

## Shielded Surface Mount Inductors

- Operating Temperature Range -40°C to +85°C
- Insulation System Class B, 130°C
- Temperature Rise, Maximum 40°C

### Specifications @ 25°C

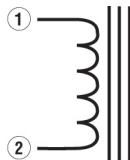
Part Number	Inductance μH ± 20% (1)	DC Resistance Ω Max	Rated Current (2) Amps	Figure	Part Number	Inductance μH ± 20% (1)	DC Resistance Ω Max	Rated Current (2) Amps	Figure
HM78-10100LF	10	0.08	1.00	1	HM78-30181LF	180	1.45	0.39	2
HM78-10120LF	12	0.09	0.94	1	HM78-30221LF	220	1.65	0.35	2
HM78-10150LF	15	0.12	0.86	1	HM78-30271LF	270	2.31	0.32	2
HM78-10180LF	18	0.13	0.78	1	HM78-30331LF	330	2.62	0.28	2
HM78-10220LF	22	0.15	0.76	1	HM78-30391LF	390	2.94	0.26	2
HM78-10270LF	27	0.21	0.64	1	HM78-30471LF	470	4.18	0.24	2
HM78-10330LF	33	0.25	0.61	1	HM78-30102LF	1000	6.50	0.16	2
HM78-10390LF	39	0.31	0.53	1	HM78-40100LF	10	0.049	1.84	2
HM78-10470LF	47	0.35	0.50	1	HM78-40120LF	12	0.058	1.71	2
HM78-10560LF	56	0.43	0.46	1	HM78-40150LF	15	0.081	1.47	2
HM78-10680LF	68	0.52	0.42	1	HM78-40180LF	18	0.091	1.31	2
HM78-20100LF	10	0.055	1.65	1	HM78-40220LF	22	0.11	1.23	2
HM78-20120LF	12	0.073	1.50	1	HM78-40270LF	27	0.15	1.12	2
HM78-20150LF	15	0.081	1.34	1	HM78-40330LF	33	0.17	0.96	2
HM78-20180LF	18	0.102	1.22	1	HM78-40390LF	39	0.23	0.91	2
HM78-20220LF	22	0.115	1.10	1	HM78-40470LF	47	0.26	0.88	2
HM78-20270LF	27	0.159	1.00	1	HM78-40560LF	56	0.35	0.75	2
HM78-20330LF	33	0.182	0.90	1	HM78-40680LF	68	0.38	0.69	2
HM78-20390LF	39	0.199	0.83	1	HM78-40820LF	82	0.43	0.61	2
HM78-20470LF	47	0.221	0.75	1	HM78-40101LF	100	0.61	0.60	2
HM78-20560LF	56	0.306	0.69	1	HM78-40121LF	120	0.66	0.52	2
HM78-20680LF	68	0.345	0.63	1	HM78-40151LF	150	0.88	0.46	2
HM78-20820LF	82	0.39	0.57	1	HM78-40181LF	180	0.98	0.42	2
HM78-20101LF	100	0.432	0.52	1	HM78-40221LF	220	1.17	0.36	2
HM78-20121LF	120	0.44	0.47	1	HM78-40271LF	270	1.64	0.34	2
HM78-20151LF	150	0.73	0.42	1	HM78-40331LF	330	1.86	0.32	2
HM78-20181LF	180	0.78	0.38	1	HM78-40391LF	390	2.85	0.29	2
HM78-20221LF	220	0.94	0.35	1	HM78-40471LF	470	3.01	0.26	2
HM78-20271LF	270	1.25	0.31	1	HM78-40561LF	560	3.62	0.23	2
HM78-30100LF	10	0.072	1.68	2	HM78-40681LF	680	4.63	0.22	2
HM78-30120LF	12	0.098	1.52	2	HM78-40821LF	820	5.20	0.20	2
HM78-30150LF	15	0.13	1.33	2	HM78-453R9LF	3.9	0.015	6.5	3
HM78-30180LF	18	0.14	1.20	2	HM78-454R7LF	4.7	0.018	5.7	3
HM78-30220LF	22	0.19	1.07	2	HM78-456R8LF	6.8	0.023	4.9	3
HM78-30270LF	27	0.21	0.96	2	HM78-45100LF	10	0.028	4.5	3
HM78-30330LF	33	0.24	0.91	2	HM78-45120LF	12	0.038	4.0	3
HM78-30390LF	39	0.32	0.77	2	HM78-45150LF	15	0.050	3.2	3
HM78-30470LF	47	0.36	0.76	2	HM78-45180LF	18	0.057	3.1	3
HM78-30560LF	56	0.47	0.68	2	HM78-45220LF	22	0.066	2.9	3
HM78-30680LF	68	0.52	0.61	2	HM78-45270LF	27	0.080	2.8	3
HM78-30820LF	82	0.69	0.57	2	HM78-45330LF	33	0.097	2.7	3
HM78-30101LF	100	0.79	0.50	2	HM78-45390LF	39	0.132	2.1	3
HM78-30121LF	120	0.89	0.49	2	HM78-45470LF	47	0.150	1.9	3
HM78-30151LF	150	1.27	0.43	2	HM78-45560LF	56	0.190	1.8	3

### Specifications @ 25 °C (Cont'd)

Part Number	Inductance $\mu\text{H} \pm 20\%$ (1)	DC Resistance $\Omega$ Max	Rated Current (2)		Part Number	Inductance $\mu\text{H} \pm 20\%$ (1)	DC Resistance $\Omega$ Max	Rated Current (2)	
			Amps	Figure				Amps	Figure
HM78-45680LF	68	0.220	1.5	3	HM78-50151LF	150	0.23	1.0	3
HM78-45820LF	82	0.260	1.3	3	HM78-50181LF	180	0.29	0.9	3
HM78-45101LF	100	0.308	1.2	3	HM78-50221LF	220	0.40	0.8	3
HM78-45121LF	120	0.380	1.1	3	HM78-50271LF	270	0.46	0.75	3
HM78-45151LF	150	0.530	0.95	3	HM78-50331LF	330	0.51	0.68	3
HM78-45181LF	180	0.620	0.85	3	HM78-50391LF	390	0.69	0.65	3
HM78-45221LF	220	0.700	0.80	3	HM78-50471LF	470	0.77	0.58	3
HM78-45271LF	270	0.876	0.60	3	HM78-50561LF	560	0.86	0.54	3
HM78-45331LF	330	0.990	0.50	3	HM78-50681LF	680	1.20	0.48	3
HM78-501R5LF	1.5 $\pm$ 25%	0.012	13.0	3	HM78-50821LF	820	1.34	0.43	3
HM78-502R2LF	2.2 $\pm$ 25%	0.014	7.0	3	HM78-50102LF	1000	1.53	0.40	3
HM78-503R1LF	3.1 $\pm$ 25%	0.017	6.0	3	HM78-50182LF	1800	3.20	0.30	3
HM78-504R4LF	4.4 $\pm$ 25%	0.020	5.0	3	HM78-601R4LF	1.4 $\pm$ 30%	0.007	12.0	3
HM78-505R2LF	5.2 $\pm$ 25%	0.021	4.4	3	HM78-602R4LF	2.4 $\pm$ 30%	0.012	8.0	3
HM78-507R5LF	7.5 $\pm$ 25%	0.024	4.2	3	HM78-603R9LF	3.9 $\pm$ 30%	0.014	7.5	3
HM78-50100LF	10	0.025	4.0	3	HM78-604R7LF	4.7 $\pm$ 30%	0.016	6.8	3
HM78-50120LF	12	0.027	3.5	3	HM78-605R6LF	5.6 $\pm$ 30%	0.018	6.6	3
HM78-50150LF	15	0.030	3.3	3	HM78-607R6LF	7.6 $\pm$ 30%	0.020	5.9	3
HM78-50180LF	18	0.034	3.0	3	HM78-60100LF	10	0.022	5.4	3
HM78-50220LF	22	0.036	2.8	3	HM78-60120LF	12	0.025	4.9	3
HM78-50270LF	27	0.051	2.3	3	HM78-60150LF	15	0.027	4.5	3
HM78-50330LF	33	0.057	2.1	3	HM78-60180LF	18	0.039	3.9	3
HM78-50390LF	39	0.068	2.0	3	HM78-60220LF	22	0.043	3.6	3
HM78-50470LF	47	0.075	1.8	3	HM78-60270LF	27	0.046	3.4	3
HM78-50560LF	56	0.11	1.7	3	HM78-60330LF	33	0.065	3.0	3
HM78-50680LF	68	0.12	1.5	3	HM78-60390LF	39	0.073	2.75	3
HM78-50820LF	82	0.14	1.4	3	HM78-60470LF	47 $\pm$ 15%	0.085	2.5	3
HM78-50101LF	100	0.16	1.3	3	HM78-60221LF	220	0.37	1.2	3
HM78-50121LF	120	0.17	1.1	3					

- Notes: (1) Inductance is measured at 1.0kHz without DC current.  
(2) Rated DC current is the approximate current at which inductance will be decreased by 10% from its initial (zero DC) value or the DC current at which  $\Delta T = 40^\circ\text{C}$ , whichever is lower.

### Schematic

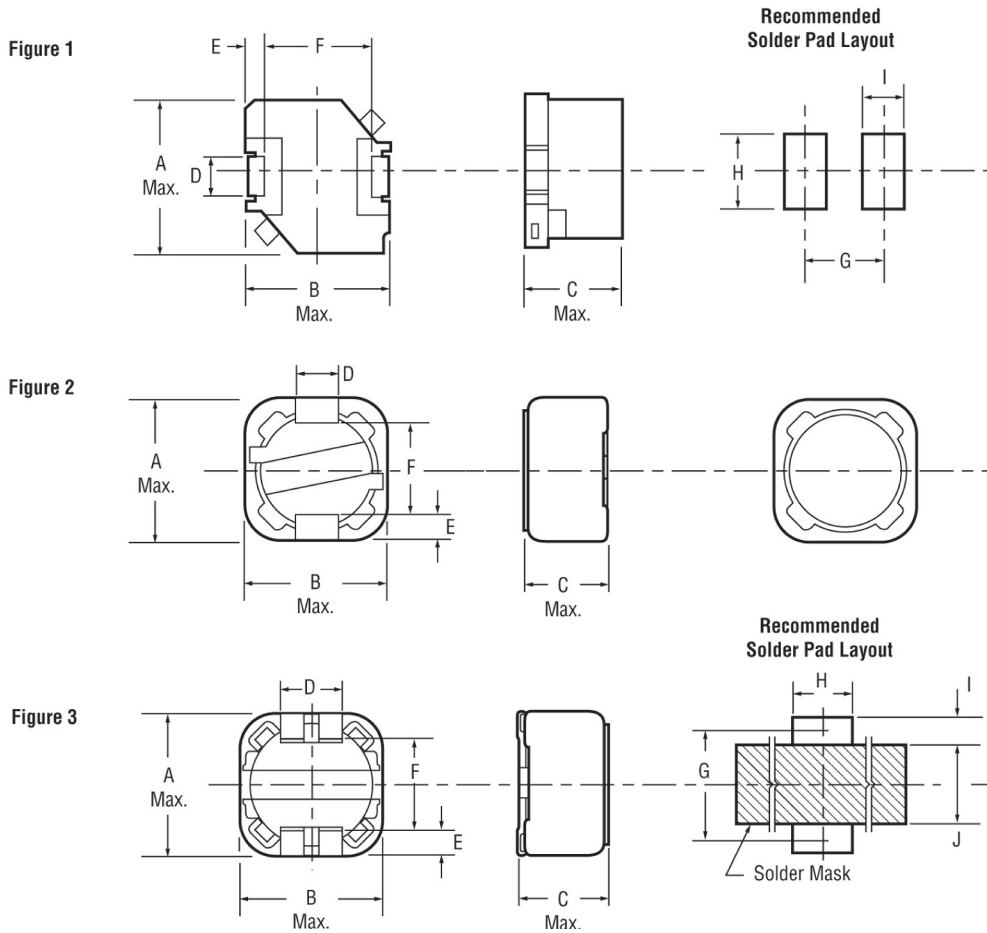


### Packaging

**Standard:** Embossed Tape and Reel

Reel:	Diameter:	=	13" (330.2mm)
	Capacity:	Case size 10, 30, 40	= 1,000 Units
		Case size 20, 45, 50, 60	= 500 Units

### Outline Dimensions (Inch/mm)



Case Size	Figure	A	B	C	D	E	F	G	H	I	J
10	1	.291	.291	.150	.079	.035	.220	.256	.118	.075	—
		7.40	7.40	3.80	2.00	0.85	5.60	6.50	3.0	1.91	—
20	1	.291	.291	.205	.079	.035	.220	.256	.118	.075	—
		7.40	7.40	5.20	2.00	0.85	5.60	6.50	3.00	1.91	—
30	2	.295	.295	.138	.079	.043	.200	.248	.118	.075	.177
		7.50	7.50	3.50	2.00	1.10	5.08	6.30	3.00	1.91	4.50
40	2	.295	.295	.177	.079	.043	.200	.248	.118	.075	.177
		7.50	7.50	4.50	2.00	1.10	5.08	6.30	3.00	1.91	4.50
45	3	.492	.492	.177	.197	.079	.299	.394	.236	.118	.276
		12.5	12.5	4.50	5.00	2.00	7.60	10.0	6.00	3.0	7.00
50	3	.492	.492	.244	.197	.079	.299	.394	.236	.118	.276
		12.5	12.5	6.20	5.00	2.00	7.60	10.0	6.00	3.0	7.00
60	3	.492	.492	.315	.197	.079	.299	.394	.236	.118	.276
		12.5	12.5	8.00	5.00	2.00	7.60	10.0	6.00	3.0	7.00

### Ordering Information

**HM78**    **20**    **100**    **LF**    **TR**

Model Series    **HM78**    **20**    **100**    **LF**    **TR**    Tape & Reel Packing

Case Size/Body Style:    **20**    **100**    **LF**    **TR**    Lead-Free

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

10 (Figure 1)    45 (Figure 3)  
 20 (Figure 1)    50 (Figure 3)  
 30 (Figure 2)    60 (Figure 3)  
 40 (Figure 2)