FEATURES

RoHS compliant.

Super low resistance, ultra high current rating.

High performance (I sat) realized by metal dust core.

Frequency Range: up to 1MHz.

APPLICATION

PDA, notebook, desktop, and server applications.

Low profile, high current power supplies.

DC/DC converters in distributed power systems.

DC/DC converters for field programmable gate array.

PRODUCT IDENTIFICATION

① ② ③④ ⑤

MMD - 04AB - 1R0 M - V1

①Product Code

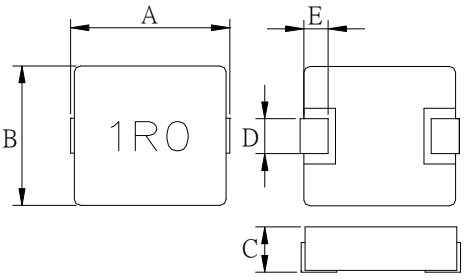
②Dimensions: 04AB = 4.5 x 4.0 x 1.2 mm

③Inductance Code: 1R0 = 1.0 μH

④Tolerance: M = ±20%

⑤Series Type : V1 Type

PRODUCT DIMENSION



NOTE : Dimension in mm

PRODUCT NO.	A	B	C	D	E
MMD-04AB	4.45±0.25	4.06±0.25	1.2Max	2.0±0.3	0.76±0.3
MMD-04BZ	4.45±0.25	4.06±0.25	2.0Max	2.0±0.3	0.76±0.3
MMD-05BZ	5.0±0.2	4.7±0.2	2.0Max	2.0±0.3	1.0±0.3
MMD-05CZ	5.0±0.2	4.7±0.2	3.0Max	2.0±0.3	1.0±0.3
MMD-06AB	6.86±0.38	6.47±0.25	1.2Max	3.0±0.3	1.27±0.3
MMD-06AE	6.86±0.38	6.47±0.25	1.5Max	3.0±0.3	1.27±0.3
MMD-06AH	6.86±0.38	6.47±0.25	1.8Max	3.0±0.3	1.27±0.3
MMD-06CZ	6.86±0.38	6.47±0.25	3.0Max	3.18±0.3	1.27±0.3
MMD-06DZ	6.86±0.38	6.47±0.25	3.0Max	3.18±0.3	1.27±0.3
MMD-06EZ	6.86±0.38	6.47±0.25	5.0Max	3.18±0.3	1.27±0.3
MMD-10DZ	11.5 Max	10.0±0.3	4.0Max	3.0±0.5	2.2±0.3
MMD-12CE	13.2±0.5	12.9Max	3.5Max	3.5±0.5	2.3±0.3
MMD-12EZ	13.2±0.5	12.9Max	5.0Max	3.5±0.5	2.3±0.3
MMD-12FD	13.2±0.5	12.9Max	6.4Max	3.1±0.5	2.3±0.3

MMD-04AB SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT(Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-04AB-47NM-V1	0.047	3.25	3.75	13.0	32.0
MMD-04AB-R10M-V1	0.10	5.50	6.00	11.5	25.0
MMD-04AB-R22M-V1	0.22	11.0	12.0	8.5	20.0
MMD-04AB-R47M-V1	0.47	20.0	22.0	5.0	13.0
MMD-04AB-1R0M-V1	1.00	50.0	52.5	4.0	8.5
MMD-04AB-2R2M-S1	2.2	80.2	90.0	2.45	2.75
MMD-04AB-3R3M-S1	3.3	113	124	1.85	2.30
MMD-04AB-4R7M-S1	4.7	130	145	1.50	1.70
MMD-04AB-6R8M-S1	6.8	312	374	1.4	1.6
MMD-04AB-8R2M-S1	8.2	341	409	1.3	1.5
MMD-04AB-100M-S1	10	386	463	1.2	1.4

MMD-04BZ SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT(Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-04BZ-R10M-V1	0.10	4.50	5.00	11.0	35.0
MMD-04BZ-R22M-V1	0.22	7.30	8.00	13.0	24.0
MMD-04BZ-R33M-V1	0.33	11.6	13.0	9.30	18.0
MMD-04BZ-R47M-V1	0.47	16.0	18.0	5.60	11.5
MMD-04BZ-1R0M-V1	1.00	33.0	37.0	3.75	8.50
MMD-04BZ-2R2M-V1	2.20	80.0	90.0	2.85	6.00
MMD-04BZ-4R7M-S1	4.7	118	132	2.4	2.8
MMD-04BZ-6R8M-S1	6.8	162	178	2	2.1
MMD-04BZ-8R2M-S1	8.2	188	207	1.8	2.0
MMD-04BZ-100M-S1	10	256	282	1.6	1.8
MMD-04BZ-220M-S1	22	460	550	0.8	1.0

MMD-05BZ SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT(Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-05BZ-R10M-M1	0.10	3.6	3.9	17	38.3
MMD-05BZ-R22M-M1	0.22	4.9	5.2	15	18.7

MMD-05BZ-R33M-M1	0.33	7.6	8.2	12	21.3
MMD-05BZ-R47M-M1	0.47	8.1	8.8	11.5	17.9
MMD-05BZ-R68M-M1	0.68	11.2	12.4	10	12.8
MMD-05BZ-1R0M-M1	1.0	18.9	20	7	13.7
MMD-05BZ-2R2M-M1	2.2	45.6	50.1	4.2	10.7
MMD-05BZ-3R3M-M1	3.3	79.2	85.5	3.3	7.3
MMD-05BZ-4R7M-M1	4.7	108	116.6	2.8	4.3
MMD-05BZ-5R6M-M1	5.6	113	122	2.5	3.9
MMD-05BZ-6R8M-M1	6.8	139	150	2.4	3.7
MMD-05BZ-100M-M1	10	184	199	2.3	3.4

MMD-05CZ SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT(Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-05CZ-R68M-X1	0.68	11	12	8.5	14
MMD-05CZ-1R0M-X1	1.0	13	14	7.0	11
MMD-05CZ-1R2M-X1	1.2	15	16	6.5	10.5
MMD-05CZ-1R5M-X1	1.5	20	25	6.0	10
MMD-05CZ-2R2M-X1	2.2	29	35	5.5	9
MMD-05CZ-3R3M-X1	3.3	32	38	5.0	7
MMD-05CZ-4R7M-X1	4.7	47.7	53	4.6	6

MMD-06AB SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT(Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-06AB-R47M-M1	0.47	15	17	8	11
MMD-06AB-R68M-M1	0.68	17	19	7	8
MMD-06AB-1R0M-M1	1.0	26	28	6	7
MMD-06AB-1R5M-M1	1.5	35.5	40.8	4	6
MMD-06AB-3R3M-S1	3.3	90	103	3	3.6
MMD-06AB-4R7M-S1	4.7	155	170	2.4	2.8
MMD-06AB-6R8M-S1	6.8	189	217	2.1	2.4
MMD-06AB-100M-S1	10	250	290	1.8	2.2

MMD-06AE SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT(Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-06AE-3R3M-S1	3.3	78.2	89.9	4.2	5.1
MMD-06AE-4R7M-S1	4.7	96.6	111	3.8	4.6
MMD-06AE-5R6M-S1	5.6	146	167	2.8	3.1
MMD-06AE -6R8M-S1	6.8	173	198	2.4	2.64
MMD-06AE-8R2M-S1	8.2	188	216	2.3	2.5
MMD-06AE-100M-S1	10	216	248	2.16	2.3

MMD-06AH SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT((Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-06AH-R10M-V1	0.10	3.0	3.5	18	40
MMD-06AH-R22M-V1	0.22	5.3	5.7	14	26
MMD-06AH-R33M-V1	0.33	6.6	7.0	12	18
MMD-06AH-R47M-V1	0.47	8.4	9.3	11	18
MMD-06AH-R82M-V1	0.82	13.8	15.9	8	17
MMD-06AH-1R0M-V1	1.0	17.5	18.3	7	14
MMD-06AH-2R2M-V1	2.2	40.3	46.0	3.75	13
MMD-06AH-3R3M-V1	3.3	56.2	60.1	3.25	10
MMD-06AH-4R7M-V1	4.7	76.6	78.0	3	8
MMD-06AH-6R8M-S1	6.8	120	138	2.5	3.8
MMD-06AH-8R2M-S1	8.2	132	151	2.2	3.2
MMD-06AH-100M-S1	10	145	166	2.0	2.3

MMD-06CZ SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT((Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-06CZ-R10M-V1	0.10	1.5	1.7	32.5	60.0
MMD-06CZ-R22M-V1	0.22	2.5	2.8	23.0	40.0
MMD-06CZ-R33M-V1	0.33	3.5	3.9	20.0	30.0
MMD-06CZ-R47M-V1	0.47	4.0	4.2	17.5	26.0
MMD-06CZ-R68M-V1	0.68	5.0	5.5	15.5	25.0

MMD-06CZ-R82M-V1	0.82	6.7	8	13.0	24.0
MMD-06CZ-1R0M-V1	1.0	9	10	11.0	22.0
MMD-06CZ-1R5M-V1	1.5	14	15	9.0	18.0
MMD-06CZ-2R2M-V1	2.2	18	20	8.0	14.0
MMD-06CZ-3R3M-V1	3.3	28	30	6.0	13.5
MMD-06CZ-4R7M-V1	4.7	37	40	5.5	10.0
MMD-06CZ-6R8M-V1	6.8	54	60	4.5	8.0
MMD-06CZ-8R2M-V1	8.2	64	68	4.0	7.5
MMD-06CE-100M-M2	10	67.8	71.2	4.0	3.5

MMD-06DZ SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT((Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-06DZ-R47M-X2	0.47	2.6	2.9	22	22
MMD-06DZ-R56M-X2	0.56	3.4	3.7	18	20
MMD-06DZ-R68M-X2	0.68	3.9	4.2	13	15
MMD-06DZ-1R5M-X2	1.5	12	14	10	17
MMD-06DZ-2R2M-X2	2.2	16.5	18	8.5	16
MMD-06DZ-3R3M-X2	3.3	21	23	7	13
MMD-06DZ-4R7M-X2	4.7	33.2	35.0	6.0	8.0

MMD-06EZ SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT((Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-06EZ-R56M-V1	0.56	3.4	3.6	20	12
MMD-06EZ-R68M-V1	0.68	4.2	4.5	18	11.5
MMD-06EZ-R82M-V1	0.82	4.6	4.9	16.5	13
MMD-06EZ-1R0M-V1	1.0	5.6	6.5	13	15
MMD-06EZ-1R5M-V1	1.5	8.6	9.0	12	12
MMD-06EZ-2R2M-V1	2.2	13	13.6	10	10
MMD-06EZ-3R3M-V1	3.3	19.9	20.9	8	8
MMD-06EZ-4R7M-V1	4.7	28.9	30.3	6.5	7

MMD-10DZ SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT((Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-10DZ-R36M-X1	0.36	1.05	1.2	30	60
MMD-10DZ-R45M-X1	0.45	1.3	1.5	29	45
MMD-10DZ-R56M-X1	0.56	1.6	1.8	25	40
MMD-10DZ-R68M-X1	0.68	2.4	2.7	22	39
MMD-10DZ-R88M-X1	0.88	2.7	3.0	20	38
MMD-10DZ-1R0M-X1	1.0	3.0	3.3	18	36
MMD-10DZ-1R5M-X1	1.5	3.8	4.2	16	33
MMD-10DZ-2R2M-X1	2.2	6.7	7.0	12	27
MMD-10DZ-3R3M-X2	3.3	10.8	11.8	10	16
MMD-10DZ-4R7M-X2	4.7	15	16.5	9.5	17
MMD-10DZ-100M-X2	10	27.5	30.0	6	6

MMD-12CE SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT((Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-12CE-R15M-V1	0.15	1.0	1.2	41	75
MMD-12CE-R22M-V1	0.22	1.1	1.3	38.5	65
MMD-12CE-R33M-V1	0.33	1.3	1.5	36.5	62
MMD-12CE-R47M-V1	0.47	1.6	2	32	55
MMD-12CE-R60M-V1	0.60	1.8	2.2	29	51
MMD-12CE-R68M-V1	0.68	2.3	2.5	28	49
MMD-12CE-R82M-V1	0.82	2.6	3	25	44
MMD-12CE-1R0M-V1	1.0	3.3	3.5	24	40
MMD-12CE-1R5M-V1	1.5	5.1	5.5	19	35
MMD-12CE-1R8M-V1	1.8	6.5	7	16.5	30
MMD-12CE-2R2M-V1	2.2	7.2	8	16	29
MMD-12CE-3R3M-V1	3.3	11.0	12	12	27
MMD-12CE-4R7M-V1	4.7	14.3	15	10	24

MMD-12EZ SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT((Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-12EZ-R22M-V1	0.22	0.64	0.80	51	110
MMD-12EZ-R33M-V1	0.33	0.84	1.1	42	80
MMD-12EZ-R47M-V1	0.47	1.1	1.3	38	65
MMD-12EZ-R56M-V1	0.56	1.3	1.5	36	55
MMD-12EZ-R68M-V1	0.68	1.5	1.7	34	54
MMD-12EZ-R82M-V1	0.82	2.0	2.3	31	53
MMD-12EZ-1R0M-V1	1.0	2.1	2.5	29	50
MMD-12EZ-1R5M-V1	1.5	3.4	4.1	23	48
MMD-12EZ-1R8M-V1	1.8	4.2	4.9	19	40
MMD-12EZ-2R2M-V1	2.2	5.6	5.5	20	32
MMD-12EZ-3R3M-V1	3.3	7.7	9.2	15	32
MMD-12EZ-4R7M-V1	4.7	12.8	15.0	12	27
MMD-12EZ-5R6M-V1	5.6	14.0	16.5	11.5	22
MMD-12EZ-6R8M-V1	6.8	15.4	18.5	11	21
MMD-12EZ-7R8M-V1	7.8	17.2	20.5	10	18
MMD-12EZ-8R2M-V1	8.2	18.9	22.5	9.5	18
MMD-12EZ-100M-V1	10	21.4	25.5	9.0	16

MMD-12FD SPECIFICATION

PART NUMBER	INDUCTANCE Lo(μH)±20% @0A	R_{dc} (mΩ)		HEAT RATING CURRENT((Idc) DC AMPS[1]	SATURATION CURRENT(Isat) DC AMPS[2]
		Typ.	Max		
MMD-12FD-R22M-V1	0.22	0.63	0.70	53	112
MMD-12FD-R33M-V1	0.33	0.83	0.90	46	65
MMD-12FD-R47M-V1	0.47	1.0	1.2	41	63
MMD-12FD-R56M-V1	0.56	1.2	1.4	37	62
MMD-12FD-R68M-V1	0.68	1.4	1.6	35	60
MMD-12FD-R82M-V1	0.82	1.6	1.9	33	50
MMD-12FD-1R0M-V1	1.0	1.7	2.0	32	49

MMD-12FD-2R2M-V1	2.2	3.5	4.2	22	40
MMD-12FD-3R3M-V1	3.3	5.7	6.8	18	35
MMD-12FD-4R7M-V1	4.7	9.3	11.2	13.5	30
MMD-12FD-6R8M-V1	6.8	13.1	14	11.5	16.5
MMD-12FD-8R2M-V1	8.2	14.5	15.5	10.5	16
MMD-12FD-100M-V1	10	16.4	17.2	10	15.5

NOTES:

1. Idc : DC current (A) that will cause an approximate △T of 40℃
2. Isat : DC current (A) that will cause Lo to drop approximately 20%
3. All test data is referenced to 25℃ ambient
4. Operating Temperature Range -55℃ to +125℃
5. The part temperature (ambient + temp rise) should not exceed 125℃ under the worst operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
6. TEST FREQUENCY:100KHz,0.25V
7. TESTING INSTRUMENT L :Agilent4284A,WK4235,CH3302/G LCR METER
   CH1320,CH1320S BIAS CURRENT SOURCE
   R_{dc} :CH11025,GOM802 MICRO OHMMETER