

Monolithic Chip Inductors



MECHANICAL SPECIFICATIONS

Solderability: 90 % coverage after 5 s dip in 235 °C solder following 60 s preheat at 120 °C to 150 °C and type R flux dip

Resistance to Solder Heat: 10 s in 260 °C solder, after preheat and flux per above

Termination: 100 % Sn

Terminal Strength: 0.5 kg for 30 s

Beam Strength: 0.3 kg

FEATURES

- High reliability
- Surface mountable
- Magnetically self shielded
- Nickel barrier plating virtually eliminates silver migration
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature: -55 °C to +125 °C

Thermal Shock: -40 °C to +85 °C

Humidity: 90 % RH at 40 °C, 1000 h at full rated current

Load Life: 85 °C for 1000 h at full rated current

STANDARD ELECTRICAL SPECIFICATIONS								
PART NUMBER	INDUCTANCE (μ H)	TOL.	THICKNESS "D" (INCHES [mm])	TEST FREQ. (MHz)	Q MIN.	SRF MIN. (MHz)	DCR MAX. (Ω)	RATED DC CURRENT (mA)
				L AND Q				
ILSB0603ER47NM	0.047	20 %	0.031 \pm 0.008 [0.80 \pm 0.2]	50	10	260	0.15	50
ILSB0603ER68NM	0.068	20 %	0.031 \pm 0.008 [0.80 \pm 0.2]	50	10	250	0.25	50
ILSB0603ER82NM	0.082	20 %	0.031 \pm 0.008 [0.80 \pm 0.2]	50	10	245	0.25	50
ILSB0603ERR10K	0.10	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	276	0.50	50
ILSB0603ERR12K	0.12	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	236	0.50	50
ILSB0603ERR15K	0.15	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	207	0.60	50
ILSB0603ERR18K	0.18	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	190	0.60	50
ILSB0603ERR22K	0.22	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	173	0.80	50
ILSB0603ERR27K	0.27	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	157	0.80	50
ILSB0603ERR33K	0.33	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	144	0.85	35
ILSB0603ERR39K	0.39	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	127	1.00	35
ILSB0603ERR47K	0.47	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	121	1.35	35
ILSB0603ERR56K	0.56	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	110	1.55	35
ILSB0603ERR68K	0.68	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	104	1.70	35
ILSB0603ERR82K	0.82	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	25	15	98	2.10	35
ILSB0603ER1R0K	1.0	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	10	35	87	0.60	25
ILSB0603ER1R2K	1.2	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	10	35	74	0.80	25
ILSB0603ER1R5K	1.5	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	10	35	69	0.80	25
ILSB0603ER1R8K	1.8	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	10	35	64	0.95	25
ILSB0603ER2R2K	2.2	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	10	35	58	1.15	15
ILSB0603ER2R7K	2.7	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	10	35	52	1.35	15
ILSB0603ER3R3K	3.3	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	10	35	46	1.55	15
ILSB0603ER3R9K	3.9	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	10	35	41	1.70	15
ILSB0603ER4R7K	4.7	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	10	35	38	2.10	15
ILSB0603ER5R6K	5.6	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	4	30	22	1.55	15
ILSB0603ER6R8K	6.8	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	4	30	20	1.70	15
ILSB0603ER8R2K	8.2	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	4	30	18	2.10	15
ILSB0603ER100K	10	10 %	0.031 \pm 0.008 [0.80 \pm 0.2]	2	30	17	2.55	15

DESCRIPTION					
ILSB-0603	3.3 μH	$\pm 10\%$	ER	e3	
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD	

GLOBAL PART NUMBER				
I L S B	0 6 0 3	E R	3 R 3	K
PRODUCT FAMILY		SIZE	PACKAGE CODE	INDUCTANCE VALUE
			INDUCTANCE VALUE	TOLERANCE
			ER = tape and reel	3R3 = 3.3 μH
				K = 10 %

DIMENSIONS in inches [millimeters]							
A	B	C	D	E	F	G	H
0.063 \pm 0.006 [1.6 \pm 0.15]	0.031 \pm 0.006 [0.8 \pm 0.15]	0.012 \pm 0.006 [0.3 \pm 0.15]	0.031 \pm 0.008 [0.8 \pm 0.2]	0.105 [2.7]	0.035 [0.9]	0.025 [0.64]	0.040 [1.0]

TAPE AND REEL SPECIFICATIONS 0603 SIZE PER EIA-481-1 in inches [millimeters]		
	A ₀	0.045 \pm 0.004 [1.14 \pm 0.1]
	B ₀	0.068 \pm 0.004 [1.75 \pm 0.1]
	D ₀	0.059 + 0.005/- 0.000 [1.5 + 0.127]
	D ₁	0.039 min. [1.0 min.]
	E ₁	0.069 \pm 0.004 [1.75 \pm 0.1]
	F	0.138 \pm 0.002 [3.50 \pm 0.05]
	K ₀	0.045 \pm 0.002 [1.15 \pm 0.05]
	P ₀	0.157 \pm 0.004 [4.00 \pm 0.1]
	P ₁	0.157 \pm 0.004 [4.00 \pm 0.1]
	P ₂	0.079 \pm 0.002 [2.00 \pm 0.05]
	W	0.327 max. [8.3 max.]
	T	0.008 \pm 0.002 [0.2 \pm 0.05]
	A	7.000 \pm 0.079 [178 \pm 2.0]
	N	2.500 [63.5]
	C	0.512 \pm 0.020 [13.00 \pm 0.50]
	W ₁	0.315 + 0.059/- 0.000 [8.00 + 1.5]
T ₁	0.079 \pm 0.002 [2.00 \pm 0.05]	



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