

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



Specifications @ 25°C

| Leads connected in parallel | | | | | | Leads connected in series | | | | |
|-----------------------------|------------|-------------|------------------------|----------------------|----------------------|---------------------------|-------------|------------------------|----------------------|----------------------|
| Part Number | L (μH) | DCR Max (Ω) | I _{rated} (A) | I _{sat} (A) | I _{rms} (A) | L (μH) | DCR Max (Ω) | I _{rated} (A) | I _{sat} (A) | I _{rms} (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, 0.1V_{rms}, 0Adc.
 - (2) When leads connected in parallel, DCR is half the value.
 - (3) I_{sat} current is the saturation current at which inductance rolls off approximately 30% from its initial (zero DC) value.
 - (4) I_{rms} equals DC current, that causes component to increase by 40°C from 25°C ambient.
 - (5) I_{rated} current is the rated current at which inductance rolls off approximately 10% from its initial (zero DC) value.

Mechanical Outline (mm)



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.

Packaging

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

Ordering Information



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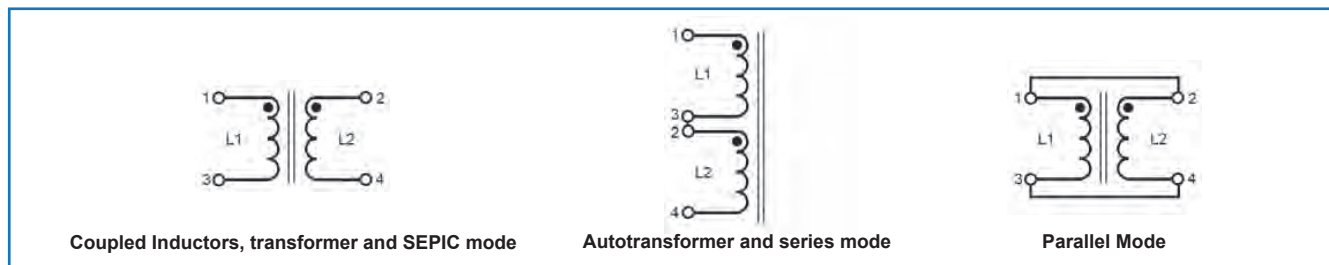
Shielded Surface Mount Coupled Inductors

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



Specifications @ 25°C

| 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-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 |

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MODELS HM78D-128XXXXLF, HM78D-755XXXXMLF

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)

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 | 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



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Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкуренспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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