tyco Electronics

Shielded SMD Power Inductors

SIGMA INDUCTORS

Type 3639 Series

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The 3639 series unique design allows for a range of products which give not only a high current rating, but minimizes the board space required for this product. Tyco Sigma quality, matched with reliability and low cost make this series suitable for many applications in power line DC-DC conversion. The low height profile and high heat resistance of the components make this series also suitable for hard disk drives, notebook PC's and other electronic equipment.

Key Features

- Available in 5 different sizes
- Down to 2.8mm height profile
- Isat to 8.5A
- Taped and Reeled
- Low RDC
- Wide Inductance range
- Ferrite core

Electrical Characteristics - 3639A Series

Inductance Code	Inductance (µH)	Q Ref.	Test Freq.		S.R.F. (MHz) Typ.	R.D.C. (mΩ)		Isat (A)	Irms (A)
			L (KHz)	Q (MHz)		Typ.	Max.		
2R5	2.5	15	100	7.96	65.0	13.6	18.0	4.20	4.50
3R3	3.3	12	100	7.96	60.0	17.5	23.0	3.50	3.60
4R7	4.7	15	100	7.96	50.0	20.0	26.0	3.20	3.70
6R8	6.8	13	100	7.96	40.0	34.0	45.0	2.50	2.80
100	10.0	22	100	2.52	35.0	45.0	57.0	2.20	2.60
150	15.0	20	100	2.52	25.0	66.0	85.0	1.70	2.00
220	22.0	22	100	2.52	20.0	106.0	130.0	1.50	1.60
330	33.0	20	100	2.52	15.0	147.0	185.0	1.10	1.30
470	47.0	14	100	2.52	12.0	177.0	230.0	1.00	1.20
680	68.0	23	100	2.52	9.0	317.0	390.0	0.80	0.85
101	100.0	35	100	0.796	8.0	390.0	500.0	0.70	0.75

Electrical Characteristics - 3639B Series

Inductance Code	Inductance (µH)	Q Ref.	Test Freq.		S.R.F. (MHz) Typ.	R.D.C. (mΩ)		Isat (A)	Irms (A)
			L (KHz)	Q (MHz)		Typ.	Max.		
2R2	2.2	15	100	7.96	65.0	11.2	15.0	5.2	5.4
3R9	3.9	15	100	7.96	42.0	14.6	19.0	4.0	4.8
4R7	4.7	13	100	7.96	36.0	17.0	22.0	3.6	4.6
6R8	6.8	12	100	7.96	30.0	22.4	30.0	3.1	3.8
100	10.0	27	100	2.52	20.0	30.0	40.0	2.7	3.5
150	15.0	26	100	2.52	15.0	46.0	60.0	2.0	2.7
220	22.0	24	100	2.52	12.0	72.5	95.0	1.7	2.2
330	33.0	21	100	2.52	11.0	100.0	130.0	1.4	1.7
470	47.0	21	100	2.52	9.0	120.0	150.0	1.2	1.5
680	68.0	20	100	2.52	7.0	192.0	250.0	1.0	1.2
101	100.0	50	100	0.796	6.0	287.0	370.0	0.8	1.0

Electrical Characteristics - 3639C Series

Inductance Code	Inductance (µH)	Q Ref.	S.R.F. (MHz) Typ.	R.D.C. (mΩ)		Irms (A) Max.	Isat (A) Typ.
				Typ.	Max.		
1R0	1.0	14	100	4.9	6.5	7.00	8.00
1R5	1.5	12	80	7.3	10.0	6.50	6.50
2R2	2.2	12	65	11.0	15.0	5.30	4.80
3R3	3.3	14	55	15.0	20.0	4.60	4.30
4R7	4.7	12	40	16.5	23.0	4.50	3.80
6R8	6.8	12	30	25.0	33.0	3.50	3.00
8R2	8.2	12	28	28.5	37.0	3.30	2.70
100	10.0	20	25	40.0	53.0	2.80	2.40
150	15.0	26	22	69.0	90.0	2.00	2.00
220	22.0	26	16	104.0	135.0	1.60	1.40
330	33.0	24	12	139.0	180.0	1.25	1.20
470	47.0	20	11	167.0	230.0	1.30	1.10
560	56.0	22	10	208.0	270.0	1.10	1.00
680	68.0	20	9	232.0	300.0	1.00	0.90
820	82.0	20	8	323.0	420.0	0.90	0.85
101	100.0	20	7	365.0	470.0	0.85	0.80
121	120.0	18	6	428.0	560.0	0.65	0.70
151	150.0	18	5	518.0	680.0	0.70	0.65

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Electrical Characteristics - 3639D Series

Inductance Code	Inductance (µH)	R.D.C. (mΩ) Typ.	R.D.C. (mΩ) Max.	Isat (A) Typ.	Irms (A) Max.
1R5	1.5	5.2	7.5	7.00	7.20
2R2	2.2	7.7	10.5	6.50	6.80
3R5	3.5	11.5	15.0	5.50	5.50
5R0	5.0	14.5	22.0	4.80	4.60
6R2	6.2	16.5	24.0	4.20	4.00
100	10.0	25.0	35.0	3.60	3.80
150	15.0	37.0	50.0	2.70	2.80
220	22.0	55.8	75.0	2.30	2.20
330	33.0	86.0	112.0	1.80	1.80
470	47.0	121.0	160.0	1.60	1.65
680	68.0	166.0	216.0	1.30	1.10
101	100.0	220.0	300.0	1.10	1.30
151	150.0	358.0	476.0	0.80	0.90
221	220.0	565.0	740.0	0.65	0.65
331	330.0	773.0	1000.0	0.52	0.55

Electrical Characteristics - 3639E Series

Inductance Code	Inductance (µH)	R.D.C. (mΩ) Typ.	R.D.C. (mΩ) Max.	Irms (A) Max.	Isat (A) Max.
R80	0.8	3.6	4.8	7.80	8.50
1R5	1.5	4.3	5.8	7.00	7.20
2R2	2.2	5.3	7.2	6.50	6.30
3R0	3.0	7.2	10.0	6.20	6.00
4R7	4.7	9.5	12.5	5.50	4.75
6R8	6.8	13.6	18.0	4.80	4.10
8R2	8.2	15.0	20.0	4.60	3.80
100	10.0	18.5	25.0	4.50	3.70
150	15.0	29.0	40.0	3.20	2.70
220	22.0	42.0	55.0	2.60	2.00
330	33.0	63.0	84.0	2.10	1.70
470	47.0	94.0	120.0	1.70	1.50
560	56.0	110.0	145.0	1.60	1.40
680	68.0	127.0	170.0	1.40	1.25
820	82.0	149.0	200.0	1.30	1.10
101	100.0	160.0	220.0	1.20	1.00
151	150.0	235.0	305.0	1.00	0.80
221	220.0	350.0	455.0	0.80	0.70
331	330.0	490.0	640.0	0.65	0.52

Environmental Characteristics - Characteristics -

Storage Temp:	-40°C to +125°C
Operating Temp:	-40°C to +105°C
Rated Current:	Based on Temp. Rise & ΔL/L = 35% Typ.
Temp. Rise:	30°C Max. (40°C Max. - C, D, E Series)
Standard Tolerance:	± 30%

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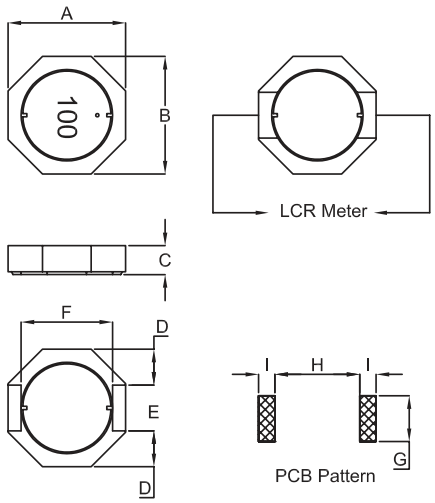
Dimensions



Series	A ±0.3	B ±0.3	C ±0.3	D typ.	E typ.	F typ.	G ref.	H ref.	I ref.
3639A	8.0	8.0	2.8	2.5	2.8	6.0	3.2	5.8	2.0
3639B	8.0	8.0	4.3	2.5	2.8	6.0	3.2	5.8	2.0
3639C	10.0	10.0	2.8	3.4	3.2	7.4	3.6	7.2	1.8
3639D	10.0	10.0	3.8	3.4	3.2	7.4	3.6	7.2	1.8
3639E	10.0	10.0	4.8	3.4	3.2	7.4	3.6	7.2	1.8

Reliability Test - A, B, D, E Series

Test Item	Specification	Test Condition
Thermal Shock Test: (Temp Cycle)	ΔL ≤ ±30%	Room Temp. → -25± 2°C 15 minutes → 30 minutes Room Temp. → 85± 2°C 15 minutes → 30 minutes Total: 50 cycles
Humidity Resistance Test:	ΔL ≤ ±30%	Temperature: 40± 2°C Humidity: 90 ~ 95% Applied Current: Per spec. Time: 500 hours
High Temp. Resistance Test:	ΔL ≤ ±30%	Temperature: 85± 2°C Applied Current: Per spec. Time: 500 hours

Reliability Test - C Series

Test Item	Specification	Test Condition
Thermal Shock Test: (Temp Cycle)	ΔL ≤ ±30%	Room Temp. → -25± 2°C 15 minutes → 30 minutes Room Temp. → 85± 2°C 15 minutes → 30 minutes Total: 50 cycles
Humidity Resistance Test:	ΔL ≤ ±30%	Temperature: 40± 2°C Humidity: 90 ~ 95% Applied Current: Per spec. Time: 500 hours
High Temp. Resistance Test:	ΔL ≤ ±30%	Temperature: 105± 2°C Applied Current: Per spec. Time: 500 hours

How to Order

3639	A	820	N
Common Part	**Style**	**Inductance**	**Tolerance**
3639	A, B,C, D or E	See Relevant Table for Inductance Code	N - 30%