0	9.50	3.00	2.70
SIO112M0704481	1100 $\pm$ 20% (M)	2500	1.20	0.58	0.70
SIO120M7804481	12 $\pm$ 20% (M)	16.2	62.0	4.50	7.80
SIO180M5504481	18 $\pm$ 20% (M)	23.6	35.0	3.50	5.50
SIO270M4004481	27 $\pm$ 20% (M)	39.0	26.0	2.80	4.00
SIO560M2704481	56 $\pm$ 20% (M)	85.0	9.00	2.00	2.70
SIO152M0704481	1500 $\pm$ 20% (M)	1908	0.85	0.39	0.70
SIO180M7804481	18 $\pm$ 20% (M)	16.2	49.0	4.30	7.80
SIO270M5504481	27 $\pm$ 20% (M)	23.6	33.0	3.40	5.50
SIO470M4004481	47 $\pm$ 20% (M)	39.0	23.0	2.60	4.00
SIO101M2704481	100 $\pm$ 20% (M)	85.0	7.50	1.80	2.70
SIO222M0704481	2200 $\pm$ 20% (M)	1908	0.60	0.38	0.70

Notes:

1. All test data referenced to 25°C ambient, Inductance test under 100KHz, 0.1V
2. Saturation Current (Isat) based on inductance drop ($\Delta L/L_0$: $\leq$ 30%) approximately.
3. Temperature Rise Current (Irms) based on temperature rise (ΔT : 40°C) approximately.
4. Ambient temperature: -40°C ~ +85°C, +85°C to +125°C with derated current.

ELECTRICAL CHARACTERISTICS – SIO-5081

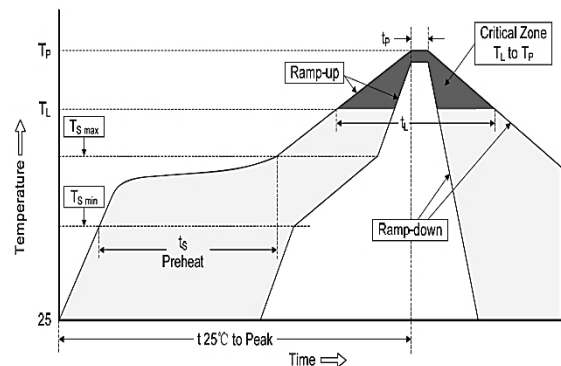
Part Number	Inductance (μH)	Max. DCR (mΩ)	Typ. SRF (MHz)	Typ. Isat (A)	Max. Irms (A)
SIO100M7205081	10 ±20% (M)	19.7	35.0	9.00	7.20
SIO150M5105081	15 ±20% (M)	32.0	27.0	7.50	5.10
SIO470M2605081	47 ±20% (M)	133	7.00	4.30	2.60
SIO101M2005081	100 ±20% (M)	220	3.80	2.90	2.00
SIO152M0715081	1500 ±20% (M)	1932	0.72	0.76	0.71
SIO160M7205081	16 ±20% (M)	19.7	24.0	5.40	7.20
SIO260M5105081	26 ±20% (M)	32.0	11.0	4.30	5.10
SIO730M2605081	73 ±20% (M)	133	4.50	2.50	2.60
SIO151M2005081	150 ±20% (M)	220	2.60	1.80	2.00
SIO202M0715081	2000 ±20% (M)	1932	0.60	0.50	0.71
SIO180M7205081	18 ±20% (M)	19.7	35.0	4.40	7.20
SIO270M5105081	27 ±20% (M)	32.0	27.0	3.60	5.10
SIO101M2605081	100 ±20% (M)	133	5.20	1.90	2.60
SIO221M2005081	220 ±20% (M)	220	2.20	1.30	2.00
SIO272M0715081	2700 ±20% (M)	1932	0.50	0.37	0.71
SIO330M7205081	33 ±20% (M)	19.7	19.0	3.50	7.20
SIO470M5105081	47 ±20% (M)	32.0	16.0	2.80	5.10
SIO151M2605081	150 ±20% (M)	133	3.60	1.60	2.60
SIO331M2005081	330 ±20% (M)	220	2.00	1.20	2.00
SIO472M0715081	4700 ±20% (M)	1932	0.45	0.31	0.71

Notes:

1. All test data referenced to 25°C ambient, Inductance test under 100KHz, 0.1V
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3. Temperature Rise Current (Irms) based on temperature rise (ΔT : 40°C) approximately.
4. Ambient temperature: -40°C ~ +85°C, +85°C to +125°C with derated current.

RECOMMENDED SOLDERING PROFILES

Reflow Condition		
Pre Heat	Temp. Min $T_{s(min)}$	160°C
	Temp. Max $T_{s(max)}$	180°C
	Time (min. to max.) (t_s)	60 ~120 seconds
Reflow	Temp. (T_L)	230°C
	Time (min. to max.) (t_L)	40 seconds
Peak Temperature (T_P)		250°C
t_p within 5°C of Peak Temperature (t_p)		10 seconds
Reflow Times		2 times max



*Specifications subject to change without notice.