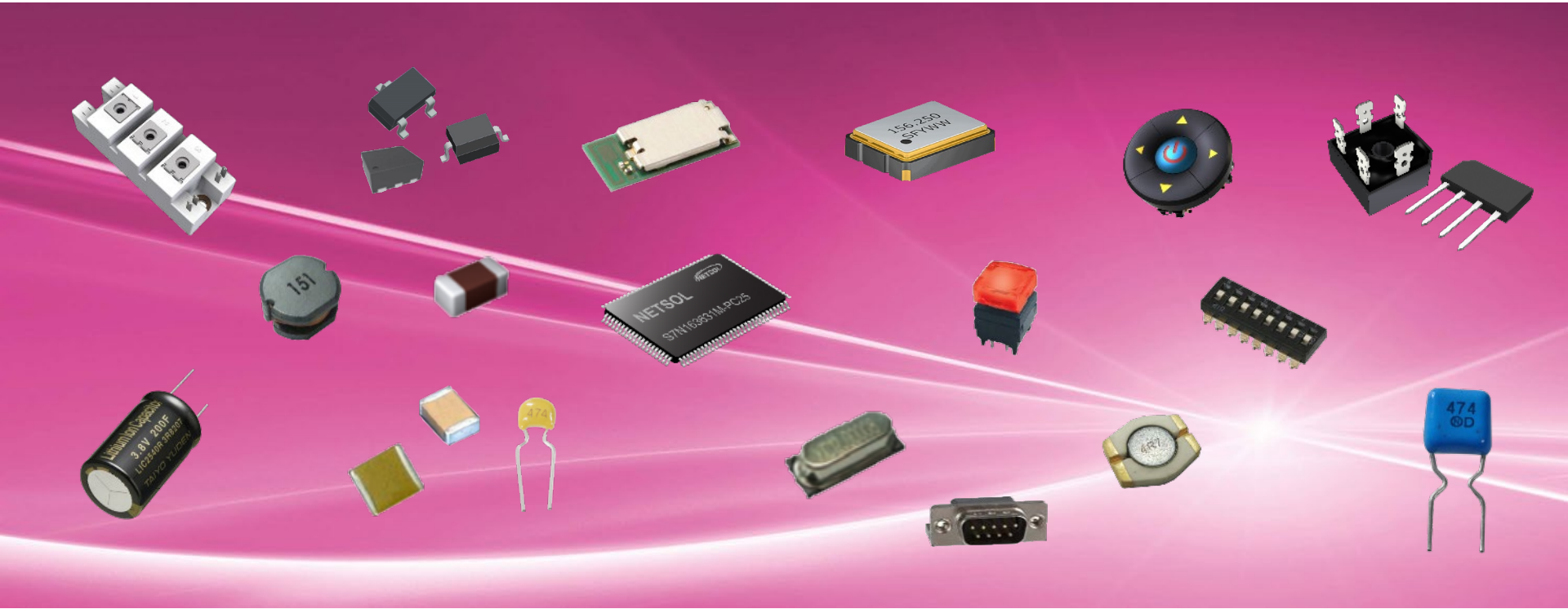


Molded Type Inductor



Chilisin

15.10.2020

BDXX Series – Mini Molded Inductors

Length/width: 1.6 x 0.8 – 3.2 x 2.5mm

Height: 0.8 - 2mm

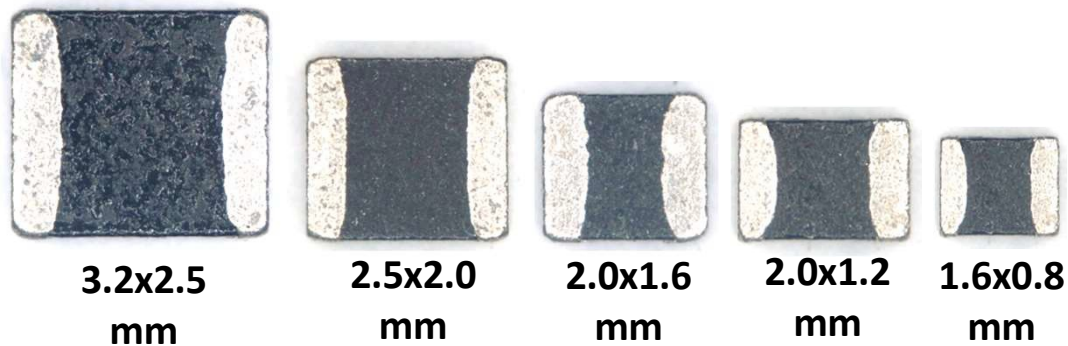
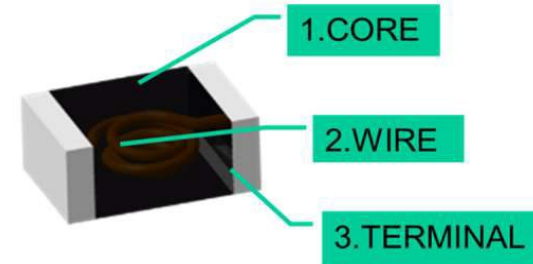
Inductance: 0.1 - 10 μ H

Max. rating current: 10A

Max. saturation current: 14A

~1,600 part numbers available

Capacity: 500M/month



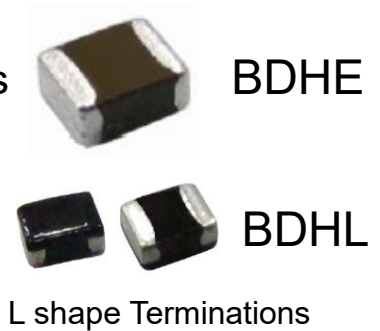
BDHE Series – Mini Molded Inductors

Features:

- Mini Molding structure
- From 1.6*0.8*0.8 to 3.2*2.5*2.5mm
- Inductance 0.24uH – 2.2uH
- High Saturation Current, up to 12A
- Small package size
- Low RDC and Rac, High Q

Applications:

- Smart Phones
- Bluetooth Headsets
- Tablet PCs, PND
- Wearable devices
- LED Lighting
- IoT, Meters



Electrical Characteristics (partial list)

Part Number	Dimensions (mm)	L (uH) @2MHz	RDC(Max) (mOhm)	Isat(Typ) (A)	Irms(Typ) (A)
BDHE00160808R47MQ1	1.6*0.8*0.8	0.47	100	2.6	2
BDHE001608081R0MQ1	1.6*0.8*0.8	1.00	195	1.8	1.7
BDHE00201208R24MQ1	2.0*1.2*0.8	0.24	25	5.4	4.8
BDHE00201208R47MQ1	2.0*1.2*0.8	0.47	48	3.6	3.4
BDHE00201610R24MQ1	2.0*1.6*1.0	0.24	27	7	4.8
BDHE002016102R2MQ1	2.0*1.6*1.0	2.20	135	2.7	2.5
BDHE00252012R24MQ1	2.5*2.0*1.2	0.24	15	10.5	7.3
BDHE002520122R2MQ1	2.5*1.2*1.2	2.20	83	3.7	2.9
BDHE00322510R24MQ1	3.2*2.5*1.0	0.24	16	11.5	6.8
BDHE003225102R2MQ1	3.2*2.5*1.0	2.20	85	3.5	2.8

BMXX Series

Length/width: 3x3 – 17x17 mm

Height: 1 - 10mm

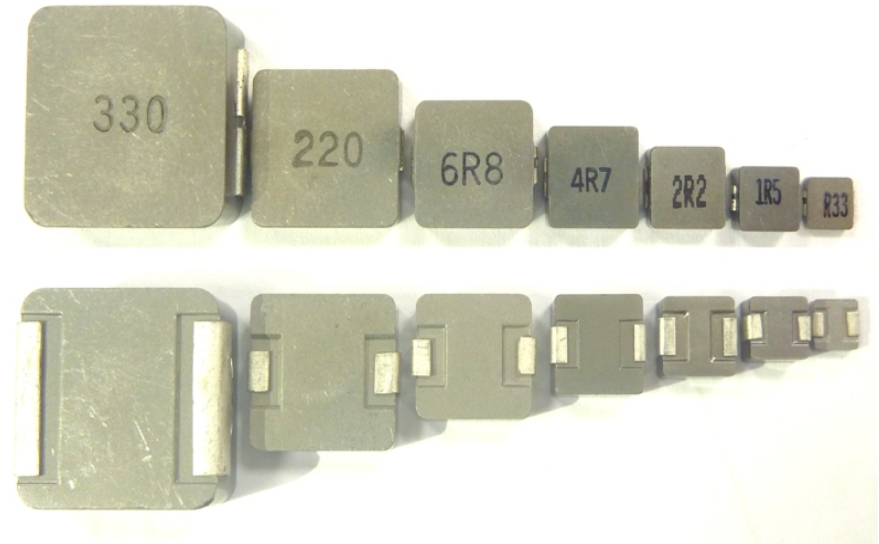
Inductance: 0.1 - 47 μ H

Max. rating current: 55A

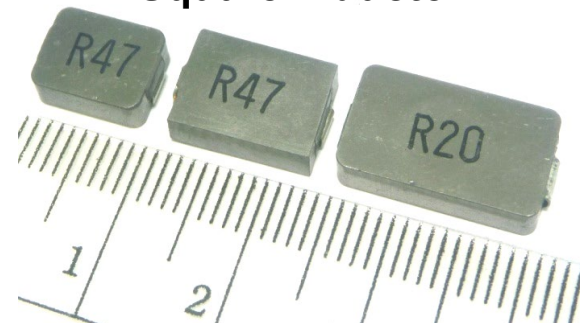
Max. saturation current: 118A

~ 2,800 part numbers available

Capacity: 190 M/month



Square inductor



Rectangle inductor

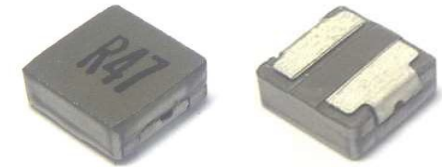
BMNx Series – Molded Power Inductor

Features

- Molding structure
- Available in 4*4mm - 10*10mm
- Inductance 0.10uH – 47uH
- High Saturation Current, upto 20A
- Low RDC
- Other Series: BMMx,

Applications:

- NoteBook PC, Tablet PCs
- Smart Meters
- White Goods
- Display Power
- Motor Driver
- Noise Filter



Electrical Characteristics (partial list)

Dimensions	4x4x2mm		4x4x3mm		5x5x3mm		7x7x3mm		10x10x10mm	
Electrical Parameter	DCR max (mΩ)	Isat (A)	DCR max (mΩ)	Isat (A)	DCR max (mΩ)	Isat (A)	DCR max (mΩ)	Isat (A)	DCR max (mΩ)	Isat (A)
0.1μH	3	22								
0.22μH	6.4	18.7					1.7	50		
0.33μH					6.4	17.1			0.81	69
0.4μH	8.3	12.5								
0.6μH	10.45	10.4			4.52	19.8	3.3	36	1.06	58
1.0μH	14.6	8.7	9.78	9.7	9.4	14	5	28	1.59	42
1.2μH					9.4	12.5				
1.5μH	23.6	7.1	16.6	7.4			8.36	23.5		
2.2μH	38.7	5.6	22.1	6.1	14.5	9.2	15.07	18		
3.3μH			28.6	5.9	23.3	8.7	21.45	12.3		
4.7μH	57.4	2.7	44.1	4.6			27.72	12		

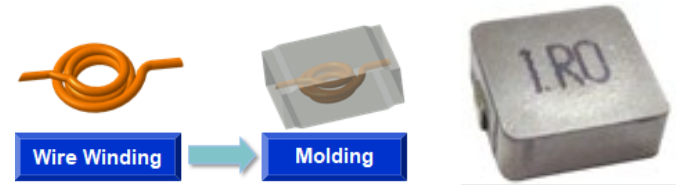
BMQx Series – High Current Molded Inductors

Features:

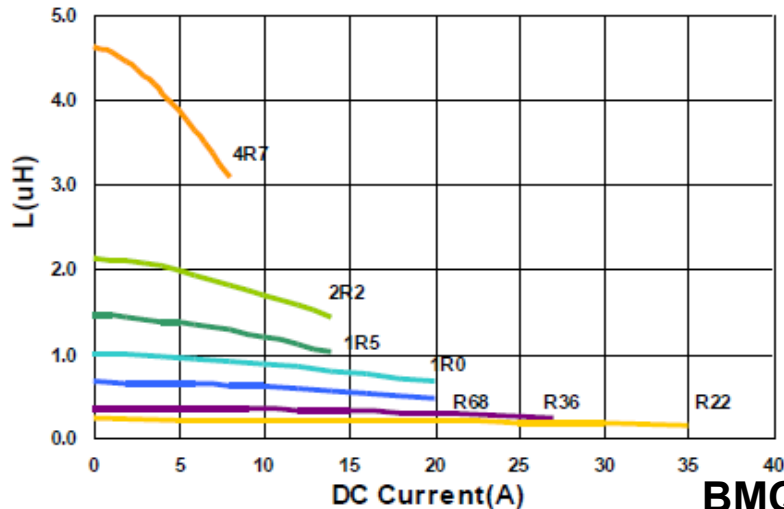
- Molding Structure
- High Isat from 4.5A to 40A
- Foot Print from 4.2x4.8mm to 10.2x11.3mm
- Small size, High Power Density
- Operating temp from -55C to 125C (including self heating)
- Automotive Grade available
- Compatible with Vishay IHLP series

Applications:

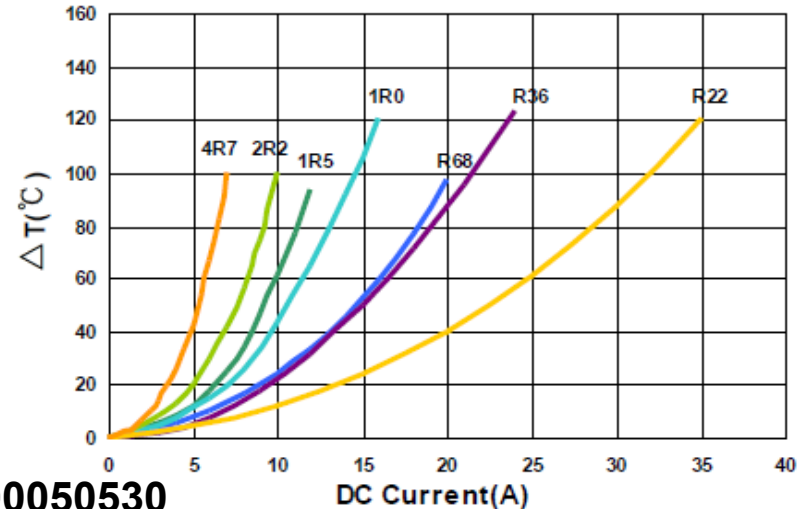
- High Current/Low Voltage DCDC
- Server Power, NB, PC
- Base Stations,
- Automotive



Inductance v.s DC Current



Temperature Change v.s DC Current



BMQA00050530

BFSI Series – Molded Power Inductor

Features

- Molding structure
- Flat Wire Winding, extreme low RDC
- Inductance 0.68uH-15uH
- Saturation current upto 65A
- Available in 9*9*8mm and 12*11*8.8mm
- High profile , occupy minimize PCB space
- Operating Temp -40C to 125C

Applications:

- Tablet PCs, PND, Notebook PC
- Server, Desktop PC
- Motor Drive
- White Good
- Display Power
- Noise Filter



Electrical Characteristics (partial list)

Part Number	Dimensions (mm)	L (uH) @100KHz	RDC(Max) (mOhm)	Isat(Typ) (A)	Irms(Typ) (A)
BFSI00090908R68M05	9.3*9.0*8.1	0.68	2	38	36
BFSI000909081R0M05	9.3*9.0*8.1	1.00	2.5	31	34
BFSI000909082R2M05	9.3*9.0*8.1	2.20	3.8	24	25
BFSI000909084R7M05	9.3*9.0*8.1	4.70	8.5	17.5	15
BFSI00090908100M05	9.3*9.0*8.1	10.00	15.5	11	10
BFSI00121109R47M05	12*11*8.8	0.47	1.5	65	50
BFSI00121109R47M05	12*11*8.8	1.00	2	45	40
BFSI001211092R2M05	12*11*8.8	2.20	2.4	30	30
BFSI001211094R7M05	12*11*8.8	4.70	6.2	23	20
BFSI00121109100M05	12*11*8.8	10.00	12	17.5	13

AFDI Series – High Power Inductor, Through Hole

Features

- Molding Structure, through hole
- Shielded, minimum EMI interferences
- Inductance 0.47uH-120uH
- High current capability, Isat up to 65A
- Low RDC
- Certified to AEC-Q200 standard
- Operating Temp -55C to 155C
- Compatible with Vishay IHTH

Applications:

- Desktop, Server, High power density DCDC
- Automotive
- Engine and Transmission Control Unit
- Battery Powered devices
- Replacement for Iron Powder Toroid choke



AFDI19



AFDI30





Electrical Characteristics vs. Vishay IHTH

Part Number	Inductors(uH)	RDC(mΩ)	Isat(A)	Irms(A)
Chilisin(AFDI00303012101M04)	100	30.8 max	9	11
Vishay(IHTH-1125MZEB-5A 100uH)	100	32.2 max	6	8.8
Chilisin(AFDI00202010101M01)	100	62 max	9	5.8
Vishay(IHTH-0750JZ-5A 100uH)	100	64 max	5.9	4.9
Chilisin(AFDI00191909470M06)	47	35.6 max	9	8
Vishay(IHTH-0750IZ-5A 47uH)	47	37.2 max	6.8	6.5
Chilisin(AFDI002828118R2M06)	8.2	2.9 max	34	37
Vishay(IHTH-1125KZ-51 8.2uH)	8.2	3 max	32	34.5

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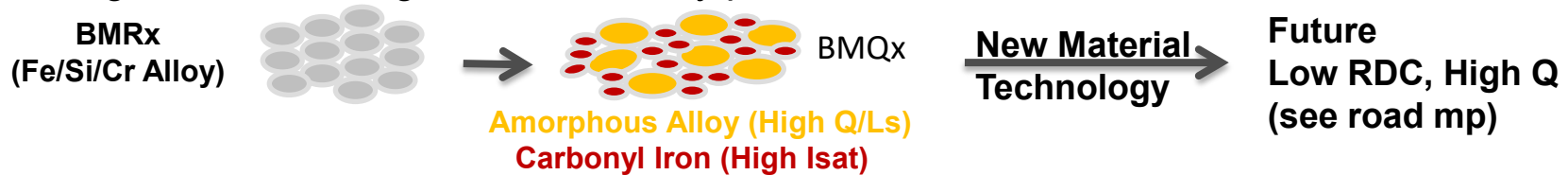
Toroid vs Molded Chokes

	Traditional Toroid (BC Series)	Molded Choke (AFDI Series)
Picture		
Audible Noise	Possible, due to vibration between wire and core	High pressure molding process holds the alloy core and winding tightly together and prevent Audible noise
High Load Performance	Poor performance under large current	Excellent performance under large current
EMI	Difficult to reduce EMI due to flux leakage	Low EMI due to shielded construction
Production Process	Product quality is difficult to control as the wire is wound manually. The wire coating surface can be scratched easily and cause SHORT circuit	The wire is wound by machine and product quality is tightly controlled. The powder goes through insulating treatment and avoid SHORT condition
Heat Temperature	Max temperature around 105-125C.	Can operate upto 150C and meet Automotive standard

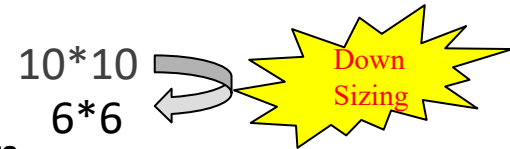
BMQx Series comparison with BMRx series

New Powder and Mixing Technology, enable BMQx many improvements over its predecessor BMRx

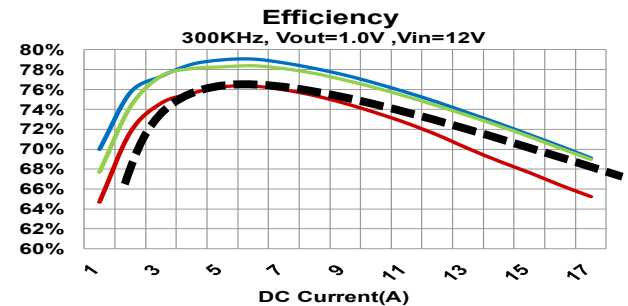
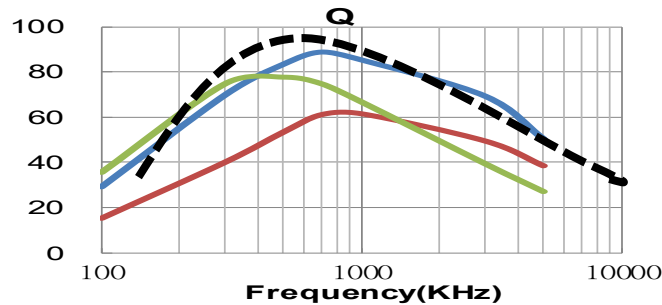
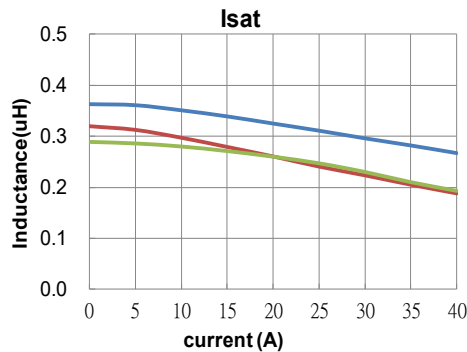
- Reduces RDC by 25%-30%
- Smaller Foot print
- High Q for better light load efficiency performances



BMRF00101040R36MD1 / RDC 1.01 mohm
 BMRA00060640R36ME1 / RDC 1.38 mohm
 BMQA00060640R36ME1 / RDC 1.03 mohm
 BMUA00060640R36ME1 / RDC 0.97 mohm simulation data



Electrical Characteristics



Your contact person for Molded Type Inductor



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