

Power Inductors

HM78M series



Features:

- Operating Temperature Range -40°C to $+125^{\circ}\text{C}$
- Ambient Temperature, Max $+85^{\circ}\text{C}$
- Temperature Rise, 40°C
- Operating Frequency up to 3MHz



Description:

The HM78M series of power inductors is ferrite based, magnetically shielded, and features low resistance values. It is shielded but has a low DC resistance and high saturation current, able to meet 125°C , with a maximum temperature rise of 40°C . This series has wide range of inductances from $1\mu\text{Henry}$ to $680\mu\text{Henry}$ and is comprised of two package sizes which is 10 and 20. The HM78M is ideal for high power density applications where size is critical and ambient temperature is less or equal to 85°C . It is designed for high switching frequencies up to 3MHz as well as for EMI and low pass filters.

Applications:

- Buck DC-DC converters
- High efficiency DC-DC converters used with battery supply
- EMI inductance in PI filters

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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Electrical Specifications

Part Number	Inductance ($\mu\text{H} \pm 20\%$ @0A)	DCR (m Ω) Max	Isat (A) - max	Irms (A)
HM78M-101R5LFTR	1.5 $\pm$ 30%	18.5	4.50	4.50
HM78M-102R2LFTR	2.2	27.0	3.50	3.50
HM78M-103R3LFTR	3.3	32.0	3.00	3.00
HM78M-104R7LFTR	4.7	50.0	3.00	3.00
HM78M-106R8LFTR	6.8	70.0	2.00	1.80
HM78M-10100LFTR	10.0	76.0	1.68	1.60
HM78M-10150LFTR	15.0	130.0	1.60	1.60
HM78M-10220LFTR	22.0	190.0	1.40	1.30
HM78M-10330LFTR	33.0	240.0	1.30	1.30
HM78M-10470LFTR	47.0	360.0	0.90	0.70
HM78M-10680LFTR	68.0	520.0	0.70	0.60
HM78M-10101LFTR	100.0	790.0	0.50	0.50
HM78M-10151LFTR	150.0	1270.0	0.50	0.40
HM78M-10221LFTR	220.0	1650.0	0.45	0.35
HM78M-10331LFTR	330.0	2620.0	0.28	0.20
HM78M-10471LFTR	470.0	4180.0	0.24	0.15
HM78M-10681LFTR	680.0	5730.0	0.19	0.10
HM78M-201R0LFTR	1.0 $\pm$ 30%	15.0	8.00	5.00
HM78M-202R2LFTR	2.2	28.0	6.00	4.50
HM78M-203R3LFTR	3.3	32.0	4.80	4.00
HM78M-204R7LFTR	4.7	38.0	4.00	3.50
HM78M-206R8LFTR	6.8	45.0	3.00	2.50
HM78M-20100LFTR	10.0	50.0	1.84	2.00
HM78M-20150LFTR	15.0	81.0	1.40	1.50
HM78M-20220LFTR	22.0	130.0	1.23	1.30
HM78M-20330LFTR	33.0	170.0	0.96	1.00
HM78M-20470LFTR	47.0	260.0	0.88	0.90
HM78M-20680LFTR	68.0	380.0	0.70	0.80

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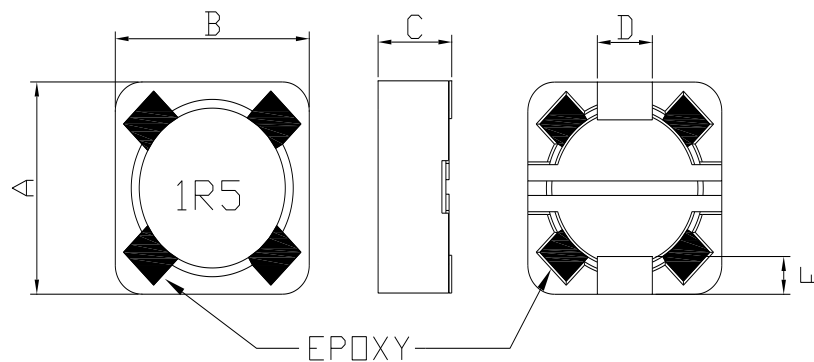
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Electrical Specifications

Part Number	Inductance ($\mu\text{H} \pm 20\%$ @0A)	DCR (m Ω) Max	Isat (A) - max	Irms (A)
HM78M-20101LFTR	100.0	610.0	0.60	0.70
HM78M-20151LFTR	150.0	880.0	0.46	0.60
HM78M-20221LFTR	220.0	1170.0	0.36	0.45
HM78M-20331LFTR	330.0	1860.0	0.32	0.40
HM78M-20471LFTR	470.0	3010.0	0.26	0.35
HM78M-20681LFTR	680.0	4630.0	0.22	0.30

- Notes: (1) Isat is the saturation current at which inductance rolls off at 35% max from its initial (zero DC)
 (2) Irms is the approximate current at which $\Delta T = 40^\circ\text{C}$ max
 (3) Test condition 100kHz @ 0.25V, 25°C

Outline Dimensions (mm)

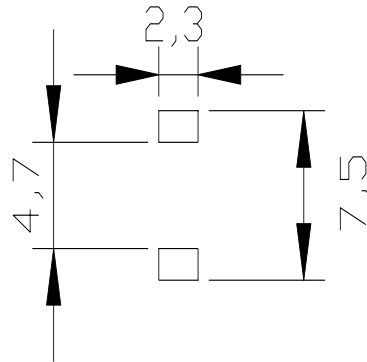


CASE SIZE	A(mm)	B(mm)	C(mm) - Max	D(mm) - ref	E(mm) ± 0.3
HM78M-10 series	7.3 ± 0.5	7.3 ± 0.5	4.0	2.0	1.2
HM78M-20 series	7.3 ± 0.5	7.3 ± 0.5	4.5	2.0	1.2

General Note

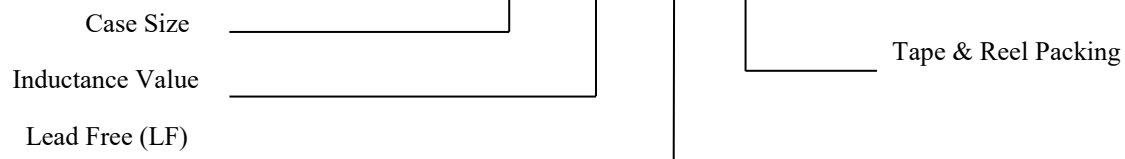
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PCB layout (mm)



Packaging

HM78M – XX XXX LF TR



Standard:	Embossed Tape and Reel				
	Reel:	Diameter:	All case size	=	13" (330mm)
		Capacity:	Case size 10 series	=	1,000 units
			Case size 20 series	=	1,000 units

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