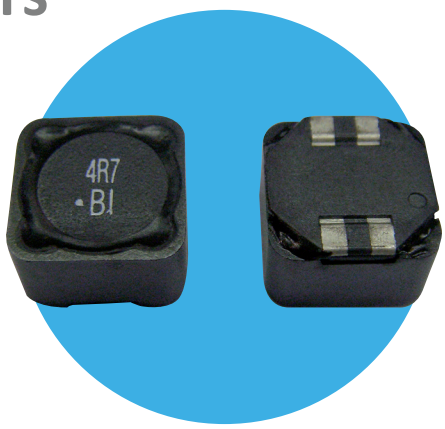
Magnetics

Shielded Surface Mount Inductors

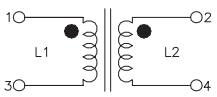
MODELS HM78D1210XXXMLF



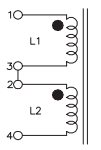
Features

- Operating Temperature Range -40°C to +125°C
- Temperature Rise, Maximum 40°C
- Ideal for SEPIC applications, high inductance, high efficiency and excellent current handling in rugged, low cost part
- Use as DC-DC converter and in applications like hand phones, CD/DVD player, digital camera, GPS system. Also used as two single inductors connected series or parallel or as 1:1 transformer
- RoHS Compliant

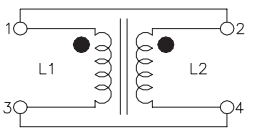
Electrical Schematic



Coupled inductor, transformer and SEPIC modes



Autotransformer and series modes



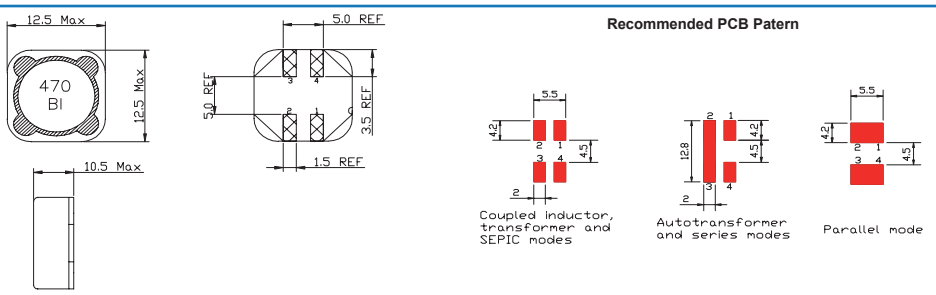
Parallel mode

Specifications @ 25°C

Leads connected in parallel						Leads connected in series				
Part Number	**L (µH)**	**DCR Max (Ω)**	**Irated (A)**	**Isat (A)**	**Irms (A)**	**L (µH)**	**DCR Max (Ω)**	**Irated (A)**	**Isat (A)**	**Irms (A)**
HM78D-12104R7MLF	4.70±20%	0.014	10.60	18.00	3.250	18.80±25%	0.056	5.30	9.00	1.625
HM78D-12106R8MLF	6.80±20%	0.017	10.40	14.20	3.100	27.20±25%	0.068	5.20	7.10	1.550
HM78D-12108R2MLF	8.20±20%	0.018	9.50	12.85	2.250	32.80±25%	0.072	4.75	6.45	1.125
HM78D-1210100MLF	10.00±20%	0.020	8.60	11.75	3.200	41.12±25%	0.080	4.30	5.85	1.600
HM78D-1210220MLF	22.00±20%	0.040	5.40	8.20	2.700	88.00±25%	0.160	2.70	4.10	1.350
HM78D-1210330MLF	33.00±20%	0.050	4.50	6.60	2.000	132.00±25%	0.200	2.25	3.30	1.000
HM78D-1210470MLF	47.00±20%	0.065	3.70	5.50	1.900	188.00±25%	0.260	1.85	2.75	0.950
HM78D-1210560MLF	56.00±20%	0.081	3.28	4.90	0.850	224.00±25%	0.324	1.64	2.45	0.425
HM78D-1210680MLF	68.00±20%	0.098	2.96	4.45	0.800	272.00±25%	0.392	1.48	2.20	0.400
HM78D-1210101MLF	100.00±20%	0.128	2.54	3.70	0.700	400.00±25%	0.512	1.27	1.85	0.350
HM78D-1210121MLF	120.00±20%	0.170	2.38	3.40	0.630	480.00±25%	0.680	1.19	1.70	0.315
HM78D-1210331MLF	330.00±20%	0.440	1.32	2.10	0.410	1320.00±25%	1.760	0.66	1.05	0.205
HM78D-1210471MLF	470.00±20%	0.570	1.22	1.80	0.300	1880.00±25%	2.280	0.61	0.90	0.150

Notes : (1) Inductance is measured at 100kHz, 0.1Vrms, 0Adc.
(2) When leads connected in parallel, DCR is half the value. When lead connected in series, DCR is twice the value
(3) Isat current is the saturation current at which inductance rolls off approximately 30% from its initial (zero DC) value.
(4) Irms equals DC current, that causes component to increase by 40°C from 25°C ambient.
(5) Irated current is the rated current at which inductance rolls off approximately 10% from its initial (zero DC) value.

Mechanical Outline (mm)



General Note

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http://www.ttelectronics.com/magnetics/customer-service-enquiry

MODELS HM78D1210XXXMLF

Packaging

1) Tape and reel packaging.
2) 300pcs per 13" reel.

Ordering Information

HM78D-1210 XXX M LF TR

Model Series

Inductance Code:
First 2 digits are significant. Last digit denotes the number of trailing zeros. For values below 10uH, "R" denotes the decimal point.

Inductance Tolerance
K=±10%
M=±20%

Lead-Free

Tape & Reel Packing

General Note
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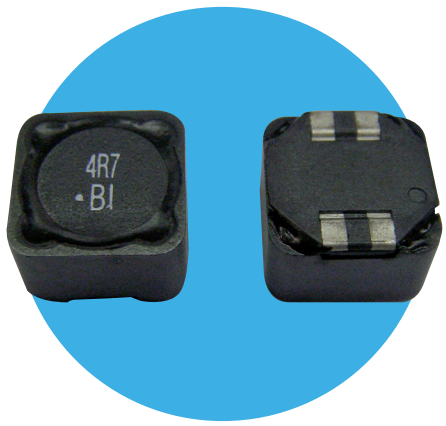
Magnetics

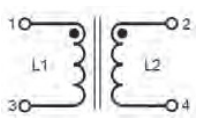
Shielded Surface Mount Coupled Inductors

MODELS HM78D-128XXXXLF, HM78D-755XXXMLF

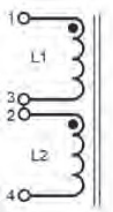
- Operating Temperature Range -40°C to +125°C
- Temperature Rise, Maximum 40°C
- Operating Frequency Up to 3MHz
- RoHS Compliant



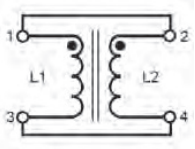
Electrical Schematic



Coupled Inductors, transformer and SEPIC mode



Autotransformer and series mode



Parallel Mode

Specifications @ 25°C

Parallel Connection					Series Connection			
Part Number	L (1) (µH)	DCR Typ. (2) (Ω)	I_{sat} (3) (A)	I_{rms} (4) (A)	L (1) (µH)	DCR Typ. (2) (Ω)	I_{sat} (3) (A)	I_{rms} (4) (A)
HM78D-1284R7MLF	4.7 ± 20%	0.019	14.90	7.40	18.8 ± 25%	0.076	7.70	3.60
HM78D-1285R6MLF	5.6 ± 20%	0.023	13.40	7.20	22.4 ± 25%	0.092	6.60	3.50
HM78D-1286R8MLF	6.8 ± 20%	0.024	13.10	6.90	27.2 ± 25%	0.096	6.40	3.40
HM78D-1288R2MLF	8.2 ± 20%	0.025	10.80	6.60	32.8 ± 25%	0.100	5.60	3.30
HM78D-128100MLF	10 ± 20%	0.029	10.50	6.20	40 ± 25%	0.116	5.40	3.20
HM78D-128120MLF	12 ± 20%	0.031	9.60	6.00	48 ± 25%	0.124	4.80	2.90
HM78D-128150MLF	15 ± 20%	0.036	9.10	5.80	60 ± 25%	0.144	4.30	2.70
HM78D-128180MLF	18 ± 20%	0.040	8.00	5.50	72 ± 25%	0.158	3.90	2.50
HM78D-128220MLF	22 ± 20%	0.048	6.80	5.20	88 ± 25%	0.190	3.50	2.20
HM78D-128270MLF	27 ± 20%	0.060	6.50	4.70	108 ± 25%	0.240	3.40	2.00
HM78D-128330MLF	33 ± 20%	0.075	5.60	4.20	132 ± 25%	0.300	3.10	1.70
HM78D-128390MLF	39 ± 20%	0.080	5.50	3.60	156 ± 25%	0.320	2.80	1.60
HM78D-128470MLF	47 ± 20%	0.090	5.20	3.00	188 ± 25%	0.360	2.60	1.50
HM78D-128560MLF	56 ± 20%	0.095	4.50	2.80	224 ± 25%	0.380	2.40	1.40
HM78D-128680MLF	68 ± 20%	0.105	4.10	2.60	272 ± 25%	0.420	2.10	1.30
HM78D-128820MLF	82 ± 20%	0.140	3.80	2.30	328 ± 25%	0.560	1.90	1.20
HM78D-128101MLF	100 ± 20%	0.150	3.40	2.00	400 ± 25%	0.600	1.70	1.10
HM78D-128121KLF	120 ± 10%	0.205	3.20	1.90	480 ± 25%	0.820	1.60	1.00
HM78D-128151KLF	150 ± 10%	0.230	2.80	1.80	600 ± 25%	0.920	1.40	0.89
HM78D-128181KLF	180 ± 10%	0.255	2.50	1.70	720 ± 25%	1.02	1.30	0.84
HM78D-128221KLF	220 ± 10%	0.345	2.30	1.60	880 ± 25%	1.38	1.10	0.75
HM78D-128271KLF	270 ± 10%	0.450	2.10	1.50	1080 ± 25%	1.80	1.00	0.71
HM78D-128331KLF	330 ± 10%	0.510	1.90	1.30	1320 ± 25%	2.04	0.92	0.62
HM78D-128391KLF	390 ± 10%	0.560	1.70	1.10	1560 ± 25%	2.24	0.84	0.53
HM78D-128471KLF	470 ± 10%	0.765	1.60	0.87	1880 ± 25%	3.06	0.80	0.43
HM78D-128561KLF	560 ± 10%	0.845	1.50	0.83	2240 ± 25%	3.38	0.73	0.40
HM78D-128681KLF	680 ± 10%	1.145	1.30	0.76	2720 ± 25%	4.58	0.63	0.36
HM78D-128821KLF	820 ± 10%	1.275	1.20	0.69	4000 ± 30%	5.10	0.58	0.33
HM78D-128102KLF	1000 ± 10%	1.415	1.10	0.60	4800 ± 30%	5.66	0.56	0.30
HM78D-755R33MLF	0.33 ± 20%	0.0074	18.4	0 6.20	1.176 ± 20%	0.0295	9.18	3.10
HM78D-7551R0MLF	1.0 ± 20%	0.0100	10.20	5.33	3.808 ± 20%	0.0400	5.10	2.66
HM78D-7551R5MLF	1.5 ± 20%	0.0115	8.35	4.96	5.688 ± 20%	0.0461	4.17	2.48
HM78D-7552R2MLF	2.2 ± 20%	0.0130	7.06	4.66	7.944 ± 20%	0.0521	3.53	2.33
HM78D-7553R3MLF	3.3 ± 20%	0.0183	5.40	3.94	13.58 ± 20%	0.0732	2.70	1.97
HM78D-7554R7MLF	4.7 ± 20%	0.0254	4.37	3.34	20.73 ± 20%	0.102	2.19	1.67

General Note

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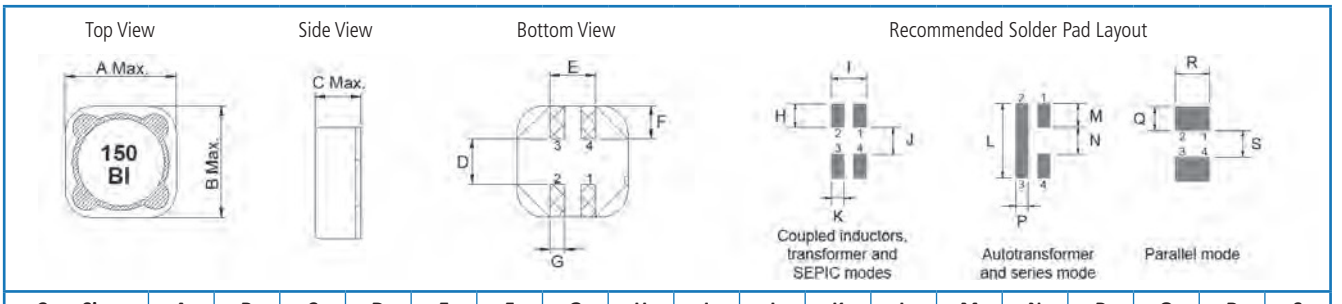
MODELS HM78D-128XXXXLF, HM78D-755XXXMLF

Specifications @ 25°C continued

Part Number	Parallel Connection				Series Connection			
	L (1) (µH)	DCR Typ. (2) (Ω)	I_{sat} (3) (A)	I_{rms} (4) (A)	L (1) (µH)	DCR Typ. (2) (Ω)	I_{sat} (3) (A)	I_{rms} (4) (A)
HM78D-7556R8MLF	6.8 ± 20%	0.0418	3.67	2.60	29.38 ± 20%	0.167	1.84	1.30
HM78D-7558R2MLF	8.2 ± 20%	0.0441	3.40	2.53	34.26 ± 20%	0.177	1.70	1.27
HM78D-755100MLF	10 ± 20%	0.0489	3.17	2.41	39.53 ± 20%	0.196	1.58	1.20
HM78D-755150MLF	15 ± 20%	0.0637	2.48	2.11	64.36 ± 20%	0.255	1.24	1.05
HM78D-755220MLF	22 ± 20%	0.0925	2.13	1.75	86.92 ± 20%	0.371	1.07	0.874
HM78D-755330MLF	33 ± 20%	0.143	1.73	1.41	132 ± 20%	0.574	0.87	0.702
HM78D-755470MLF	47 ± 20%	0.216	1.41	1.15	198.6 ± 20%	0.865	0.71	0.573
HM78D-755680MLF	68 ± 20%	0.265	1.19	1.03	278.7 ± 20%	1.06	0.60	0.517
HM78D-755820MLF	82 ± 20%	0.345	1.11	0.91	323.8 ± 20%	1.38	0.55	0.453
HM78D-755101MLF	100 ± 20%	0.383	0.99	0.86	406.4 ± 20%	1.53	0.49	0.430
HM78D-755151MLF	150 ± 20%	0.591	0.81	0.69	600 ± 20%	2.37	0.41	0.346
HM78D-755221MLF	220 ± 20%	0.907	0.66	0.56	908 ± 20%	3.63	0.33	0.279
HM78D-755331MLF	330 ± 20%	1.41	0.54	0.45	1342 ± 20%	5.66	0.27	0.224
HM78D-755471MLF	470 ± 20%	1.74	0.46	0.40	1861 ± 20%	6.97	0.23	0.202
HM78D-755681MLF	680 ± 20%	2.58	0.38	0.33	2685 ± 20%	10.30	0.19	0.166
HM78D-755821MLF	820 ± 20%	2.93	0.35	0.31	3251 ± 20%	11.70	0.17	0.156
HM78D-755102MLF	1000 ± 20%	3.89	0.31	0.27	4036 ± 20%	15.60	0.16	0.135

Notes: (1) Inductance is measured at 100 kHz, 0.1Vrms without DC current.
(2) DCR Typ. is only for 755 series while 128 series is of DCR Max.
(3) I_{sat} is the saturation current at which inductance rolls off approximately 30% from its initial (zero DC) value.
(4) I_{rms} is the approximate current at which ΔT = 40°C.

Outline Dimensions (mm)



Case Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S
128	12.5	12.5	8.05	5.0	5.0	3.5	1.5	4.2	5.5	4.5	2.0	12.8	4.2	4.5	2.0	4.2	5.5	4.5
755	7.7	7.7	4.8	3.9	2.7	1.55	0.72	2.2	2.8	3.1	1.0	7.5	2.2	3.1	1.0	2.2	2.8	3.1

Packaging

Standard:	Embossed Tape and Reel				
	Reel:	Diameter:		=	13" (330.2mm)
		Capacity:	Case size 128	=	500 Units
			Case size 755	=	1,000 Units

Ordering Information

HM78D - 128 4R7 M LF TR

Model Series

Case Size:
128, 755

Inductance Code:
First 2 digits are significant. Last digit denotes the number of trailing zeros. For values below 10µH, "R" denotes the decimal point.

Inductance Tolerance
K = ± 10%
M = ± 20%

Lead-Free

Tape & Reel Packing

General Note

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LifeElectronics
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ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

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