

Shielded Surface Mount Coupled Inductors

MODELS HA78D-128XXXXLF

- Operating Temperature Range -50°C to +155°C
- Temperature Rise, Maximum 40°C
- Operating Frequency Up to 3MHz
- AEC-Q200 CERTIFIED
- RoHS Compliant



Electrical Schematic & Derating Curve



Specifications @ 25°C

Part Number	Parallel Connection				Series Connection			
	L ⁽¹⁾ (μH)	DCR Max ⁽²⁾ (Ω)	I _{sat} ⁽³⁾ (A)	I _{rms} ⁽⁴⁾ (A)	L ⁽¹⁾ (μH)	DCR Max ⁽²⁾ (Ω)	I _{sat} ⁽³⁾ (A)	I _{rms} ⁽⁴⁾ (A)
HA78D-1284R7MLF	4.7 ± 20%	0.019	14.90	7.40	18.8 ± 25%	0.076	7.70	3.60
HA78D-1285R6MLF	5.6 ± 20%	0.023	13.40	7.20	22.4 ± 25%	0.092	6.60	3.50
HA78D-1286R8MLF	6.8 ± 20%	0.024	13.10	6.90	27.2 ± 25%	0.096	6.40	3.40
HA78D-1288R2MLF	8.2 ± 20%	0.025	10.80	6.60	32.8 ± 25%	0.100	5.60	3.30
HA78D-128100MLF	10 ± 20%	0.029	10.50	6.20	40 ± 25%	0.116	5.40	3.20
HA78D-128120MLF	12 ± 20%	0.031	9.60	6.00	48 ± 25%	0.124	4.80	2.90
HA78D-128150MLF	15 ± 20%	0.036	9.10	5.80	60 ± 25%	0.144	4.30	2.70
HA78D-128180MLF	18 ± 20%	0.040	8.00	5.50	72 ± 25%	0.158	3.90	2.50
HA78D-128220MLF	22 ± 20%	0.048	6.80	5.20	88 ± 25%	0.190	3.50	2.20
HA78D-128270MLF	27 ± 20%	0.060	6.50	4.70	108 ± 25%	0.240	3.40	2.00
HA78D-128330MLF	33 ± 20%	0.075	5.60	4.20	132 ± 25%	0.300	3.10	1.70
HA78D-128390MLF	39 ± 20%	0.080	5.50	3.60	156 ± 25%	0.320	2.80	1.60
HA78D-128470MLF	47 ± 20%	0.090	5.20	3.00	188 ± 25%	0.360	2.60	1.50
HA78D-128560MLF	56 ± 20%	0.095	4.50	2.80	224 ± 25%	0.380	2.40	1.40
HA78D-128680MLF	68 ± 20%	0.105	4.10	2.60	272 ± 25%	0.420	2.10	1.30
HA78D-128820MLF	82 ± 20%	0.140	3.80	2.30	328 ± 25%	0.560	1.90	1.20
HA78D-128101MLF	100 ± 20%	0.150	3.40	2.00	400 ± 25%	0.600	1.70	1.10
HA78D-128121KLF	120 ± 10%	0.205	3.20	1.90	480 ± 25%	0.820	1.60	1.00
HA78D-128151KLF	150 ± 10%	0.230	2.80	1.80	600 ± 25%	0.920	1.40	0.89
HA78D-128181KLF	180 ± 10%	0.255	2.50	1.70	720 ± 25%	1.02	1.30	0.84
HA78D-128221KLF	220 ± 10%	0.345	2.30	1.60	880 ± 25%	1.38	1.10	0.75
HA78D-128271KLF	270 ± 10%	0.450	2.10	1.50	1080 ± 25%	1.80	1.00	0.71
HA78D-128331KLF	330 ± 10%	0.510	1.90	1.30	1320 ± 25%	2.04	0.92	0.62
HA78D-128391KLF	390 ± 10%	0.560	1.70	1.10	1560 ± 25%	2.24	0.84	0.53
HA78D-128471KLF	470 ± 10%	0.765	1.60	0.87	1880 ± 25%	3.06	0.80	0.43
HA78D-128561KLF	560 ± 10%	0.845	1.50	0.83	2240 ± 25%	3.38	0.73	0.40
HA78D-128681KLF	680 ± 10%	1.145	1.30	0.76	2720 ± 25%	4.58	0.63	0.36
HA78D-128821KLF	820 ± 10%	1.275	1.20	0.69	4000 ± 30%	5.10	0.58	0.33
HA78D-128102KLF	1000 ± 10%	1.415	1.10	0.60	4800 ± 30%	5.66	0.56	0.30

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.

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MODELS HA78D-128XXXXLF

- Notes: (1) Inductance is measured at 100 kHz, 0.1Vrms without DC current.
 (2) DCR for 128 series is of Max. value.
 (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 $\Delta T = 40^{\circ}C$.

Outline Dimensions (mm)

The technical drawings include:

- Top View:** Shows dimensions A_{Max}, B_{Max}, and C_{Max}. A central dot is labeled 'PIN 1 IDENTIFICATION' and '150 BI'.
- Side View:** Shows the profile of the component with dimension C_{Max}.
- Bottom View:** Shows the internal winding layout with dimensions D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S.
- Recommended Solder Pad Layout:** Shows three configurations:
 - Coupled inductor, transformer and SEPIC modes:** Dimensions H, I, J, K, L, M, N, O, P, Q, R, S.
 - Autotransformer and series modes:** Dimensions J, K, L, M, N, O, P, Q, R, S.
 - Parallel mode:** Dimensions O, P, Q, R, S.

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

Packaging

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

Ordering Information



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