Ordering Code

SPM 2520 2R2 M P S A

Product Code:

SPM: Molding Inductor
SPN : Coating Inductor(Normal)
SPH :Coating Inductor(High Current)

Dimension (L X W): mm

Code	Dimension	Code	Dimension
1210	1.2 X 1.0 mm	5050	5.0 X 5.0 mm
2016	2.0 X 1.6 mm	6060	6.0 X 6.0 mm
2020	2.0 X 2.0 mm	7070	7.0 X 7.0 mm
2424	2.4 X 2.4 mm	8080	8.0 X 8.0 mm
2520	2.5 X 2.0 mm	1010	10 X 10 mm
3030	3.0 X 3.0 mm	1313	13 X 13 mm
4040	4.0 X 4.0 mm		

Inductor Value

R22=0.22 uH 2R2=2.2 uH
220=22 uH 221=220 uH
102=1000 uH

Tolerance Code:

M: ±20%
T: ±25%
N: ±30%

Packaging Code:

P: Embossed Reel (7”)
E: Embossed Reel (13”)

Thickness Code:

Code	Thick	Code	Thick	Code	Thick
5	0.5	E	1.5	L	3.0
7	0.7	F	1.6	M	3.5
9	0.9	G	1.8	N	4.0
A	1.0	H	2.0	P	4.5
B	1.1	I	2.4	Q	5.0
C	1.2	J	2.5	R	6.0
D	1.4	K	2.8	S	6.5

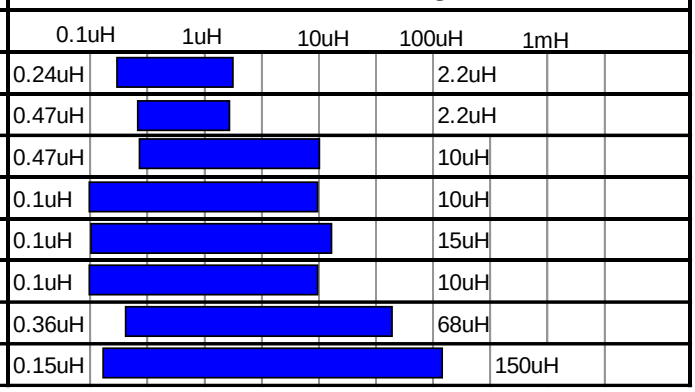
Specification:

S:Standard
C:High Current
R:Low DCR
M: Standard with vertical mark
H:High Current with vertical mark
T: Specific Spec

Product Range

Molding Inductors (SPM Series)

DARFON Item	Dimensions (mm)	Hieght (mm) max	Inductance range
SPM2016	2.0*1.6	1.0	0.24uH – 2.2uH
SPM2520	2.5*2.0	1.2	0.47uH – 2.2uH
SPM3030	3.0*3.0	1.2	0.47uH – 10uH
SPM4040	4.0*4.0	1.2~2.0	0.1uH – 10uH
SPM5050	5.0*5.0	1.2~3.0	0.1uH – 15uH
SPM7070	7.0*7.0	1.2~5.0	0.1uH – 10uH
SPM1010	10.0*10.0	4.0	0.36uH – 68uH
SPM1313	13.0*13.0	5.0~6.0	0.15uH – 150uH



Molding Inductors (SPM Series)

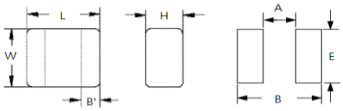
■Feature

1. Magnetic shielded construction
2. Frequency range up to 3.0MHz
3. Higher rated current, capable handling at high
   current spikes

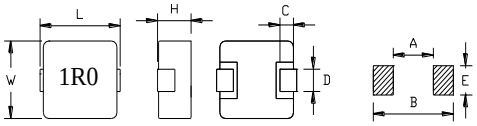
■Application

-Notebook / Desktop applications
-VGA card applications
-DC-DC Converter applications
-Low profile, high current power supplies

■Standard External Dimensions



Series	L (mm)	W (mm)	H (mm)	B (mm)	Recommended Land Patterns			Package	
					A' (mm)	B (mm)	E (mm)	Reel	Amount(pcs)
SPM2016□□□□PTA	2.0±0.1	1.6±0.1	1.0max	0.5±0.3	0.8	2.05	1.65	7”	3,000
SPM2520□□□□PTC	2.5±0.2	2.0±0.2	1.2max	0.5±0.3	1.2	2.8	2.0	7”	3,000



Series	L (mm)	W (mm)	H (mm)	C (mm)	D (mm)	Recommended Land Patterns			Package	
						A' (mm)	B (mm)	E (mm)	Reel	Amount(pcs)
SPM3030□□□□PSC	3.2±0.2	3.0±0.2	1.2max	0.8±0.2	1.2±0.2	1.2	4.2	2.0	7”	2,000
SPM4040□□□□ESC	4.7±0.3	4.2±0.2	1.2max	0.8±0.3	2.0±0.3	2.4	5.4	2.5	13”	3,500
SPM4040□□□□ESH	4.7±0.3	4.2±0.2	2.0max	0.8±0.3	2.0±0.3	2.4	5.4	2.5	13”	2,000
SPM5050□□□□ESC	5.7±0.3	5.2±0.2	1.2max	1.0±0.3	2.5±0.3	3.0	7.0	3.5	13”	3,000
SPM5050□□□□ESE	5.7±0.3	5.2±0.2	1.5max	1.0±0.3	2.5±0.3	3.0	7.0	3.5	13”	3,000
SPM5050□□□□ESH	5.7±0.3	5.2±0.2	2.0max	1.0±0.3	2.5±0.3	3.0	7.0	3.5	13”	3,000
SPM5050□□□□ESL	5.7±0.3	5.2±0.2	3.0max	1.0±0.3	2.5±0.3	3.0	7.0	3.5	13”	2,000
SPM7070□□□□ESC	7.2±0.3	6.6±0.2	1.2max	1.5±0.3	3.0±0.3	4.0	8.5	3.5	13”	2,500
SPM7070□□□□ESE	7.0±0.3	6.5±0.2	1.5max	1.5±0.3	3.0±0.3	4.0	8.5	3.5	13”	2,000
SPM7070□□□□ESG	7.2±0.3	6.6±0.2	1.8max	1.5±0.3	3.0±0.3	4.0	8.5	3.5	13”	2,000
SPM7070□□□□ESL	6.95±0.35	6.6±0.2	3.0max	1.5±0.3	3.0±0.3	4.0	8.5	3.5	13”	1,500
SPM7070□□□□ERL	6.95±0.35	6.6±0.2	3.0max	1.5±0.3	3.0±0.3	4.0	8.5	3.5	13”	1,500
SPM7070□□□□ESQ	7.2±0.3	6.6±0.2	5.0max	1.5±0.3	3.0±0.3	4.0	8.5	3.5	13	1,000
SPM1010□□□□ESN	11.2±0.3	10.0±0.3	4.0max	2.0±0.5	3.0±0.5	5.5	13.5	4.0	13”	800
SPM1313□□□□ESQ	13.9±0.3	12.8±0.2	5.0max	2.0±0.5	5.0±0.5	8.0	14.5	6.0	13”	500
SPM1313□□□□ESR	13.9±0.3	12.8±0.2	6.0max	2.0±0.5	5.0±0.5	8.0	14.5	6.0	13”	500

■Part Numbers & Characteristics

SPM2016□□□□PTA (Thickness 1.0mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM2016R24MPTA	0.24	± 20%	33	42	3.30	5.00	1MHz/1.0V
SPM2016R47MPTA	0.47		38	46	3.20	3.70	
SPM2016R68MPTA	0.68		54	65	2.70	2.70	
SPM20161R0MPTA	1.0		60	75	2.65	2.65	
SPM20162R2MPTA	2.2		131	160	1.75	1.75	

SPM2520□□□□PTC (Thickness 1.2mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM2520R47MPTC	0.47	± 20%	30	39	3.90	4.80	1MHz/1.0V
SPM2520R68MPTC	0.68		36	47	3.40	3.70	
SPM25201R0MPTC	1.0		45	59	3.10	3.60	
SPM25202R2MPTC	2.2		90	117	2.20	2.40	
SPM25203R3MPTC	3.3		120	156	1.90	2.10	

SPM4040□□□□ESC (Thickness 1.2mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM4040R47MESC	0.47	± 20%	19.0	21.0	6.00	6.80	100KHz/1.0V
SPM4040R68MESC	0.68		32.0	36.0	4.50	6.00	
SPM40401R0MESC	1.0		43.0	47.0	4.20	5.20	
SPM40401R5MESC	1.5		68.0	75.0	3.25	4.00	
SPM40402R2MESC	2.2		79.4	83.5	2.75	3.50	
SPM40403R3MESC	3.3		120.0	138.0	2.30	3.00	
SPM40404R7MESC	4.7		175.0	195.0	1.80	2.80	
SPM40406R8MESC	6.8		292.0	358.0	1.50	2.20	
SPM4040100MESC	10		394.0	465.0	1.30	1.80	

All test data are referenced to 25℃ ambient.

※Isat: DC current(A) that will cause inductance to drop approximately 30%.

※Idc: DC current(A) that will cause an approximate ΔT of 40℃.

SPM4040□□□□ESH (Thickness 2.0mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM4040R22MESH	0.22	± 20%	6.0	6.6	9.00	12.50	100KHz/1.0V
SPM4040R47MESH	0.47		12.5	14.0	7.00	9.50	
SPM4040R56MESH	0.56		14.0	16.0	6.50	9.00	
SPM4040R68MESH	0.68		19.4	21.0	5.20	8.00	
SPM40401R0MESH	1.0		24.0	27.0	4.50	7.00	
SPM40401R5MESH	1.5		38.0	46.0	4.00	6.00	
SPM40402R2MESH	2.2		52.0	58.0	3.00	5.00	
SPM40403R3MESH	3.3		74.0	87.0	2.50	4.00	
SPM40404R7MESH	4.7		92.0	105.0	2.20	3.00	
SPM40406R8MESH	6.8		162.0	178.0	2.00	2.10	
SPM4040100MESH	10		256.0	282.0	1.80	2.20	

SPM5050□□□□ESC (Thickness 1.2mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM50501R0MESC	1.0	± 20%	31.3	32.9	5.00	6.00	100KHz/1.0V
SPM50502R2MESC	2.2		67.0	76.0	3.50	4.00	
SPM50503R3MESC	3.3		85.0	98.0	3.00	3.70	
SPM50504R7MESC	4.7		145.0	163.0	2.30	2.70	
SPM50506R8MESC	6.8		225.0	250.0	2.00	2.30	

SPM5050□□□□ESE (Thickness 1.5mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM50501R0MESE	1.0	± 20%	20.0	23.0	6.50	9.00	100KHz/1.0V
SPM50501R2MESE	1.2		22.5	26.0	6.00	8.00	
SPM50502R2MESE	2.2		58.0	64.0	3.30	6.00	
SPM50503R3MESE	3.3		65.0	72.0	3.20	5.00	
SPM50504R7MESE	4.7		103.0	115.0	3.00	4.00	
SPM50506R8MESE	6.8		167.0	180.0	2.50	3.20	
SPM5050100MESE	10		220.0	246.0	2.00	3.00	

All test data are referenced to 25℃ ambient.

※Isat: DC current(A) that will cause inductance to drop approximately 30%.

※Idc: DC current(A) that will cause an approximate ΔT of 40℃.

SPM5050□□□□ESH (Thickness 2.0mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM5050R22MESH	0.22	± 20%	4.1	4.5	12.00	20.00	100KHz/1.0V
SPM5050R33MESH	0.33		5.5	5.9	11.50	16.00	
SPM5050R47MESH	0.47		8.0	10.0	10.50	15.50	
SPM5050R56MESH	0.56		8.2	10.0	9.50	13.00	
SPM5050R68MESH	0.68		10.5	13.0	9.00	12.00	
SPM50501R0MESH	1.0		15.0	17.0	8.00	9.50	
SPM50501R5MESH	1.5		21.0	24.2	6.00	9.00	
SPM50502R2MESH	2.2		30.0	35.0	5.00	6.50	
SPM50503R3MESH	3.3		49.0	55.0	4.50	5.50	
SPM50504R7MESH	4.7		75.3	81.3	3.50	4.50	
SPM50505R6MESH	5.6		85.2	92.0	3.00	4.00	
SPM50506R8MESH	6.8		107.0	120.0	2.80	3.60	
SPM5050100MESH	10		140.0	155.0	2.40	3.40	

SPM5050□□□□ESL (Thickness 3.0mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM50501R0MESL	1.0	± 20%	13.0	14.0	7.00	11.00	100KHz/1.0V
SPM50502R2MESL	2.2	± 20%	29.0	35.0	5.50	9.00	
SPM50503R3MESL	3.3	± 20%	32.0	38.0	5.00	7.00	
SPM50504R7MESL	4.7	± 20%	50.0	60.0	4.40	6.00	

SPM7070□□□□ESC (Thickness 1.2mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM7070R56MESC	0.56	± 20%	13.5	15.5	7.00	11.00	100KHz/1.0V
SPM7070R68MESC	0.68		15.0	17.5	6.70	9.00	
SPM7070R82MESC	0.82		21.5	24.5	6.30	8.00	
SPM70701R0MESC	1.0		25.0	29.0	6.00	7.00	
SPM70702R2MESC	2.2		51.5	59.0	4.00	5.00	
SPM70703R3MESC	3.3		80.0	92.0	3.00	4.00	
SPM70704R7MESC	4.7		106.0	122.0	2.70	3.50	
SPM70706R8MESC	6.8		185.0	217.0	2.20	2.40	
SPM7070100MESC	10		250.0	290.0	2.00	2.20	

All test data are referenced to 25℃ ambient.

※Isat: DC current(A) that will cause inductance to drop approximately 30%.

※Idc: DC current(A) that will cause an approximate ΔT of 40℃.

SPM7070□□□□ESD (Thickness 1.4mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM70706R8MESD	6.8	± 20%	189.0	217.0	2.20	2.50	100KHz/1.0V

SPM7070□□□□ESE (Thickness 1.5mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM7070R33MESE	0.33	± 20%	6.8	7.8	10.00	19.50	100KHz/1.0V
SPM7070R56MESE	0.56		9.5	11.0	9.00	14.00	
SPM7070R68MESE	0.68		10.5	12.0	8.50	12.00	
SPM7070R82MESE	0.82		15.0	17.0	7.00	10.00	
SPM70701R0MESE	1.0		18.5	21.0	5.50	9.00	
SPM70701R5MESE	1.5		37.0	42.5	5.00	7.00	
SPM70702R2MESE	2.2		46.0	54.0	3.50	6.00	
SPM70703R3MESE	3.3		54.0	63.0	3.30	5.50	
SPM70704R7MESE	4.7		76.0	85.0	3.00	5.00	
SPM70705R6MESE	5.6		96.0	118.0	2.80	4.50	
SPM70706R8MESE	6.8		125.0	135.0	2.50	4.00	
SPM7070100MESE	10		165.0	175.0	2.00	3.00	

SPM7070□□□□ESG (Thickness 1.8mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM7070R33MESG	0.33	± 20%	5.2	6.8	12.00	22.00	100KHz/1.0V
SPM7070R47MESG	0.47		7.3	8.4	11.00	17.00	
SPM7070R68MESG	0.68		10.8	12.7	9.00	16.00	
SPM7070R82MESG	0.82		13.4	15.9	8.00	14.00	
SPM70701R0MESG	1.0		14.5	17.0	7.00	12.00	
SPM70702R2MESG	2.2		31.0	35.0	5.00	8.00	
SPM70703R3MESG	3.3		56.0	60.0	3.50	7.00	
SPM70704R7MESG	4.7		68.0	70.0	3.20	5.50	
SPM70706R8MESG	6.8		101.0	110.0	2.80	4.50	
SPM70708R2MESG	8.2		124.0	142.0	2.50	4.00	
SPM7070100MESG	10		155.0	166.0	2.00	3.00	

All test data are referenced to 25℃ ambient.

※Isat: DC current(A) that will cause inductance to drop approximately 30%.

※Idc: DC current(A) that will cause an approximate ΔT of 40℃.

SPM7070□□□□ESL (Thickness 3.0mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM7070R10NESL	0.10	± 30%	1.5	1.7	32.50	60.00	100KHz/1.0V
SPM7070R22MESL	0.22	± 20%	2.5	2.8	23.00	34.00	
SPM7070R33MESL	0.33		3.0	3.5	21.00	25.00	
SPM7070R47MESL	0.47		3.5	4.1	18.00	20.00	
SPM7070R56MESL	0.56		3.9	4.5	16.50	18.00	
SPM7070R68MESL	0.68		4.5	5.0	16.00	17.00	
SPM7070R82MESL	0.82		7.0	7.5	14.00	16.00	
SPM70701R0MESL	1.0		8.5	9.0	12.00	15.00	
SPM70701R5MESL	1.5		10.6	12.1	10.00	13.00	
SPM70702R2MESL	2.2		15.5	18.0	8.00	10.00	
SPM70702R5MESL	2.5		18.0	20.0	7.00	10.00	
SPM70703R3MESL	3.3		25.0	28.0	6.50	9.00	
SPM70704R7MESL	4.7		32.5	35.0	5.50	6.50	
SPM70705R6MESL	5.6		36.0	42.0	5.00	6.30	
SPM70706R8MESL	6.8		43.9	50.0	4.50	6.00	
SPM70708R2MESL	8.2		54.0	60.0	4.50	6.00	
SPM7070100MESL	10		62.0	68.0	4.00	5.50	

SPM7070□□□□ERL (Thickness 3.0mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM7070R82MERL	0.82	± 20%	5.2	6.0	16.00	16.00	100KHz/1.0V
SPM70701R0MERL	1.0		5.5	6.6	15.00	15.00	
SPM70701R5MERL	1.5		7.7	9.3	12.50	14.50	
SPM70702R2MERL	2.2		12.0	13.8	10.00	14.00	
SPM70703R3MERL	3.3		19.6	22.5	7.70	10.00	

All test data are referenced to 25℃ ambient.

※Isat: DC current(A) that will cause inductance to drop approximately 30%.

※Idc: DC current(A) that will cause an approximate ΔT of 40℃.

SPM7070□□□□ESQ (Thickness 5.0mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM7070R68MESQ	0.68	± 20%	3.3	3.6	18.00	17.00	100KHz/1.0V
SPM7070R82MESQ	0.82		4.6	4.9	16.50	17.00	
SPM70701R0MESQ	1.0		4.5	5.3	14.50	16.00	
SPM70701R5MESQ	1.5		6.0	7.5	11.50	15.00	
SPM70702R2MESQ	2.2		9.0	10.2	10.50	13.50	
SPM70703R3MESQ	3.3		14.0	15.0	9.00	12.00	
SPM70704R7MESQ	4.7		23.0	25.0	6.50	8.00	
SPM70705R6MESQ	5.6		31.5	34.4	6.00	7.00	
SPM70706R8MESQ	6.8		31.0	35.5	5.50	6.50	
SPM70708R2MESQ	8.2		40.0	43.0	5.00	5.50	
SPM7070100MESQ	10		48.0	55.0	4.50	5.00	

SPM1010□□□□ESN (Thickness 4.0mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM10102R2MESN	2.2	± 20%	6.0	7.0	12.00	18.00	100KHz/1.0V
SPM10103R3MESN	3.3		10.8	11.8	10.00	16.00	
SPM10104R7MESN	4.7		17.0	20.0	8.50	15.00	
SPM10105R6MESN	5.6		20.0	23.0	8.00	14.00	
SPM10106R8MESN	6.8		22.5	25.0	7.00	12.00	
SPM10108R2MESN	8.2		25.0	27.0	6.50	9.00	
SPM1010100MESN	10		27.0	30.0	6.50	8.50	
SPM1010150MESN	15		40.0	45.0	6.30	7.00	
SPM1010220MESN	22		60.0	66.0	5.00	5.50	
SPM1010330MESN	33		85.0	92.0	4.00	4.50	
SPM1010470MESN	47		130.0	145.0	3.30	3.50	

All test data are referenced to 25℃ ambient.

※Isat: DC current(A) that will cause inductance to drop approximately 30%.

※Idc: DC current(A) that will cause an approximate ΔT of 40℃.

SPM1313□□□□ESQ (Thickness 5.0mm)

DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM13133R3MESQ	3.3	± 20%	5.9	7.0	14.00	22.00	100KHz/1.0V
SPM1313100MESQ	10		19.0	22.0	9.00	12.00	
SPM1313220MESQ	22		51.0	58.0	4.50	6.50	
SPM1313270MESQ	27		58.0	66.0	4.00	6.30	
SPM1313330MESQ	33		75.0	84.0	3.50	6.00	
SPM1313470MESQ	47		116.0	130.0	3.00	5.00	

SPM1313□□□□ESR (Thickness 6.0mm)

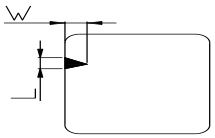
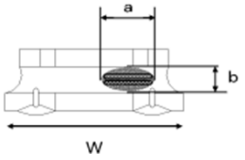
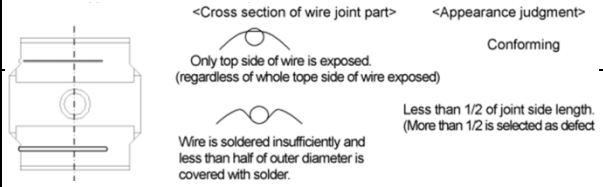
DARFON P/N	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current DC Amps	Saturation Current DC Amps	Measuring Condition
			Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPM13133R3MESR	3.3	± 20%	5.3	6.4	17.00	22.00	100KHz/1.0V
SPM13134R7MESR	4.7		7.2	9.0	16.00	18.00	
SPM13136R8MESR	6.8		9.5	12.0	12.00	15.00	
SPM13138R2MESR	8.2		13.6	16.0	11.00	13.50	
SPM1313100MESR	10		18.0	20.7	10.00	12.50	
SPM1313120MESR	12		20.0	23.0	7.00	10.00	
SPM1313150MESR	15		25.0	29.0	6.00	9.00	
SPM1313220MESR	22		34.0	39.5	5.00	7.50	
SPM1313270MESR	27		49.0	56.0	4.50	6.50	
SPM1313330MESR	33		65.0	75.0	4.00	6.00	
SPM1313470MESR	47		80.0	90.0	3.50	5.50	
SPM1313680MESR	68		120.0	140.0	3.00	4.50	
SPM1313101MESR	100		180.0	200.0	2.50	3.50	

All test data are referenced to 25℃ ambient.

※Isat: DC current(A) that will cause inductance to drop approximately 30%.

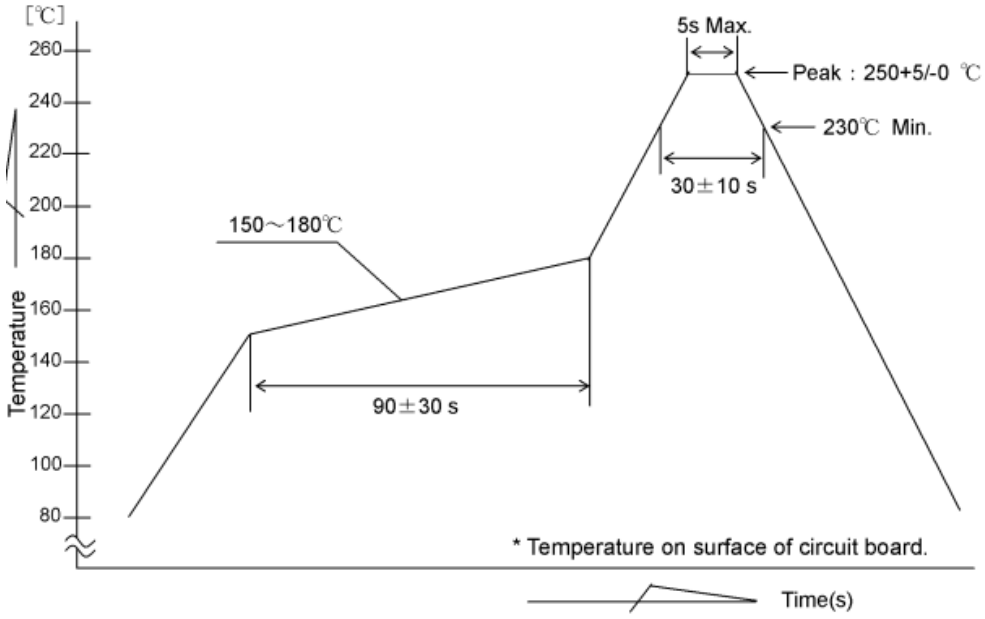
※Idc: DC current(A) that will cause an approximate ΔT of 40℃.

Testing Condition & Requirements

No.	Item	Specification Description	Test Method
1.	**Product temperature range**	Operation temp.:-40℃ ~ +125℃(Including self-generated heat) Storage temp.: -40℃ ~ +85℃	---
2.	**Appearance**	No defects or abnormalities.	Visual inspection
2.1	**Core chipping**	The appearance standard of the chipping size in top side, of bottom side ferrite core is following dimension. L : 0.5 mm (max) W: 0.5 mm (max)	Using calipers 
2.2	**Void appearance tolerance limitation**	Size of voids occurring to coating resin is specified as following. 1. Width direction (dimension a) : acceptable when a ≦w/2 nonconforming when a > w/2 2. Length direction (dimension b) : it is not specified. 3. When total area of voids(including one exposing coil) occurring to each sides is not greater than 50% of coating resin area that is acceptable	Using calipers 
2.3	**Electrode appearance criterion for exposed wire**		Visual inspection
3.	**Solder ability**		Solder heat proof : 1. Preheating : 160±10℃ 90s 2. Retention time: 245±5℃ for 3 ± 1 sec
4.	**Vibration**	Inductance change : within ± 10% without mechanical damage such as break	1. Vibration frequency : (10Hz to 55Hz to 10Hz) in 60 sec. as a period 2. Vibration time : period cycled for 2 hr in each of 3 mutual perpendicular directions 3. Amplitude: 1.5mm max.
5.	**Terminal strength**	No detachment of terminal pin and no breakage of wire	Add static load 4.9N(500gf) to inductor through hole of test board for 10 ± 2 sec
6.	**Thermal shock**	Inductance change : within ± 10% without mechanical damage such as break	1. Repeat 100 cycles as follow : (-40℃ ± 2℃ , 30±3 minutes) → (room temperature , 5 minutes) → (+125℃ ± 2℃ , 30±3 minutes) → (room temperature , 5 minutes) 2. Recovery : 48+4/-0 hours of recovery under the standard condition after the test.
7.	**High temperature resistance**	Inductance change : within ± 10% without mechanical damage such as break	1. Environment condition : 85℃±2℃ 2. Applied current : rated current 3. Duration : 500 +4/-0 hours
8.	**Humidity resistance**	Inductance change : within ± 10% without mechanical damage such as break	1. Environment condition : 60℃±2℃ 2. Humidity : 90~95% 3. Applied current : rated current 4. Duration : 500 +4/-0 hours

No.	Item	Specification Description	Test Method
9.	Low temperature storage	Inductance change : within ± 10% without mechanical damage such as break	Store temperature : -40℃ ± 2℃ for total 500 +4/-0 hours
10.	High temperature storage	Inductance change : within ± 10% without mechanical damage such as break	Store temperature : +125℃ ± 2℃ for total 500 +4/-0 hours
11	Inductance	a. Temperature: 25+/- 3℃ b. Relative Humidity: 45 to 75%RH c. Measuring equipment: Current measure :Chroma 3302 + Chroma 1320	Within specified tolerance.
12	DC Resistance	Measuring instrument: Chroma A165022	In accordance with electrical specification.

Reflow Profile Chart (Reference)



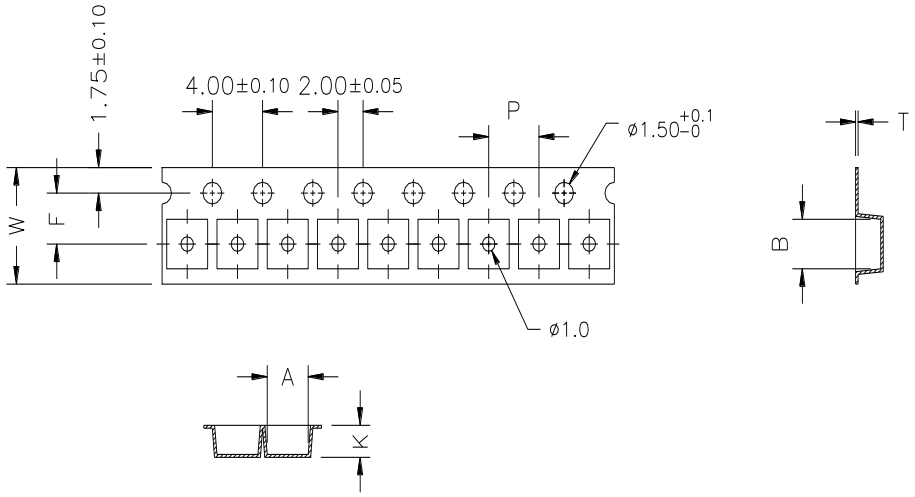
The products may be exposed to reflow soldering process of above profile up to two times.

IPC/JEDEC J-STD-20 MSL Classifications

Level	Floor Life		Soak Requirements			
			Standard		Accelerated	
	Time	Cond degC/RH%	Time (hrs)	Cond degC/RH%	Time (hrs)	Cond degC/RH%
2	1 year	≦30/60%	168+5/-0	85/60	n/a	n/a

Packaging Specification

- **Embossed Tape**

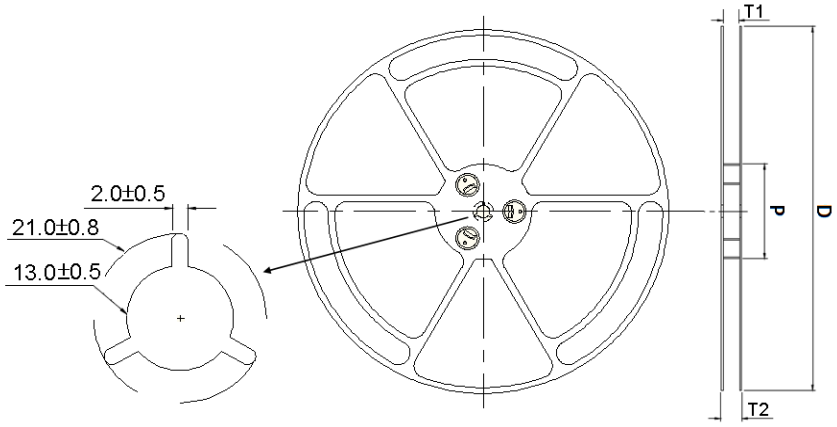


TYPE	PRODUCT SIZE CODE													
	A		B		P		F		W		T		K	
	SIZE	TOL	SIZE	TOL	SIZE	TOL	SIZE	TOL	SIZE	TOL	SIZE	TOL	SIZE	TOL
SPM2016 □□□□PTA	1.90 (0.075)	± 0.1 (±0.004)	2.30 (0.091)	± 0.1 (±0.004)	4.0 (0.157)	± 0.1 (±0.004)	3.5 (0.138)	± 0.05 (±0.002)	8.00 (0.315)	± 0.1 (±0.004)	0.25 (0.0098)	± 0.05 (±0.002)	1.10 (0.043)	± 0.1 (±0.004)
SPM2520 □□□□PTC	2.3 (0.091)	± 0.1 (±0.004)	2.8 (0.11)	± 0.1 (±0.004)	4.0 (0.157)	± 0.1 (±0.004)	3.5 (0.138)	± 0.05 (±0.002)	8.0 (0.315)	± 0.1 (±0.004)	0.3 (0.012)	± 0.05 (±0.002)	1.35 (0.053)	± 0.1 (±0.004)
SPM3030 □□□□PSC	3.4 (0.134)	± 0.1 (±0.004)	3.8 (0.150)	± 0.1 (±0.004)	4.0 (0.157)	± 0.1 (±0.004)	3.5 (0.138)	± 0.1 (±0.004)	8.0 (0.315)	± 0.3 (±0.0118)	0.3 (0.012)	± 0.05 (±0.002)	1.40 (0.053)	± 0.1 (±0.004)
SPM4040 □□□□ESC	4.4 (0.173)	± 0.1 (±0.004)	5.1 (0.201)	± 0.1 (±0.004)	8.0 (0.315)	± 0.1 (±0.004)	5.5 (0.0.217)	± 0.1 (±0.004)	12.0 (0.4725)	± 0.3 (±0.012)	0.35 (0.014)	± 0.05 (±0.002)	1.40 (0.055)	± 0.1 (±0.004)
SPM4040 □□□□ESH	4.4 (0.173)	± 0.1 (±0.004)	5.1 (0.201)	± 0.1 (±0.004)	8.0 (0.315)	± 0.1 (±0.004)	5.5 (0.217)	± 0.1 (±0.004)	12.0 (0.4725)	± 0.3 (±0.012)	0.35 (0.014)	± 0.05 (±0.002)	2.20 (0.087)	± 0.1 (±0.004)
SPM5050 □□□□ESC	5.40 (0.213)	± 0.1 (±0.004)	6.1 (0.240)	± 0.1 (±0.004)	8.0 (0.315)	± 0.1 (±0.004)	5.5 (0.217)	± 0.1 (±0.004)	12.0 (0.472)	± 0.3 (±0.012)	0.35 (0.014)	± 0.05 (±0.002)	1.6 (0.063)	± 0.1 (±0.004)
SPM5050 □□□□ESE	5.40 (0.213)	± 0.1 (±0.004)	6.1 (0.240)	± 0.1 (±0.004)	8.0 (0.315)	± 0.1 (±0.004)	5.5 (0.217)	± 0.1 (±0.004)	12.0 (0.472)	± 0.3 (±0.012)	0.35 (0.014)	± 0.05 (±0.002)	1.6 (0.063)	± 0.1 (±0.004)
SPM5050 □□□□ESH	5.60 (0.213)	± 0.1 (±0.004)	6.0 (0.236)	± 0.1 (±0.004)	8.0 (0.315)	± 0.1 (±0.004)	5.5 (0.217)	± 0.1 (±0.004)	12.0 (0.472)	± 0.3 (±0.012)	0.35 (0.014)	± 0.05 (±0.002)	2.1 (0.083)	± 0.1 (±0.004)
SPM5050 □□□□ESL	5.40 (0.213)	± 0.1 (±0.004)	6.0 (0.236)	± 0.1 (±0.004)	8.0 (0.315)	± 0.1 (±0.004)	5.5 (0.217)	± 0.1 (±0.004)	12.0 (0.472)	± 0.3 (±0.012)	0.35 (0.014)	± 0.05 (±0.002)	3.2 (0.126)	± 0.1 (±0.004)
SPM7070 □□□□ESC	6.95 (0.274)	± 0.1 (±0.004)	7.4 (0.291)	± 0.1 (±0.004)	12.0 (0.472)	± 0.1 (±0.004)	7.5 (0.295)	± 0.1 (±0.004)	16.0 (0.630)	± 0.3 (±0.012)	0.35 (0.014)	± 0.05 (±0.002)	1.5 (0.059)	± 0.1 (±0.004)
SPM7070 □□□□ESE	7.0 (0.276)	± 0.1 (±0.004)	7.5 (0.295)	± 0.1 (±0.004)	12.0 (0.472)	± 0.1 (±0.004)	7.5 (0.295)	± 0.1 (±0.004)	16.0 (0.630)	± 0.3 (±0.012)	0.35 (0.014)	± 0.05 (±0.002)	1.7 (0.067)	± 0.1 (±0.004)
SPM7070 □□□□ESG	6.95 (0.274)	± 0.1 (±0.004)	7.45 (0.293)	± 0.1 (±0.004)	12.0 (0.472)	± 0.1 (±0.004)	7.5 (0.295)	± 0.1 (±0.004)	16.0 (0.630)	± 0.3 (±0.012)	0.35 (0.014)	± 0.05 (±0.002)	2.1 (0.827)	± 0.1 (±0.004)
SPM7070 □□□□ESL	7.6 (0.299)	± 0.1 (±0.004)	7.6 (0.299)	± 0.1 (±0.004)	12.0 (0.472)	± 0.1 (±0.004)	7.5 (0.295)	± 0.1 (±0.004)	16.0 (0.630)	± 0.3 (±0.012)	0.4 (0.016)	± 0.05 (±0.002)	3.6 (0.142)	± 0.1 (±0.004)
SPM7070 □□□□ERL	7.6 (0.299)	± 0.1 (±0.004)	7.6 (0.299)	± 0.1 (±0.004)	12.0 (0.472)	± 0.1 (±0.004)	7.5 (0.295)	± 0.1 (±0.004)	16.0 (0.630)	± 0.3 (±0.012)	0.4 (0.016)	± 0.05 (±0.002)	3.6 (0.142)	± 0.1 (±0.004)
SPM7070 □□□□ESQ	6.9 (0.272)	± 0.1 (±0.004)	7.5 (0.295)	± 0.1 (±0.004)	12.0 (0.472)	± 0.1 (±0.004)	7.5 (0.295)	± 0.1 (±0.004)	16.0 (0.630)	± 0.3 (±0.012)	0.35 (0.014)	± 0.05 (±0.002)	5.3 (0.209)	± 0.1 (±0.004)
SPM1010 □□□□ESN	10.9 (0.429)	± 0.1 (±0.004)	12.2 (0.480)	± 0.1 (±0.004)	16.0 (0.630)	± 0.1 (±0.004)	11.5 (0.453)	± 0.1 (±0.004)	24.0 (0.984)	± 0.3 (±0.012)	0.4 (0.016)	± 0.05 (±0.002)	4.5 (0.177)	± 0.1 (±0.004)
SPM1313 □□□□ESQ	13.3 (0.524)	± 0.1 (±0.004)	14.5 (0.571)	± 0.1 (±0.004)	20.0 (0.787)	± 0.1 (±0.004)	11.5 (0.453)	± 0.1 (±0.004)	24.0 (0.984)	± 0.3 (±0.012)	0.4 (0.016)	± 0.05 (±0.002)	6.45 (0.254)	± 0.25 (±0.01)
SPM1313 □□□□ESR	13.3 (0.524)	± 0.1 (±0.004)	14.5 (0.571)	± 0.1 (±0.004)	20.0 (0.787)	± 0.1 (±0.004)	11.5 (0.453)	± 0.1 (±0.004)	24.0 (0.984)	± 0.3 (±0.012)	0.4 (0.016)	± 0.05 (±0.002)	6.45 (0.254)	± 0.25 (±0.01)

Unit : mm(inch)

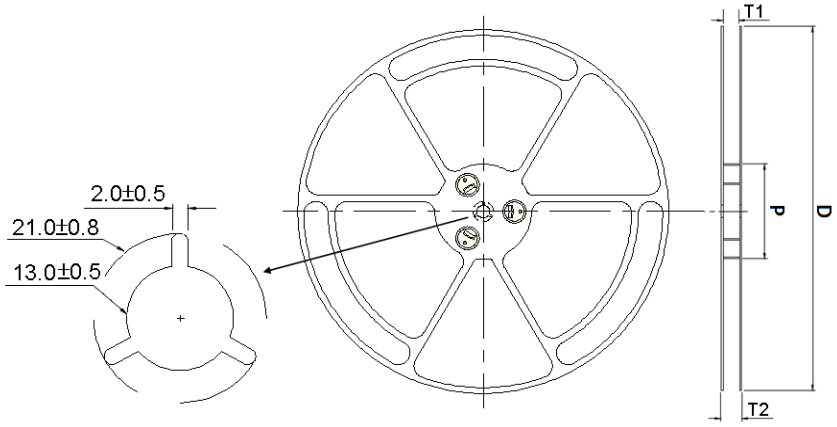
Reel Specifications

- Reel 7”



Code	D	P
Dimensions	180 ± 1.5	62.0 ± 1.5

- Reel 13”



Code	D	P
Dimensions	330 ± 1.5	100 ± 1.5