

SMD Power Inductor

FMPA0503SV-Series(N)-D

1. Features

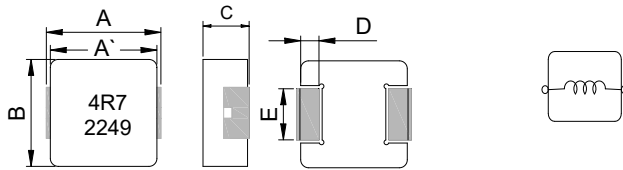
1. Low loss realized with low DCR.
2. High performance realized by metal dust core.
3. Ultra low buzz noise, due to composite construction.
4. 100% Lead(Pb)-Free and RoHS compliant.
5. High reliability -Reliability test complied to AEC-Q200.



2. Applications

Automotive applications.

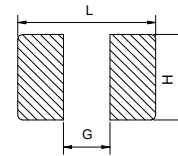
3. Dimensions



Series	A	A'	B	C	D	E
FMPA0503	5.7±0.3	5.2±0.3	5.2±0.2	2.8±0.2	1.0±0.3	2.0±0.2

Unit:mm

Recommend PC Board Pattern

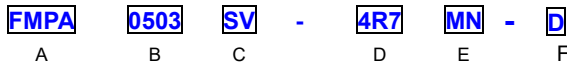


L(mm)	G(mm)	H(mm)
6.0	2.8	2.5

Note:

- 1.PCB layout is referred to standard IPC-7351B
2. The above PCB layout reference only.
3. Recommend solder paste thickness at 0.12mm and above.

4. Part Numbering



- A: Series
 - B: Dimension
 - C: Type
 - D: Inductance
 - E: Inductance Tolerance
 - F: Code
- BxC
 - Standard. V: Vehicle
 - 4R7=4.70uH
 - M=±20%
 - Marking: Black.4R7 and 2249 (22YY,49 WW, follow production date).
 - Anti-static packaging

5. Specification

Part Number	Inductance L0 A(μH) ±20%	I _{rms} (A)		I _{sat} (A)		DCR (mΩ)		Q (Min)	SRF (MHz) Ref	Impulse Voltage
		Typ	Max	Typ	Max	Typ	Max			
FMPA0503SV-R10MN-D	0.10	26	23	33	29	2.0	2.2	15	195	≥60V
FMPA0503SV-R33MN-D	0.33	16	14	12	10	4.5	5.4	15	100	≥60V
FMPA0503SV-R47MN-D	0.47	13.5	12	10	9.0	5.2	6.0	15	77	≥60V
FMPA0503SV-R56MN-D	0.56	13.0	11.5	9.5	8.5	6.1	7.2	15	70	≥60V
FMPA0503SV-R68MN-D	0.68	12.5	11	9.0	8.0	7.4	8.5	15	65	≥60V
FMPA0503SV-R82MN-D	0.82	10	9.0	8.8	7.7	8.0	9.2	15	52	≥60V
FMPA0503SV-1R0MN-D	1.00	9.0	8.0	8.5	7.5	10.5	12	15	50	≥100V
FMPA0503SV-1R5MN-D	1.50	8.0	7.0	7.5	6.5	13.6	15.7	15	38	≥100V
FMPA0503SV-2R2MN-D	2.20	7.0	6.5	6.5	5.8	21.6	25	15	30	≥100V
FMPA0503SV-3R3MN-D	3.30	6.3	5.8	6.0	5.3	28	33	15	24	≥100V
FMPA0503SV-4R7MN-D	4.70	5.5	4.8	5.3	4.6	38	44	15	20	≥100V
FMPA0503SV-5R6MN-D	5.60	5.0	4.3	4.6	4.0	50	58	15	18	≥100V
FMPA0503SV-6R8MN-D	6.80	4.3	3.7	3.5	3.1	57	66	15	17	≥100V
FMPA0503SV-100MN-D	10.0	3.8	3.4	2.5	2.1	88	103	15	14	≥100V
FMPA0503SV-150MN-D	15.0	2.9	2.5	2.2	1.7	140	170	15	12	≥100V
FMPA0503SV-220MN-D	22.0	2.4	2.0	2.0	1.7	190	228	15	10	≥100V

Note:

1. Test frequency : Ls : 100KHz /1.0V.
2. All test data referenced to 25°C ambient.
3. Testing Instrument(or equ) : Agilent 4284A,E4991A,4339B,KEYSIGHT E4980A/AL,chroma3302,3250,16502.
4. Heat Rated Current (I_{rms}) will cause the coil temperature rise approximately ΔT of 40°C
5. Saturation Current (I_{sat}) will cause L0 to drop approximately 30%.
6. The part temperature (ambient + temp rise) should not exceed 155°C under worst case operating conditions. Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
7. I_{rms} Testing : Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.
8. Rated DC current: The lower value of I_{rms} and I_{sat}.

11. Typical Performance Curves

