TLQH Series (Rev. 1.0)

TLQH Series is a type of miniature wire-wound chip inductor designed on a special ferrite core. Excellent for use in DC power supply circuits.

Features

* RoHS compliant
* Low DC resistance, high current capacity, and high impedance characteristics
* Excellent solder heat resistance
* Both flow and reflow soldering methods can be employed

Applications

* Personal computers
* Disk drives and computer peripherals
* Pagers, cordless phone
* DC power supply circuit

Product Identification

TLQH	32	L	-	470	M
1	2	3		4	5

1. Product Code
2. Size Code
3. H: High current ; L: Lower height
4. Inductance: 47uH
5. Tolerance: J=±5%, K=±10%, M=±20%, N=±30%

Operating & Storage Condition

* Operating Temp :Stand Type:-40 to +85°C
* Storage Temp : Stand Type -40 to +85°C
* Storage Life Time: 6 Months @25°C,RH 65%

Test Equipment

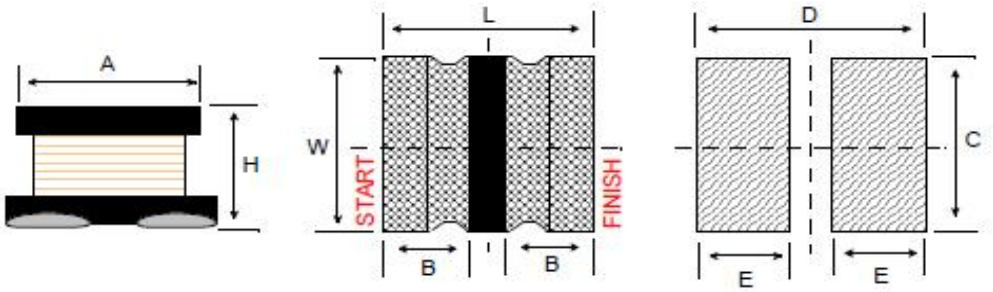
* HP4284A,HP42841A- L,IDC,Q.RDC
* HP8753D Network Analyzer - SRF

Standard Atmospheric Conditions

* Ambient Temp : 20 ± 5°C
* Relative Humidity : 65 ± 20%

Dimension & Recommended PAD Layout: [mm]

Side View	Bottom View	Recommended Pad Layout



Size Code	A(±0.3)	B(ref.)	C(ref.)	D(ref.)	E(ref.)	H(±0.4)	L(±0.3)	W(±0.3)
20L	2.0±0.2	0.4～0.8	2.0	2.7	1.0	1.05max	2.0±0.2	1.6±0.2
20	2.0	0.4～0.8	1.8	2.5	0.7	1.4	2.1	1.5
25L	2.5±0.2	0.6～1.0	2.5	3.2	1.2	1.05max	2.5±0.2	2.1±0.2
25	2.5	0.4～0.8	2.8	3.5	0.7	1.8	2.5	2
32	3.2	0.7～1.2	3.5	4.5	1.6	2.0	3.2	2.5
43	4.3	1.0～1.8	4.2	5.5	2.3	2.6	4.5	3.2
56	5.0	1.1～1.9	6.5	7.0	2.5	4.7	5.7	5.0

TLQH Series (Rev. 1.0)

Electrical Characteristics

P/N	Inductance (uH)	Test Freq. (MHz/0.25V)	DCR (Ω) max.	Isat (A) typ.	Irms (A) typ.
TLQH20L-1R0N	1.0	1	0.180	1.70	1.42
TLQH20L-1R5N	1.5	1	0.250	1.30	1.34
TLQH20L-2R2N	2.2	1	0.340	1.10	1.04
TLQH20L-3R3N	3.3	1	0.435	0.98	0.90
TLQH20L-4R7M	4.7	1	0.590	0.82	0.72
TLQH20L-5R6M	5.6	1	0.740	0.74	0.68
TLQH20L-6R8M	6.8	1	0.840	0.67	0.62
TLQH20L-100M	10.0	1	1.200	0.58	0.58
TLQH20L-220M	22.0	1	2.680	0.38	0.40

P/N	Inductance (uH)	Test Freq. (MHz/0.25V)	DCR (Ω) max.	IDC (A) max.	
TLQH20-R10M	0.10	100	0.018	4.24	
TLQH20-R12M	0.12	100	0.022	3.97	
TLQH20-R15M	0.15	100	0.023	3.87	
TLQH20-R18M	0.18	100	0.029	3.10	
TLQH20-R22M	0.22	100	0.034	3.07	
TLQH20-R27M	0.27	100	0.042	2.46	
TLQH20-R33M	0.33	100	0.048	2.07	
TLQH20-R39M	0.39	100	0.059	1.61	
TLQH20-R47M	0.47	100	0.068	1.53	
TLQH20-R56M	0.56	100	0.091	1.48	
TLQH20-R68M	0.68	100	0.101	1.37	
TLQH20-R82M	0.82	100	0.116	1.28	
TLQH20-1R0M	1.00	100	0.160	0.75	
TLQH20-1R5M	1.50	100	0.247	0.70	
TLQH20-2R0M	2.00	100	0.300	0.65	
TLQH20-2R2M	2.20	100	0.330	0.61	
TLQH20-2R7M	2.70	100	0.360	0.55	
TLQH20-3R3M	3.30	100	0.500	0.50	
TLQH20-3R9M	3.90	100	0.700	0.49	
TLQH20-4R7M	4.70	100	0.740	0.47	
TLQH20-6R8M	6.80	100	0.970	0.45	
TLQH20-8R2M	8.20	100	1.490	0.40	
TLQH20-100M	10.00	1	1.620	0.37	
TLQH20-120M	12.00	1	1.890	0.34	
TLQH20-150K/M	15.00	1	2.170	0.32	
TLQH20-220K/M	22.00	1	3.420	0.25	
TLQH20-270K/M	27.00	1	4.280	0.21	
TLQH20-330K/M	33.00	1	5.470	0.20	
TLQH20-390K/M	39.00	1	6.290	0.17	
TLQH20-470K/M	47.00	1	9.870	0.13	
TLQH20-680K/M	68.00	1	12.170	0.11	
TLQH20-820K/M	82.00	1	14.500	0.09	
TLQH20-101K/M	100.00	1	19.062	0.08	
TLQH20-121K/M	120.00	1	22.030	0.02	

* Irms DC current (A) that will cause an approximate ΔT of 40°C
* Isat DC current (A) that will cause L to drop approximately 10%
* Tolerance: J=±5%, K=±10%, M=±20%, N=±30%

TLQH Series (Rev. 1.0)

Electrical Characteristics

P/N	Inductance (uH)	Test Freq. (MHz/0.25V)	DCR (Ω) max.	Isat (A) typ.	Irms (A) typ.
TLQH25L-1R0M	1.0	1	0.15	2.00	1.90
TLQH25L-1R5M	1.5	1	0.19	1.80	1.64
TLQH25L-2R2M	2.2	1	0.30	1.40	1.60
TLQH25L-3R3M	3.3	1	0.39	1.20	1.10
TLQH25L-4R7M	4.7	1	0.51	1.00	1.02
TLQH25L-5R6M	5.6	1	0.63	0.96	0.88
TLQH25L-6R8M	6.8	1	0.79	0.84	0.82
TLQH25L-100M	10.0	1	1.05	0.70	0.74
TLQH25L-220M	22.0	1	2.40	0.49	0.46

P/N	Inductance (uH)	Test Freq. (KHz/0.25V)	DCR (Ω) max.	IDC (mA) max.	
TLQH25-R22M	0.2	1	0.03	350	
TLQH25-R39M	0.4	1	0.42	330	
TLQH25-1R0M	1.0	1	0.78	300	
TLQH25-1R2M	1.2	1	0.09	290	
TLQH25-1R5M	1.5	1	0.10	280	
TLQH25-1R8M	1.8	1	0.11	270	
TLQH25-2R2M	2.2	1	0.12	250	
TLQH25-2R7M	2.7	1	0.20	240	
TLQH25-3R3M	3.3	1	0.24	230	
TLQH25-3R9M	3.9	1	0.28	220	
TLQH25-4R7M	4.7	1	0.30	210	
TLQH25-5R6M	5.6	1	0.34	205	
TLQH25-6R8M	6.8	1	0.44	200	
TLQH25-8R2M	8.2	1	0.59	195	
TLQH25-100K/M	10.0	1	0.68	190	
TLQH25-120K/M	12.0	1	0.77	185	
TLQH25-150K/M	15.0	1	0.87	180	
TLQH25-180K/M	18.0	1	1.20	175	
TLQH25-220K/M	22.0	1	1.34	170	
TLQH25-270K/M	27.0	1	2.86	165	
TLQH25-330K/M	33.0	1	2.10	160	
TLQH25-390K/M	39.0	1	2.35	155	
TLQH25-470K/M	47.0	1	3.30	150	
TLQH25-560K/M	56.0	1	3.70	145	
TLQH25-680K/M	68.0	1	6.00	135	
TLQH25-820K/M	82.0	1	6.90	125	
TLQH25-101K/M	100.0	1	7.75	110	
TLQH25-221K/M	220.0	1	13.42	90	

* Irms DC current (A) that will cause an approximate ΔT of 40°C
* Isat DC current (A) that will cause L to drop approximately 10%
* Tolerance: J=±5%, K=±10%, M=±20%, N=±30%

TLQH Series (Rev. 1.0)

Electrical Characteristics

P/N	Inductance (uH)	Q (ref.) @ KHz	DCR (Ω) max.	SRF (MHz) min.	IDC (mA) max.
TLQH32-R10M	0.1	10@2520	0.250	200.00	700
TLQH32-R18M	0.2	10@2520	0.250	200.00	650
TLQH32-R27M	0.3	10@2520	0.250	200.00	600
TLQH32-R33M	0.3	10@2520	0.250	200.00	550
TLQH32-R39M	0.4	10@2520	0.250	200.00	530
TLQH32-R56M	0.6	10@2520	0.250	160.00	530
TLQH32-R68M	0.7	10@2520	0.250	160.00	470
TLQH32-R82M	0.8	10@2520	0.250	120.00	450
TLQH32-1R0M	1.0	10@2520	0.500	100	445
TLQH32-1R2M	1.2	10@2520	0.600	100	425
TLQH32-1R5M	1.5	10@2520	0.600	75	400
TLQH32-1R8M	1.8	10@2520	0.700	60	390
TLQH32-2R2M	2.2	10@2520	0.800	50	370
TLQH32-2R7K	2.7	10@2520	0.900	43	320
TLQH32-3R3K	3.3	10@2520	1.000	38	300
TLQH32-3R9K	3.9	10@2520	1.100	35	290
TLQH32-4R7K	4.7	20@1000	1.200	31	270
TLQH32-5R6K	5.6	20@1000	1.300	28	250
TLQH32-6R8K	6.8	20@1000	1.500	25	240
TLQH32-8R2K	8.2	20@1000	1.600	23	225
TLQH32-100K	10.0	25@1000	1.800	20	190
TLQH32-120K	12.0	25@1000	2.000	18	180
TLQH32-150K	15.0	25@1000	2.200	16	170
TLQH32-180K	18.0	25@1000	2.500	15	160
TLQH32-220K	22.0	25@1000	2.800	14	150
TLQH32-270K	27.0	25@1000	3.100	13	125
TLQH32-330K	33.0	25@1000	3.500	12	115
TLQH32-390K	39.0	25@1000	3.900	11	110
TLQH32-470K	47.0	25@1000	4.300	11	100
TLQH32-560J	56.0	25@1000	4.900	10	85
TLQH32-680J	68.0	25@1000	5.500	9	80
TLQH32-820J	82.0	25@1000	6.200	9	80
TLQH32-101J	100.0	30@796	7.000	8	80
TLQH32-121J	120.0	30@796	8.000	8	75
TLQH32-151J	150.0	30@796	9.300	7	70
TLQH32-181J	180.0	30@796	10.200	6	65
TLQH32-221J	220.00	30@796	11.800	5.00	65
TLQH32-271J	270.00	30@796	12.500	5.00	65
TLQH32-331J	330.00	30@796	13.000	5.00	65
TLQH32-391J	390.00	30@796	22.000	5.00	50
TLQH32-471J	470@1KHZ	30@796	25.000	5.00	45
TLQH32-501J	500@1KHZ	30@796	27.000	5.00	42
TLQH32-561J	560@1KHZ	30@796	28.000	5.00	40
TLQH32-681J	680@1KHZ	30@796	30.000	5.00	35
TLQH32-102J	1000@1KHZ	30@796	39.200	5.00	30

* Inductance Test Condition: @1MHz/0.25v
* IDC current (A) that will cause L to drop approximately 10%
* Tolerance: J=±5%, K=±10%, M=±20%, N=±30%

TLQH Series (Rev. 1.0)

Electrical Characteristics

P/N	Inductance (uH)	DCR (Ω) max.	SRF (MHz) min.	SRF (MHz) typ.	IDC (mA) max.
TLQH32H-R47ML	0.5	0.038	100.0	200.0	2290
TLQH32H-1R0ML	1.0	0.078	100.0	200.0	1000
TLQH32H-2R2ML	2.2	0.126	64.0	120.0	790
TLQH32H-4R7ML	4.7	0.195	43.0	77.0	650
TLQH32H-100KL	10.0	0.390	26.0	50.0	450
TLQH32H-1R0M	1.0	0.117	100.0	150.0	800
TLQH32H-1R8M	1.8	0.140	64.0	100.0	780
TLQH32H-2R2M	2.2	0.169	64.0	100.0	600
TLQH32H-3R3M	3.3	0.180	54.0	100.0	500
TLQH32H-4R7M	4.7	0.260	43.0	66.0	450
TLQH32H-6R8M	6.8	0.350	30.0	45.0	380
TLQH32H-100K	10.0	0.572	26.0	40.0	300
TLQH32H-220K	22.0	0.923	19.0	27.0	250
TLQH32H-330K	33.0	1.350	17.0	22.0	220
TLQH32H-470K	47.0	1.690	15.0	19.0	170
TLQH32H-101K	100.0	4.550	10.0	13.0	100
TLQH32H-221K	220.0	10.920	6.8	8.5	70
TLQH32H-331K	330.0	13.000	5.6	7.0	60
TLQH32H-391K	390.0	22.100	5.0	6.6	60
TLQH32H-471K	470.0	24.700	5.0	6.2	60
TLQH32H-561K	560.0	28.600	5.0	5.7	60

* The suffix "L" means the part with low DCR.

P/N	Inductance (uH)	DCR (Ω) max.	IDC (mA) max.		
TLQH43H-1R0M	1.0	0.080	1080		
TLQH43H-1R5M	1.5	0.090	1000		
TLQH43H-2R2M	2.2	0.110	900		
TLQH43H-3R3M	3.3	0.130	800		
TLQH43H-4R7M	4.7	0.150	750		
TLQH43H-6R8M	6.8	0.200	720		
TLQH43H-100M	10.0	0.240	650		
TLQH43H-150M	15.0	0.320	570		
TLQH43H-220M	22.0	0.600	420		
TLQH43H-330M	33.0	1.000	310		
TLQH43H-470M	47.0	1.100	280		
TLQH43H-560M	56.0	1.340	260		
TLQH43H-680M	68.0	1.700	220		
TLQH43H-101M	100.0	2.200	190		
TLQH43H-151M	150.0	3.500	130		
TLQH43H-221M	220.0	4.000	110		
TLQH43H-331M	330.0	6.800	100		
TLQH43H-471M	470.0	8.500	90		

* Inductance Test Condition: @1MHz/0.25v
* IDC current (A) that will cause L to drop approximately 10%

TLQH Series (Rev. 1.0)

Electrical Characteristics

P/N	Inductance (uH)	DCR (Ω) max.	SRF (MHz) min.	IDC (mA) max.
TLQH56-R12M	0.1	0.010	450.0	6000
TLQH56-R27M	0.3	0.014	300.0	5300
TLQH56-R47M	0.5	0.018	200.0	4800
TLQH56-1R0M	1.0	0.027	150.0	4000
TLQH56-1R5M	1.5	0.031	110.0	3700
TLQH56-2R2M	2.2	0.041	80.0	3200
TLQH56-3R3M	3.3	0.050	40.0	2900
TLQH56-4R7M	4.7	0.057	30.0	2700
TLQH56-6R8M	6.8	0.104	25.0	2000
TLQH56-100K/M	10.0	0.130	20.0	1700
TLQH56-150K/M	15.0	0.210	17.0	1400
TLQH56-220K/M	22.0	0.266	15.0	1200
TLQH56-330K/M	33.0	0.448	12.0	900
TLQH56-470K/M	47.0	0.560	10.0	800
TLQH56-680K/M	68.0	0.938	7.6	640
TLQH56-101K/M	100	1.204	6.5	560
TLQH56-151K/M	150	2.660	5.0	420
TLQH56-221K/M	220	3.360	4.0	320
TLQH56-331K/M	330	6.160	3.1	270
TLQH56-471K/M	470	7.560	2.4	240
TLQH56-681K/M	680	11.34	1.9	190
TLQH56-102K/M	1000	14.42	1.7	150
TLQH56-222K/M	2200	30.10	1.2	100
TLQH56-472K/M	4700	61.04	0.8	70
TLQH56-103K/M	10000	140.00	0.5	50

* Inductance Test Condition: @1KHz/0.25v
* IDC current (A) that will cause L to drop approximately 10%
* Tolerance: J=±5%, K=±10%, M=±20%, N=±30%