Model ILSB-0603

Vishay Dale

Monolithic Chip Inductors

FEATURES

- High reliability.
- Surface mountable.
- Design of the part makes it inherently shielded.

ELECTRICAL SPECIFICATIONS

Inductance Range: .047µH to 4.7µH.

Inductance Tolerance: ± 20% for .047µH to .082µH. ± 10% or ± 20% for .10µH to 4.7µH.

Temperature Range: - 25°C to + 85°C.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature: - 25°C to + 85°C.

Storage Temperature: - 40°C to + 85°C.

Load Life: Tested at full rated DC current at ± 85°C, 1000 hours. Δ L ≤ ± 5%. Δ Q ≤ ± 30%.

Thermal Shock: Meets requirements of MIL-STD-202, Method 107, 100 cycles - 25°C to + 85°C. Δ L ≤ ± 5%. Δ Q ≤ ± 30%.

Moisture Resistance: Store at + 40°C and 90% minimum relative humidity for 1000 hours. ΔL ≤ ± 5%. ΔQ ≤ ± 30%.

MECHANICAL SPECIFICATIONS

Termination: 90/10 Sn/Pb.

Solderability: Preheat parts to + 150°C to + 180°C for 2 minutes. Solder temperature 230°C for 3 seconds. At least 90% of termination will be recovered by new solder.

Flex Test: Meets the requirements of IEC-384-1 with .0787" [2.0mm] deflection.

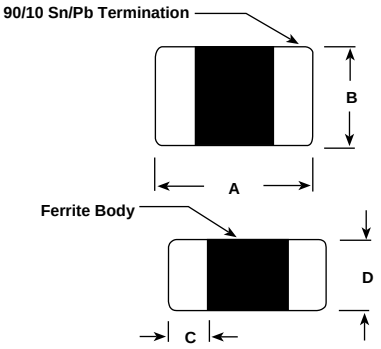
Terminal Strength: 0.3 Kg, 30 seconds.

Transverse Rupture: 0.3 Kg with 0.8mm spacing.

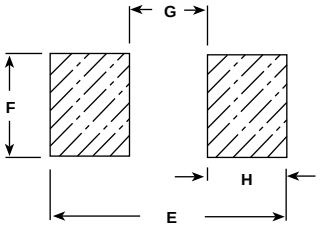
STANDARD ELECTRICAL SPECIFICATIONS [Numbers in brackets indicate millimeters]

INDUCTANCE (µH) ±10%	TOLERANCE	THICKNESS "D" (Inches)	Q (Min.)	TEST FREQUENCY L & Q (MHz)	MIN. SELF- RESONANT FREQUENCY (MHz)	MAX. DCR (Ohms)	RATED DC CURRENT (mA)
0.047	± 20%	0.032 ± 0.006 [0.80 ± 0.15]	10	50	260	0.15	50
0.056	± 20%	0.032 ± 0.006 [0.80 ± 0.15]	10	50	255	0.25	50
0.068	± 20%	0.032 ± 0.006 [0.80 ± 0.15]	10	50	250	0.25	50
0.082	± 20%	0.032 ± 0.006 [0.80 ± 0.15]	10	50	245	0.25	50
0.10	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	276	0.50	50
0.12	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	236	0.50	50
0.15	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	207	0.60	50
0.18	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	190	0.60	50
0.22	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	173	0.80	50
0.27	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	157	0.80	50
0.33	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	144	0.85	35
0.39	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	127	1.00	35
0.47	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	121	1.35	35
0.56	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	110	1.55	35
0.68	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	104	1.70	35
0.82	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	15	25	98	2.10	35
1.0	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	25	10	87	0.60	25
1.2	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	25	10	74	0.80	25
1.5	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	25	10	69	0.80	25
1.8	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	25	10	64	0.95	25
2.2	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	25	10	58	1.15	15
2.7	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	25	10	52	1.35	15
3.3	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	25	10	46	1.55	15
3.9	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	25	10	41	1.70	15
4.7	± 20%, ± 10%	0.032 ± 0.006 [0.80 ± 0.15]	25	10	38	2.10	15

DIMENSIONAL CONFIGURATIONS [Numbers in brackets indicate millimeters]



Dimensional Outline



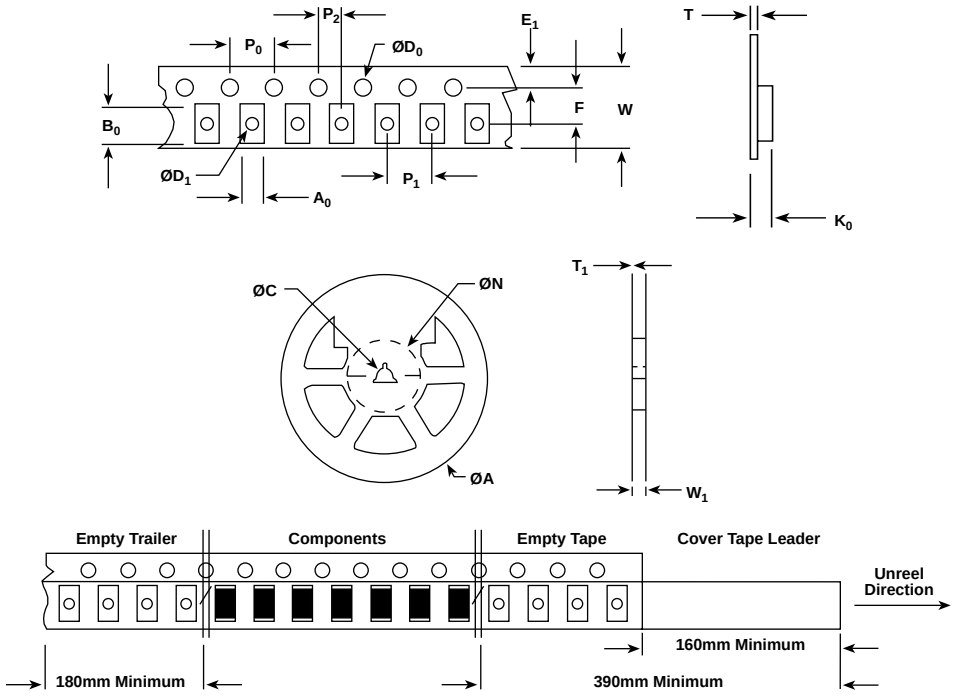
Suggested Pad Layout

A	B	C	D	E	F	G	H
0.063 ± 0.006 [1.6 ± 0.15]	0.032 ± 0.006 [0.8 ± 0.15]	0.012 ± 0.006 [0.3 ± 0.15]	0.032 ± 0.006* [0.8 ± 0.15]	0.105 [2.7]	0.035 [0.9]	0.025 [0.64]	0.040 [1.0]

*27µH "D" dimensions is 0.047" ± .006" [1.20 ± 0.15mm].

TAPE AND REEL SPECIFICATIONS 0603 SIZE PER EIA-481-1 [Numbers in brackets indicate millimeters]

4000 Piece/Reel



A_0	0.045 ± .004 [1.14 ± 0.1]
B_0	0.068 ± .004 [1.75 ± 0.1]
D_0	0.059 ± .005/-0.000 [1.5 ± 0.127]
D_1	0.039 Min. [1.0 Min.]
E_1	0.069 ± .004 [1.75 ± 0.1]
F	0.138 ± .002 [3.50 ± 0.05]
K_0	0.045 ± .002 [1.15 ± 0.05]
P_0	0.157 ± .004 [4.00 ± 0.1]
P_1	0.157 ± .004 [4.00 ± 0.1]
P_2	0.079 ± .002 [2.00 ± 0.05]
W	0.327 Max. [8.3 Max.]
T	0.008 ± .002 [0.2 ± 0.05]
A	7.000 ± .079 [178 ± 2.0]
N	2.500 [63.5]
C	0.512 ± .020 [13.00 ± 0.05]
W_1	0.315 + 0.059/-0.00 [8.00 ± 1.5]
T_1	0.079 ± .002 [2.00 ± 0.05]

HOW TO ORDER

ILSB-0603	3.3µH	±10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE