

HIGH CURRENT POWER INDUCTORS / VMPI Type Series

For Automotive Electronics

● Features

High performance (Isat) realized by metal dust core
Low profile : Thickness max. 2.1mm
Low loss realized with low DCR
Capable of corresponding high frequency (1MHz)
100% lead (Pb) free meet RoHS standard
AEC-Q200 qualified

● Applications

Engine and transmission control units
Diesel injection drivers
DC/DC converters for entertainment/navigation systems
Noise suppression for motors
- Windshield wipers
- Power seats
- Power mirrors
- Heating and ventilation blowers
- HID lighting
LED drivers

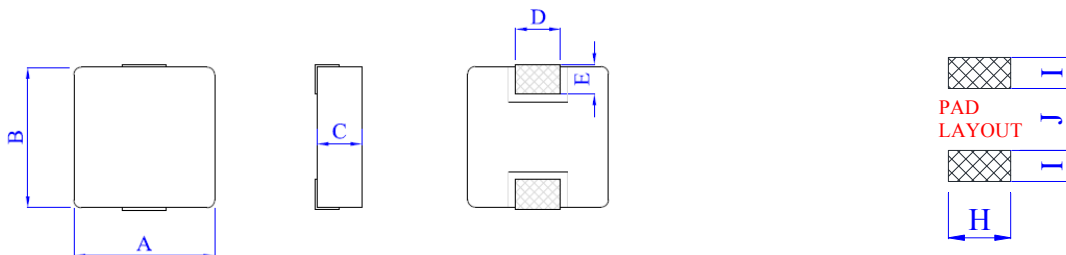


Fig.1



Fig.2

● Shape & Dimensions

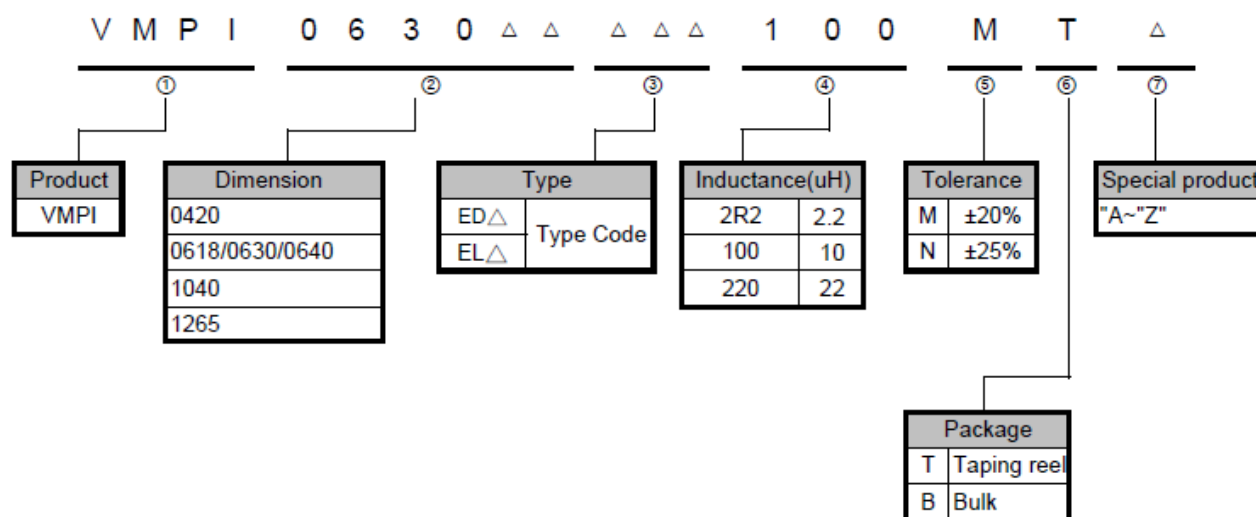


TYPE	Figure	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	H (Ref.)	I (Ref.)	J (Ref.)
VMPI0420ED	1	4.1±0.2	4.6±0.2	2.0 MAX.	1.5±0.3	1.0±0.5	2.5	1.50	2.2
VMPI0420EL	1	4.1±0.2	4.6±0.2	2.0 MAX.	1.5±0.3	1.0±0.5	2.5	1.50	2.2
VMPI0618ED	1	6.6±0.2	7.1±0.3	1.6±0.2	3.0±0.3	1.6±0.5	3.5	2.35	3.7
VMPI0630ED	1	6.6±0.2	7.1±0.3	3.0 MAX.	3.0±0.3	1.6±0.5	3.5	2.35	3.7
VMPI0603EL	1	6.6±0.2	7.1±0.3	3.0 MAX.	3.0±0.3	1.6±0.5	3.5	2.35	3.7
VMPI0640ED	1	6.6±0.2	7.1±0.3	4.0 MAX.	3.0±0.3	1.6±0.5	3.5	2.35	3.7
VMPI1040ED	2	10.5±0.5	11.5±1.0	4.0 MAX.	3.0±0.5	2.5±0.5	4.0	3.50	6.0
VMPI1265EL	2	12.8±0.5	13.5±1.0	6.5 MAX.	3.8 REF.	2.5 REF.	5.0	4.50	6.0

HIGH CURRENT POWER INDUCTORS / VMPI Type Series

For Automotive Electronics

■ PRODUCT IDENTIFICATION



◆ VMPI0420ED Series Specification :

Part Number	Inductance (μ H)	Test Freq. (KHz)	DCR ($m\Omega$) Max.	Saturation Current (A) Typ.	Temp. Rise Current (A) Typ.
VMPI0420EDR10□T	0.10	100	4.0	27.0	13.0
VMPI0420EDR22□T	0.22	100	6.6	21.0	9.5
VMPI0420EDR33□T	0.33	100	13.0	12.0	8.0
VMPI0420EDR47□T	0.47	100	14.0	11.0	7.5
VMPI0420EDR56□T	0.56	100	16.0	11.0	7.0
VMPI0420EDR68□T	0.68	100	18.0	8.6	7.0
VMPI0420ED1R0□T	1.0	100	27.0	7.0	4.5
VMPI0420ED1R2□T	1.2	100	27.0	6.5	4.5
VMPI0420ED1R5□T	1.5	100	46.0	6.0	4.0
VMPI0420ED2R2□T	2.2	100	58.0	5.0	3.0
VMPI0420ED3R3□T	3.3	100	87.0	4.0	2.5
VMPI0420ED4R7□T	4.7	100	105.0	3.0	2.2
VMPI0420ED6R8□T	6.8	100	135.0	3.0	2.0
VMPI0420ED8R2□T	8.2	100	216.0	2.5	1.75
VMPI0420ED100□T	10	100	258.0	2.0	1.6

NOTE :

* The operating temperature range is -40°C to +125°C (Including self-temperature rise)

* □ Tolerance M : $\pm 20\%$

*Isat:For Inductance drop approximately 30% from its value without current.

*Irms:Typical Heat Rating D.C. current would cause an approximately ΔT of 40°C

◆ VMPI0420EL Series Specification :

Part Number	Inductance (μ H)	Test Freq. (KHz)	DCR ($m\Omega$) Max.	Saturation Current (A) Typ.	Temp. Rise current (A) Typ.
VMPI0420ELR22□TA	0.22	100	5.5	18.0	10.0
VMPI0420EL1R0□TA	1.0	100	17.0	8.0	5.5
VMPI0420EL1R5□TA	1.5	100	46.0	7.5	3.3
VMPI0420EL2R2□TA	2.2	100	38.5	6.0	4.0
VMPI0420EL4R7□TA	4.7	100	85.0	4.0	2.5

NOTE :

* The operating temperature range is -40°C to +125°C (Including self-temperature rise)

* □ Tolerance M : $\pm 20\%$

*Isat:For Inductance drop approximately 30% from its value without current.

*Irms:Typical Heat Rating D.C. current would cause an approximately ΔT of 40°C

◆ VMPI0618ED Series Specification :

Part Number	Inductance (μ H)	Test Freq. (KHz)	DCR (m Ω) Max.	Saturation Current (A) Typ.	Temp. Rise current (A) Typ.
VMPI0618EDR47□T	0.47	100	8.4	18.0	11.0
VMPI0618EDR68□T	0.68	100	12.7	17.0	9.0
VMPI0618EDR82□T	0.82	100	15.0	17.0	8.0
VMPI0618ED1R0□T	1.0	100	17.0	14.0	7.0
VMPI0618ED1R5□T	1.5	100	26.0	12.0	6.5
VMPI0618ED2R2□T	2.2	100	35.0	8.0	5.0
VMPI0618ED3R3□T	3.3	100	60.0	8.0	3.5
VMPI0618ED4R7□T	4.7	100	70.0	5.0	3.5
VMPI0618ED6R8□T	6.8	100	110.0	4.0	2.8
VMPI0618ED100□T	10	100	155.0	2.5	2.3
VMPI0618ED220□T	22	100	350.0	2.5	1.8

NOTE :

* The operating temperature range is -40°C to +125°C (Including self-temperature rise)

* □ Tolerance M : $\pm 20\%$

*Isat:For Inductance drop approximately 30% from its value without current.

*Irms:Typical Heat Rating D.C. current would cause an approximately ΔT of 40°C

◆ VMPI0630ED Series Specification :

Part Number	Inductance (μ H)	Test Freq. (KHz)	DCR (m Ω) Max.	Saturation Current (A) Typ.	Temp. Rise current (A) Typ.
VMPI0630EDR47□T	0.47	100	4.1	20.0	18.0
VMPI0630EDR68□T	0.68	100	5.3	17.0	16.0
VMPI0630ED1R0□T	1.0	100	7.4	15.0	12.0
VMPI0630ED1R5□T	1.5	100	12.1	14.0	10.0
VMPI0630ED2R2□T	2.2	100	15.0	10.0	8.0
VMPI0630ED3R3□T	3.3	100	22.0	9.5	6.5
VMPI0630ED4R7□T	4.7	100	33.0	6.5	5.5
VMPI0630ED6R8□T	6.8	100	50.0	6.0	4.5
VMPI0630ED8R2□T	8.2	100	60.0	6.0	4.2
VMPI0630ED100□T	10	100	68.0	5.5	4.0
VMPI0630ED150□T	15	100	115.0	4.5	3.0
VMPI0630ED220□T	22	100	200.0	3.0	2.3
VMPI0630ED330□T	33	100	310.0	3.0	2.0

NOTE :

* The operating temperature range is -40°C to +125°C (Including self-temperature rise)

* □ Tolerance M : $\pm 20\%$

*Isat:For Inductance drop approximately 30% from its value without current.

*Irms:Typical Heat Rating D.C. current would cause an approximately ΔT of 40°C

◆ VMPI0603EL Series Specification :

Part Number	Inductance (μ H)	Test Freq. (KHz)	DCR ($m\Omega$) Max.	Saturation Current (A) Typ.	Temp. Rise current (A) Typ.
VMPI0603ELR47□TA	0.47	100	4.2	26.0	17.5
VMPI0603ELR68□TA	0.68	100	5.5	25.0	15.5
VMPI0603EL1R0□TA	1.0	100	8.4	22.0	12.0
VMPI0603EL1R5□TA	1.5	100	15.0	18.0	9.0
VMPI0603EL2R2□TA	2.2	100	16.4	14.0	8.0
VMPI0603EL3R3□TA	3.3	100	30.0	13.5	6.0
VMPI0603EL4R7□TA	4.7	100	40.0	10.0	5.5
VMPI0603EL6R8□TA	6.8	100	60.0	8.5	4.8
VMPI0603EL8R2□TA	8.2	100	68.0	7.0	4.0
VMPI0603EL100□TA	10	100	105.0	7.0	3.0
VMPI0603EL220□TA	22	100	125.0	3.0	2.9

NOTE :

* The operating temperature range is -40°C to +125°C (Including self-temperature rise)

* □ Tolerance M : $\pm 20\%$

*Isat:For Inductance drop approximately 30% from its value without current.

*Irms:Typical Heat Rating D.C. current would cause an approximately ΔT of 40°C

◆ VMPI0640ED Series Specification :

Part Number	Inductance (μ H)	Test Freq. (KHz)	DCR ($m\Omega$) Max.	Saturation Current (A) Typ.	Temp. Rise current (A) Typ.
VMPI0640ED1R0□T	1.0	100	6.5	17.0	14.0
VMPI0640ED1R5□T	1.5	100	7.0	11.5	10.0
VMPI0640ED2R2□T	2.2	100	10.0	11.0	9.0
VMPI0640ED3R3□T	3.3	100	20.0	12.5	9.0
VMPI0640ED6R8□T	6.8	100	45.0	6.5	5.5
VMPI0640ED100□T	10	100	65.0	5.0	5.0
VMPI0640ED150□T	15	100	105.0	4.5	4.0

NOTE :

* The operating temperature range is -40°C to +125°C (Including self-temperature rise)

* □ Tolerance M : $\pm 20\%$

*Isat:For Inductance drop approximately 30% from its value without current.

*Irms:Typical Heat Rating D.C. current would cause an approximately ΔT of 40°C

◆ VMPI1040ED Series Specification :

Part Number	Inductance (μ H)	Test Freq. (KHz)	DCR ($m\Omega$) Max.	Saturation Current (A) Typ.	Temp. Rise current (A) Typ.
VMPI1040ED2R2□T	2.2	100	7.0	18.0	12.0
VMPI1040ED3R3□T	3.3	100	11.8	16.0	11.0
VMPI1040ED4R7□T	4.7	100	20.0	15.5	9.0
VMPI1040ED6R8□T	6.8	100	25.0	12.0	8.5
VMPI1040ED100□T	10	100	30.0	8.5	7.8
VMPI1040ED220□T	22	100	66.0	5.5	5.0
VMPI1040ED470□T	47	100	145.0	3.5	3.3

NOTE :

* The operating temperature range is -40°C to +125°C (Including self-temperature rise)

* □ Tolerance M : $\pm 20\%$

* Isat: For Inductance drop approximately 30% from its value without current.

* Irms: Typical Heat Rating D.C. current would cause an approximately ΔT of 40°C

◆ VMPI1265EL Series Specification :

Part Number	Inductance (μ H)	Test Freq. (KHz)	DCR ($m\Omega$) Max.	Saturation Current (A) Typ.	Temp. Rise current (A) Typ.
VMPI1265EL4R7□TA	4.7	100	11.20	30.0	13.5
VMPI1265EL6R8□TA	6.8	100	14.00	17.5	11.5
VMPI1265EL8R2□TA	8.2	100	15.50	16.0	10.5
VMPI1265EL100□TA	10	100	16.80	15.5	10.0
VMPI1265EL150□TA	15	100	29.00	9.0	6.0
VMPI1265EL220□TA	22	100	39.50	7.5	5.0
VMPI1265EL330□TA	33	100	65.00	6.0	5.0
VMPI1265EL470□TA	47	100	92.00	5.0	4.0
VMPI1265EL680□TA	68	100	134.00	3.5	2.0

NOTE :

* The operating temperature range is -40°C to +125°C (Including self-temperature rise)

* □ Tolerance M : $\pm 20\%$

* Isat: For Inductance drop approximately 30% from its value without current.

* Irms: Typical heat Rating D.C. current would cause an approximately ΔT of 40°C