

Shielded Surface Mount Coupled Inductors

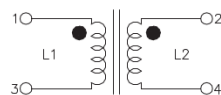
MODELS HM78D-128XXXXLF, HM78D-755XXXXMLF



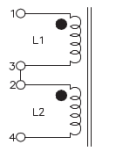
- Operating Temperature Range -40°C to +125°C
- Temperature Rise, Maximum 40°C
- Operating Frequency Up to 3MHz
- RoHS Compliant



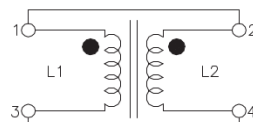
Electrical Schematic



Coupled inductor,
transformer and
SEPIC modes



Autotransformer
and series modes



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	0.620	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

TT Electronics reserves the right to make changes in product specification without notice or liability.

All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

Shielded Surface Mount Coupled Inductors



MODELS HM78D-128XXXXLF, HM78D-755XXXXMLF

Specifications @ 25°C continued

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-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)

Top View		Side View		Bottom View		Recommended Solder Pad Layout												
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	7.0	5.0	2.5	1.7	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	4.1	2.7	1.45	0.80	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

Model Series	HM78D - 128	4R7	M	LF	TR	Tape & Reel Packing
Case Size:	128, 755					Lead-Free
Inductance Code:						Inductance Tolerance
First 2 digits are significant. Last digit denotes the number of trailing zeros. For values below 10μH, "R" denotes the decimal point.						K = ± 10%
						M = ± 20%

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