

## Coating Inductors (SPS/SPH/SPN Series)



### Feature

1. Small and low profile inductor
2. It corresponds to high current
3. Simple and original magnetic shield structure

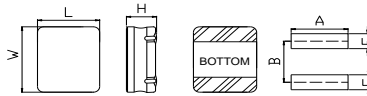
### Application

For small DC/DC converter (HDD, DVC, DSC, LCD display, notebook, tablet, Bluetooth earphone, cellular phones)

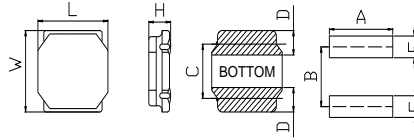
### Product Range

DARFON Item	Dimensions (mm)	Height (mm) max	Inductance range					
			0.1uH	1uH	10uH	100uH	1mH	
SPS2016	2.0*1.6	1.0	0.24uH	[Blue bar]		10uH		
SPS2520	2.5*2.0	1.0~1.2	0.24uH	[Blue bar]		10uH		
SPS3030	3.0*3.0	1.0~1.2	0.30uH	[Blue bar]		10uH		
SPS4040	4.0*4.0	1.0~1.2	0.33uH	[Blue bar]		10uH		
SPH2020	2.0*2.0	1.2	0.47uH	[Blue bar]		4.7uH		
SPH2520	2.5*2.0	1.0~1.2	0.24uH	[Blue bar]		22uH		
SPH3030	3.0*3.0	1.0~1.5	0.47uH	[Blue bar]		22uH		
SPH4040	4.0*4.0	1.0~1.8	1.00uH	[Blue bar]		33uH		
SPH5050	5.0*5.0	2.0~4.0	0.47uH	[Blue bar]		47uH		
SPH6060	6.0*6.0	1.2~4.5	0.80uH	[Blue bar]		100uH		
SPH8080	8.0*8.0	4.0	0.90uH	[Blue bar]		22uH		
SPN2016	2.0*1.6	1.0	0.24uH	[Blue bar]		10uH		
SPN2520	2.5*2.0	1.0~1.2	0.47uH	[Blue bar]		10uH		
SPN3030	3.0*3.0	1.0~1.5	1.00uH	[Blue bar]		47uH		
SPN4040	4.0*4.0	1.0~1.8	1.00uH	[Blue bar]		220uH		
SPN5050	5.0*5.0	1.0~4.0	0.47uH	[Blue bar]		47uH		
SPN6060	6.0*6.0	1.0~4.5	0.80uH	[Blue bar]		100uH		
SPN8080	8.0*8.0	3.0~4.0	0.90uH	[Blue bar]		100uH		

### Standard External Dimensions



Series	L (mm)	W (mm)	H (mm)	Recommended Land Patterns			Package	
				A (mm)	B (mm)	E (mm)	Reel	Amount(pcs)
SPS2016□□□□PCA	2.0±0.2	1.6±0.2	1.0max	1.7	1.7	0.6	7"	3,000
SPN2016□□□□PSA	2.0±0.2	1.6±0.2	1.0max	1.7	1.7	0.6	7"	2,000
SPS2520□□□□PCA	2.5±0.2	2.0±0.2	1.0max	2.1	1.8	0.85	7"	3,000
SPH2520□□□□PS8	2.5±0.2	2.0±0.2	0.8max	2.1	1.8	0.85	7"	2,000
SPN(H)2520□□□□PSA	2.5±0.2	2.0±0.2	1.0max	2.1	1.8	0.85	7"	2,000
SPS2520□□□□PCC	2.5±0.2	2.0±0.2	1.2max	2.1	1.8	0.85	7"	3,000
SPN(H)2520□□□□PSC	2.5±0.2	2.0±0.2	1.2max	2.1	1.8	0.85	7"	2,000



Series	L (mm)	W (mm)	H (mm)	C (mm)	D (mm)	Recommended Land Patterns			Package	
						A (mm)	B (mm)	E (mm)	Reel	Amount(pcs)
SPH2020□□□□PCC	2.0±0.15	2.0±0.15	1.2max	1.25±0.2	0.5±0.2	2.0	1.35	0.65	7"	2,500
SPS3030□□□□PCA	3.0±0.1	3.0±0.1	1.0max	1.9±0.2	0.9±0.2	2.7	2.2	0.8	7"	2,000
SPN(H)3030□□□□PTA	3.0±0.1	3.0±0.1	1.0max	1.9±0.2	0.9±0.2	2.7	2.2	0.8	7"	2,000
SPS3030□□□□PCC	3.0±0.1	3.0±0.1	1.2max	1.9±0.2	0.9±0.2	2.7	2.2	0.8	7"	2,000
SPN(H)3030□□□□PTC	3.0±0.1	3.0±0.1	1.2max	1.9±0.2	0.9±0.2	2.7	2.2	0.8	7"	2,000
SPN(H)3030□□□□PTE	3.0±0.1	3.0±0.1	1.5max	1.9±0.2	0.9±0.2	2.7	2.2	0.8	7"	2,000
SPS4040□□□□PCA	4.0±0.2	4.0±0.2	1.0max	2.5±0.2	1.1±0.2	3.7	2.8	1.2	7"	1,000
SPN(H)4040□□□□ETA	4.0±0.2	4.0±0.2	1.0max	2.5±0.2	1.1±0.2	3.7	2.8	1.2	13"	5,000
SPS4040□□□□PCC	4.0±0.2	4.0±0.2	1.2max	2.5±0.2	1.1±0.2	3.7	2.8	1.2	7"	1,000
SPN(H)4040□□□□ETC	4.0±0.2	4.0±0.2	1.2max	2.5±0.2	1.1±0.2	3.7	2.8	1.2	13"	4,500
SPN(H)4040□□□□ETG	4.0±0.2	4.0±0.2	1.8max	2.5±0.2	1.1±0.2	3.7	2.8	1.2	13"	3,500
SPH4040□□□□ESH	4.0±0.2	4.0±0.2	2.0max	2.5±0.2	1.1±0.2	3.7	2.8	1.2	13"	3,500
SPN5050□□□□PTA	4.9±0.2	4.9±0.2	1.0max	3.3±0.2	1.4±0.2	4.0	3.6	1.5	7"	1,000
SPN5050□□□□PTC	4.9±0.2	4.9±0.2	1.2max	3.3±0.2	1.4±0.2	4.0	3.6	1.5	7"	1,000
SPN5050□□□□PTD	4.9±0.2	4.9±0.2	1.4max	3.3±0.2	1.4±0.2	4.0	3.6	1.5	7"	1,000
SPN(H)5050□□□□PTH	4.9±0.2	4.9±0.2	2.0max	3.3±0.2	1.4±0.2	4.0	3.6	1.5	7"	800
SPN5050□□□□ETI	4.9±0.2	4.9±0.2	2.5max	3.3±0.2	1.4±0.2	4.0	3.6	1.5	13"	2,500
SPN5050□□□□PTL	4.9±0.2	4.9±0.2	3.1max	3.3±0.2	1.2±0.2	4.0	3.6	1.5	7"	500
SPN(H)5050□□□□ETN	4.9±0.1	4.9±0.1	4.1max	3.3±0.2	1.4±0.2	4.0	3.6	1.5	13"	1,500
SPN6060□□□□PTA	6.0±0.2	6.0±0.2	1.0max	4.0±0.2	1.65±0.2	5.7	4.7	1.6	7"	1,000
SPN(H)6060□□□□PTC	6.0±0.2	6.0±0.2	1.2max	4.0±0.2	1.65±0.2	5.7	4.7	1.6	7"	1,000
SPN6060□□□□PTD	6.0±0.2	6.0±0.2	1.4max	4.0±0.2	1.65±0.2	5.7	4.7	1.6	7"	1,000
SPN(H)6060□□□□ETH	6.0±0.2	6.0±0.2	2.0max	4.0±0.2	1.65±0.2	5.7	4.7	1.6	13"	2,500
SPN(H)6060□□□□ETK	6.0±0.2	6.0±0.2	2.8max	4.0±0.2	1.65±0.2	5.7	4.7	1.6	13"	2,000
SPN(H)6060□□□□ETP	6.0±0.2	6.0±0.2	4.5max	4.0±0.2	1.65±0.2	5.7	4.7	1.6	13"	1,500
SPN8080□□□□ETL	8.0±0.2	8.0±0.2	3.0max	5.62±0.3	1.6±0.3	7.5	5.6	1.8	13"	1,000
SPN(H)8080□□□□ETN	8.0±0.2	8.0±0.2	4.2max	5.62±0.3	1.6±0.3	7.5	5.6	1.8	13"	1,000

## Part Numbers & Characteristic (SPS Series for Metal Coating)

### •SPS2016

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current	Saturation Current		Measuring Condition
				Typ.	Max.	DC Amp. Idc(A) Typ.	DC Amps. Isat(A) Typ.		
								SPS2016R24MPCA	
SPS2016R33MPCA	0.33	± 20%	33	40	3.80	3.40	1MHz, 1V		
SPS2016R47MPCA	0.47	± 20%	40	48	3.60	3.40	1MHz, 1V		
SPS2016R68MPCA	0.68	± 20%	47	56	2.85	2.60	1MHz, 1V		
SPS20161R0MPCA	1.0	± 20%	63	75	2.70	2.50	1MHz, 1V		
SPS20161R5MPCA	1.5	± 20%	100	120	2.25	2.15	1MHz, 1V		
SPS20162R2MPCA	2.2	± 20%	135	160	1.75	1.60	1MHz, 1V		
SPS20163R3MPCA	3.3	± 20%	193	230	1.70	1.50	1MHz, 1V		
SPS20164R7MPCA	4.7	± 20%	280	340	1.30	1.25	1MHz, 1V		
SPS20166R8MPCA	6.8	± 20%	450	540	1.02	0.97	1MHz, 1V		
SPS2016100MPCA	10	± 20%	570	685	0.95	0.90	1MHz, 1V		
SPS2016R47MPRA	1.0mm	0.47	± 20%	32	41	3.50	4.20	1MHz, 1V	

All test data are referenced to 25°C 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°C.

## •SPS2520

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current	Saturation Current	Measuring Condition
				Typ.	Max.	DC Amp.	DC Amps.	
						Idc(A) Typ.	Isat(A) Typ.	
SPS2520R33MPCA	1.0mm	0.33	± 20%	30	36	4.10	7.30	1MHz,1V
SPS2520R47MPCA		0.47	± 20%	37	44.5	3.60	6.60	1MHz,1V
SPS2520R68MPCA		0.68	± 20%	52	62	3.10	4.40	1MHz,1V
SPS25201R0MPCA		1.0	± 20%	67	80	2.95	4.10	1MHz,1V
SPS25201R5MPCA		1.5	± 20%	88	106	2.25	3.45	1MHz,1V
SPS25202R2MPCA		2.2	± 20%	124	150	1.85	3.20	1MHz,1V
SPS25203R3MPCA		3.3	± 20%	185	222	1.45	2.50	1MHz,1V
SPS25204R7MPCA		4.7	± 20%	240	290	1.30	2.15	1MHz,1V
SPS25206R8MPCA		6.8	± 20%	360	435	1.15	1.70	1MHz,1V
SPS2520100MPCA		10	± 20%	440	530	0.96	1.55	1MHz,1V
SPS2520R24MPCC	1.2mm	0.24	± 20%	18.5	22.2	4.80	7.10	1MHz,1V
SPS2520R33MPCC		0.33	± 20%	25.0	30.0	4.70	7.00	1MHz,1V
SPS2520R47MPCC		0.47	± 20%	28.5	34.5	4.60	5.50	1MHz,1V
SPS2520R68MPCC		0.68	± 20%	33.5	40.2	3.90	4.00	1MHz,1V
SPS25201R0MPCC		1.0	± 20%	46.5	55.5	3.50	3.70	1MHz,1V
SPS25201R5MPCC		1.5	± 20%	66.5	80.0	3.00	2.90	1MHz,1V
SPS25202R2MPCC		2.2	± 20%	93.0	111.0	2.60	2.50	1MHz,1V
SPS25203R3MPCC		3.3	± 20%	128.0	154.0	2.20	1.90	1MHz,1V
SPS25204R7MPCC		4.7	± 20%	190.0	230.0	1.85	1.60	1MHz,1V
SPS25206R8MPCC		6.8	± 20%	220.0	265.0	1.60	1.35	1MHz,1V
SPS2520100MPCC	10	± 20%	345.0	415.0	1.30	1.20	1MHz,1V	

## •SPS3030

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current	Saturation Current	Measuring Condition
				Typ.	Max.	DC Amp.	DC Amps.	
						Idc(A) Typ.	Isat(A) Typ.	
SPS3030R47MPCA	1.0mm	0.47	± 20%	34	39	4.00	6.50	1MHz,1V
SPS30301R0MPCA		1.0	± 20%	74	86	2.80	5.20	1MHz,1V
SPS30301R5MPCA		1.5	± 20%	87	100	2.40	3.50	1MHz,1V
SPS30302R2MPCA		2.2	± 20%	125	144	2.20	3.00	1MHz,1V
SPS30303R3MPCA		3.3	± 20%	230	265	1.45	2.40	1MHz,1V
SPS30304R7MPCA		4.7	± 20%	315	362	1.30	2.00	1MHz,1V
SPS30306R8MPCA		6.8	± 20%	380	437	1.15	1.70	1MHz,1V
SPS3030100MPCA		10	± 20%	500	575	1.00	1.30	1MHz,1V
SPS3030R30MPCC	1.2mm	0.30	± 20%	17	20	6.40	9.20	1MHz,1V
SPS3030R47MPCC		0.47	± 20%	23	27	5.50	7.50	1MHz,1V
SPS30301R0MPCC		1.0	± 20%	43	50	3.90	5.10	1MHz,1V
SPS30301R5MPCC		1.5	± 20%	64	74	3.00	4.10	1MHz,1V
SPS30302R2MPCC		2.2	± 20%	97	112	2.20	3.60	1MHz,1V
SPS30303R3MPCC		3.3	± 20%	150	173	1.90	2.70	1MHz,1V
SPS30304R7MPCC	4.7	± 20%	228	263	1.50	2.30	1MHz,1V	

•SPS4040

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance		Heat Rating Current	Saturation Current	Measuring Condition
				(mΩ)		DC Amp.	DC Amps.	
				Typ.	Max.	Idc(A) Typ.	Isat(A) Typ.	
SPS4040R33MPCA	1.0mm	0.33	± 20%	15.5	19	5.80	8.70	1MHz,1V
SPS4040R47MPCA		0.47	± 20%	20	24	5.50	7.90	1MHz,1V
SPS4040R68MPCA		0.68	± 20%	28	34	3.90	6.30	1MHz,1V
SPS40401R0MPCA		1.0	± 20%	45	54	3.50	5.70	1MHz,1V
SPS40401R5MPCA		1.5	± 20%	62	74.5	3.10	4.20	1MHz,1V
SPS40402R2MPCA		2.2	± 20%	90	108	2.70	3.60	1MHz,1V
SPS40403R3MPCA		3.3	± 20%	145	174	2.00	2.80	1MHz,1V
SPS40404R7MPCA		4.7	± 20%	175	205	1.90	2.45	1MHz,1V
SPS40406R8MPCA		6.8	± 20%	230	280	1.55	2.00	1MHz,1V
SPS4040100MPCA		10	± 20%	325	390	1.30	1.70	1MHz,1V
SPS4040R33MPCC	1.2mm	0.33	± 20%	13	17	7.00	10.80	1MHz,1V
SPS4040R47MPCC		0.47	± 20%	16	19	5.60	10.00	1MHz,1V
SPS40401R0MPCC		1.0	± 20%	29	35	4.50	6.20	1MHz,1V
SPS40401R5MPCC		1.5	± 20%	45	54	3.60	5.60	1MHz,1V
SPS40402R2MPCC		2.2	± 20%	65	78	3.20	4.60	1MHz,1V
SPS40403R3MPCC		3.3	± 20%	103	125	2.60	4.00	1MHz,1V
SPS40404R7MPCC		4.7	± 20%	125	145	2.25	3.10	1MHz,1V
SPS40406R8MPCC		6.8	± 20%	190	220	1.85	2.50	1MHz,1V
SPS4040100MPCC		10	± 20%	250	300	1.65	2.00	1MHz,1V
SPS4040R24MPSD		1.4mm	0.24	± 20%	9	11	8.30	14.50
SPS4040R47NPCH	2.0mm	0.47	± 30%	10	12	8.10	15.00	1MHz,1V
SPS4040R68MPCH		0.68	± 20%	14	16	6.00	12.10	1MHz,1V
SPS40401R0MPCH		1.0	± 20%	24	28	5.10	9.90	1MHz,1V
SPS40401R5MPCH		1.5	± 20%	29	35	4.70	9.10	1MHz,1V
SPS40402R2MPCH		2.2	± 20%	39	47	4.00	7.50	1MHz,1V
SPS40403R3MPCH		3.3	± 20%	66	75	3.40	6.30	1MHz,1V
SPS40404R7MPCH		4.7	± 20%	90	104	2.80	5.00	1MHz,1V
SPS40406R8MPCH		6.8	± 20%	130	155	2.30	4.00	1MHz,1V
SPS4040100MPCH		10	± 20%	160	188	1.90	3.10	1MHz,1V

All test data are referenced to 25°C 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°C.

## ■ Part Numbers & Characteristic (SPH Series for Ferrite Coating High Current)

### •SPH2020

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance		Heat Rating Current	Saturation Current	Measuring Condition
				(mΩ)		DC Amp.	DC Amps.	
				Typ.	Max.	Idc(A) Max.	Isat(A) Typ.	
SPH2020R47MPCC	1.2mm	0.47	± 20%	40	46	2.3	4.8	1MHz,1V
SPH2020R68MPCC		0.68	± 20%	50	58	2	4.1	1MHz,1V
SPH20201R0MPCC		1	± 20%	56	64	1.9	3	1MHz,1V
SPH20201R5MPCC		1.5	± 20%	75	86	1.65	2.55	1MHz,1V
SPH20202R2MPCC		2.2	± 20%	95	109	1.45	2	1MHz,1V
SPH20203R3MPCC		3.3	± 20%	155	178	1.15	1.75	1MHz,1V
SPH20204R7MPCC		4.7	± 20%	210	242	0.95	1.5	1MHz,1V

### •SPH2520

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance		Heat Rating Current	Saturation Current	Measuring Condition	
				(mΩ)		DC Amp.	DC Amps.		
				Typ.	Max.	Idc(A) Max.	Isat(A) Typ.		
SPH2520R47NPS8	0.8mm	0.47	± 30%	116	140	1.2	1.8	1MHz,1V	
SPH252010RNPS8		1	± 30%	182	219	0.97	1.35	1MHz,1V	
SPH25201R5NPS8		1.5	± 30%	206	248	0.91	1.1	1MHz,1V	
SPH25202R2MPS8		2.2	± 20%	241	290	0.84	0.86	1MHz,1V	
SPH25203R3MPS8		3.3	± 20%	346	416	0.7	0.82	1MHz,1V	
SPH25204R7MPS8		4.7	± 20%	483	580	0.59	0.68	1MHz,1V	
SPH25206R8MPS8		6.8	± 20%	681	818	0.5	0.55	1MHz,1V	
SPH2520100MPS8		10	± 20%	1026	1232	0.41	0.48	1MHz,1V	
SPH2520R50NPSA		1.0mm	0.5	± 30%	32	38	2.67	3	1MHz,1V
SPH2520R68NPSA			0.68	± 30%	49	59	2.4	2.43	1MHz,1V
SPH25201R0NPSA	1		± 30%	68	82	1.98	2.2	1MHz,1V	
SPH25201R5MPSA	1.5		± 20%	95	114	1.65	1.58	1MHz,1V	
SPH25202R2MPSA	2.2		± 20%	136	163	1.4	1.39	1MHz,1V	
SPH25203R3MPSA	3.3		± 20%	207	248	1.15	1.17	1MHz,1V	
SPH25204R7MPSA	4.7		± 20%	269	323	0.99	1.08	1MHz,1V	
SPH25206R8MPSA	6.8		± 20%	404	485	0.81	0.77	1MHz,1V	
SPH2520100MPSA	10		± 20%	508	610	0.72	0.65	1MHz,1V	
SPH2520R24NPSC	1.2mm		0.24	± 30%	26	31	4.5	4.5	1MHz,1V
SPH2520R47NPSC		0.47	± 30%	29	35	3.7	3.5	1MHz,1V	
SPH2520R50NPSC		0.5	± 30%	32	38	3.6	3.4	1MHz,1V	
SPH2520R68NPSC		0.68	± 30%	54	65	3.24	3.4	1MHz,1V	
SPH25201R0NPSC		1	± 30%	43	52	2.6	2.45	1MHz,1V	
SPH25201R5MPSC		1.5	± 20%	72	86	2.2	2.07	1MHz,1V	
SPH25202R2MPSC		2.2	± 20%	90	108	1.85	1.95	1MHz,1V	
SPH25203R3MPSC		3.3	± 20%	155	186	1.45	1.6	1MHz,1V	
SPH25204R7MPSC		4.7	± 20%	212	254	1.2	1.4	1MHz,1V	
SPH25206R8MPSC		6.8	± 20%	370	444	1	1.04	1MHz,1V	
SPH2520100MPSC		10	± 20%	750	900	0.75	0.77	1MHz,1V	
SPH2520220MPSC		22	± 20%	1050	1260	0.5	0.5	1MHz,1V	
SPH2520100MPRC		10	± 20%	-	480	0.75	0.77	100KHz,1V	

All test data are referenced to 25°C ambient.

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

※Idc: DC current(A) that will cause an approximate ΔT of 20°C (at 25°C ambient)

(note: SPH2520□□□□PSA SPH2520□□□□PSC SPH2520□□□□PRC specifications are defined an approximately ΔT of 40°C)

•SPH3030

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance(mΩ)		Heat Rating Current	Saturation Current	Measuring Condition
				(mΩ)		DC Amp.	DC Amps.	
				Typ.	Max.	Idc(A) Max.	Isat(A) Max.	
SPH30301R2NPTA	1.0mm	1.2	± 30%	65	78	1.48	1.7	100KHz,1V
SPH30301R5NPTA		1.5	± 30%	75	90	1.37	1.44	100KHz,1V
SPH30302R2MPTA		2.2	± 20%	83	100	1.3	1.3	100KHz,1V
SPH30303R3MPTA		3.3	± 20%	130	156	1.03	1	100KHz,1V
SPH30304R7MPTA		4.7	± 20%	170	204	0.9	0.85	100KHz,1V
SPH30306R8MPTA		6.8	± 20%	250	300	0.74	0.7	100KHz,1V
SPH3030100MPTA		10	± 20%	350	420	0.62	0.6	100KHz,1V
SPH3030150MPTA		15	± 20%	550	660	0.48	0.45	100KHz,1V
SPH3030220MPTA		22	± 20%	770	924	0.41	0.38	100KHz,1V
SPH3030R47NPTC	1.2mm	0.47	± 30%	33	40	1.9	2.6	100KHz,1V
SPH30301R0NPTC		1	± 30%	48	58	1.71	2.2	100KHz,1V
SPH30301R5NPTC		1.5	± 30%	55	66	1.6	1.7	100KHz,1V
SPH30302R2MPTC		2.2	± 20%	75	90	1.37	1.5	100KHz,1V
SPH30303R3MPTC		3.3	± 20%	100	120	1.21	1.2	100KHz,1V
SPH30304R7MPTC		4.7	± 20%	130	156	1.06	1	100KHz,1V
SPH30306R8MPTC		6.8	± 20%	190	228	0.89	0.85	100KHz,1V
SPH3030100MPTC		10	± 20%	270	324	0.72	0.73	100KHz,1V
SPH3030150MPTC		15	± 20%	450	540	0.57	0.53	100KHz,1V
SPH3030220MPTC	22	± 20%	630	756	0.5	0.5	100KHz,1V	
SPH30301R0NPTE	1.5mm	1	± 30%	30	36	2.1	2.1	100KHz,1V
SPH30301R5NPTE		1.5	± 30%	38	46	1.82	1.8	100KHz,1V
SPH30302R2MPTE		2.2	± 20%	58	70	1.5	1.48	100KHz,1V
SPH30303R3MPTE		3.3	± 20%	78	94	1.23	1.21	100KHz,1V
SPH30304R7MPTE		4.7	± 20%	120	144	1.04	1.02	100KHz,1V
SPH30306R8MPTE		6.8	± 20%	160	192	0.88	0.87	100KHz,1V
SPH3030100MPTE		10	± 20%	220	264	0.71	0.7	100KHz,1V
SPH3030220MPTE		22	± 20%	520	624	0.47	0.47	100KHz,1V

•SPH4040

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance		Heat Rating Current	Saturation Current	Measuring Condition
				(mΩ)		DC Amp.	DC Amps.	
				Typ.	Max.	Idc(A) Max.	Isat(A) Max.	
SPH40401R0NETA	1.0mm	1	± 30%	56	67	1.9	2	100KHz,1V
SPH40402R2META		2.2	± 20%	85	102	1.5	1.2	100KHz,1V
SPH40403R3META		3.3	± 20%	100	120	1.4	1.1	100KHz,1V
SPH40404R7META		4.7	± 20%	140	168	1.2	0.95	100KHz,1V
SPH40406R8META		6.8	± 20%	200	240	1	0.8	100KHz,1V
SPH4040100META		10	± 20%	300	360	0.75	0.62	100KHz,1V
SPH4040150META		15	± 20%	430	516	0.6	0.54	100KHz,1V
SPH4040220META		22	± 20%	570	684	0.5	0.45	100KHz,1V
SPH40401R0NETC		1.2mm	1	± 30%	42	50	2.2	2.8
SPH40402R2METC	2.2		± 20%	60	72	1.9	1.65	100KHz,1V
SPH40403R3METC	3.3		± 20%	70	84	1.7	1.4	100KHz,1V
SPH40404R7METC	4.7		± 20%	95	114	1.5	1.2	100KHz,1V
SPH40406R8METC	6.8		± 20%	125	150	1.3	0.9	100KHz,1V
SPH4040100METC	10		± 20%	170	204	1.1	0.8	100KHz,1V
SPH4040150METC	15		± 20%	260	312	0.75	0.65	100KHz,1V
SPH4040220METC	22		± 20%	400	480	0.62	0.5	100KHz,1V
SPH40401R0NETG	1.8mm		1	± 30%	27	32	3.2	4
SPH40401R5NESG		1.5	± 30%	40	48	2.64	3.3	100KHz,1V
SPH40402R2METG		2.2	± 20%	42	50	2.2	3	100KHz,1V
SPH40403R3METG		3.3	± 20%	55	66	2	2.3	100KHz,1V
SPH40404R7METG		4.7	± 20%	70	84	1.7	2	100KHz,1V
SPH40406R8METG		6.8	± 20%	98	118	1.45	1.6	100KHz,1V
SPH4040100METG		10	± 20%	150	180	1.2	1.3	100KHz,1V

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current	Saturation Current	Measuring Condition
				Typ.	Max.	DC Amp.	DC Amps.	
						Idc(A) Max.	Isat(A) Max.	
SPH4040150METG	1.8mm	15	± 20%	210	252	0.85	1.1	100KHz,1V
SPH4040220METG		22	± 20%	290	348	0.72	0.9	100KHz,1V
SPH4040330METG		33	± 20%	460	552	0.55	0.7	100KHz,1V
SPH4040470METG		47	± 20%	650	780	0.44	0.6	100KHz,1V
SPH4040680METG		68	± 20%	1000	1200	0.32	0.52	100KHz,1V
SPH4040101METG		100	± 20%	1450	1740	0.28	0.42	100KHz,1V
SPH4040151METG		150	± 20%	2300	2760	0.22	0.34	100KHz,1V
SPH4040221METG		220	± 20%	3800	4560	0.17	0.275	100KHz,1V
SPH4040220MESH	2.0mm	22	± 20%	380	410	1.3	1.2	100KHz,1V

※Isat :DC current that will cause inductance to drop approximately 30%

※Idc: DC current that will cause an approximate ΔT of 20°C (at 25°C ambient)

## •SPH5050

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current	Saturation Current	Measuring Condition
				Typ.	Max.	DC Amp.	DC Amps.	
						Idc(A) Max.	Isat(A) Max.	
SPH5050R47NPTH	2.0mm	0.47	± 30%	12	14	5	6.1	100KHz,1V
SPH50501R0NPTH		1	± 30%	21	25	3.6	4	100KHz,1V
SPH50501R5NPTH		1.5	± 30%	26	31	3.2	3.35	100KHz,1V
SPH50502R2NPTH		2.2	± 30%	35	42	2.9	2.9	100KHz,1V
SPH50503R3NPTH		3.3	± 30%	48	58	2.4	2.4	100KHz,1V
SPH50504R7MPTH		4.7	± 20%	60	72	2	2	100KHz,1V
SPH50506R8MPTH		6.8	± 20%	90	108	1.65	1.6	100KHz,1V
SPH5050100MPTH		10	± 20%	120	144	1.45	1.3	100KHz,1V
SPH5050150MPTH		15	± 20%	165	198	1.2	1.1	100KHz,1V
SPH5050220MPTH		22	± 20%	260	312	1	0.9	100KHz,1V
SPH50501R5NETN	4.0mm	1.5	± 30%	17	22	4.5	6.4	100KHz,1V
SPH50502R2NETN		2.2	± 30%	22	29	3.7	5	100KHz,1V
SPH50503R3NETN		3.3	± 30%	27	35	3.3	4	100KHz,1V
SPH50504R7NETN		4.7	± 30%	29	38	3.1	3.3	100KHz,1V
SPH50506R8METN		6.8	± 20%	49	64	2.4	2.8	100KHz,1V
SPH5050100METN		10	± 20%	56	73	2.1	2.3	100KHz,1V
SPH5050150METN		15	± 20%	80	104	1.8	2	100KHz,1V
SPH5050220METN		22	± 20%	126	164	1.4	1.5	100KHz,1V
SPH5050330METN		33	± 20%	180	234	1.2	1.3	100KHz,1V
SPH5050470METN		47	± 20%	310	403	0.9	1.1	100KHz,1V

## •SPH6060

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current	Saturation Current	Measuring Condition
				Typ.	Max.	DC Amp.	DC Amps.	
						Idc(A) Max.	Isat(A) Max.	
SPH60601R0NPTC	1.2mm	1	± 30%	50	60	2.4	3	100KHz,1V
SPH60601R5NPTC		1.5	± 30%	67	80	2.1	2.6	100KHz,1V
SPH60602R5NPTC		2.5	± 30%	90	108	1.8	2.1	100KHz,1V
SPH60603R3NPTC		3.3	± 30%	105	126	1.7	1.8	100KHz,1V
SPH60604R7MPTC		4.7	± 20%	125	150	1.55	1.6	100KHz,1V
SPH60605R3MPTC		5.3	± 20%	125	150	1.55	1.5	100KHz,1V
SPH60606R8MPTC		6.8	± 20%	165	198	1.35	1.3	100KHz,1V
SPH6060100MPTC		10	± 20%	200	240	1.2	1	100KHz,1V
SPH6060150MPTC		15	± 20%	295	354	0.8	0.8	100KHz,1V
SPH6060220MPTC		22	± 20%	465	558	0.65	0.76	100KHz,1V
SPH6060330MPTC		33	± 20%	580	696	0.55	0.59	100KHz,1V
SPH6060470MPTC		47	± 20%	965	1158	0.46	0.52	100KHz,1V
SPH6060680MPTC		68	± 20%	1160	1392	0.41	0.44	100KHz,1V
SPH6060101MPTC		100	± 20%	1670	2004	0.32	0.35	100KHz,1V



DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current	Saturation Current	Measuring Condition
				Typ.	Max.	DC Amp.	DC Amps.	
						Idc(A) Max.	Isat(A) Max.	
SPH60600R8NETH	2.0mm	0.8	± 30%	20	24	4.1	6.4	100KHz,1V
SPH60601R5NETH		1.5	± 30%	26	31	3.6	4.3	100KHz,1V
SPH60602R2NETH		2.2	± 30%	34	41	2.9	3.2	100KHz,1V
SPH60603R3NETH		3.3	± 30%	40	48	2.75	2.8	100KHz,1V
SPH60604R7NETH		4.7	± 30%	58	70	2.15	2.4	100KHz,1V
SPH60606R8NETH		6.8	± 30%	85	102	1.8	2	100KHz,1V
SPH6060100METH		10	± 20%	125	150	1.5	1.9	100KHz,1V
SPH6060220METH		22	± 20%	290	348	0.95	1.25	100KHz,1V
SPH60600R9NETK	2.8mm	0.9	± 30%	13	17	4.6	6.7	100KHz,1V
SPH60601R5NETK		1.5	± 30%	16	21	4.2	5.1	100KHz,1V
SPH60602R2NETK		2.2	± 30%	20	26	3.7	4.2	100KHz,1V
SPH60603R0NETK		3	± 30%	23	30	3.4	3.6	100KHz,1V
SPH60604R7METK		4.7	± 20%	31	40	3	2.7	100KHz,1V
SPH60606R0METK		6	± 20%	40	52	2.5	2.5	100KHz,1V
SPH6060100METK		10	± 20%	65	85	1.9	1.9	100KHz,1V
SPH6060150METK		15	± 20%	95	124	1.8	1.6	100KHz,1V
SPH6060220METK		22	± 20%	135	176	1.4	1.3	100KHz,1V
SPH6060330METK		33	± 20%	220	286	1.1	1.1	100KHz,1V
SPH6060470METK		47	± 20%	300	390	0.92	1	100KHz,1V
SPH6060680METK		68	± 20%	420	546	0.77	0.8	100KHz,1V
SPH6060101METK		100	± 20%	600	780	0.66	0.65	100KHz,1V
SPH60601R0NETP		4.5mm	1	± 30%	14	18	4.5	9.8
SPH60601R3NETP	1.3		± 30%	16	21	4.2	8.2	100KHz,1V
SPH60601R8NETP	1.8		± 30%	19	25	3.9	7.2	100KHz,1V
SPH60602R3NETP	2.3		± 30%	22	29	3.6	6.4	100KHz,1V
SPH60603R0NETP	3		± 30%	24	31	3.3	5.6	100KHz,1V
SPH60604R5METP	4.5		± 20%	30	39	3.1	4.4	100KHz,1V
SPH60606R3METP	6.3		± 20%	36	47	3	3.6	100KHz,1V
SPH6060100METP	10		± 20%	46	60	2.4	3.1	100KHz,1V
SPH6060150METP	15		± 20%	70	91	1.9	2.5	100KHz,1V
SPH6060220METP	22		± 20%	107	139	1.6	2	100KHz,1V
SPH6060330METP	33		± 20%	141	183	1.4	1.65	100KHz,1V
SPH6060470METP	47		± 20%	211	274	1.15	1.4	100KHz,1V
SPH6060680METP	68		± 20%	304	395	0.95	1.1	100KHz,1V
SPH6060101METP	100		± 20%	466	606	0.75	0.9	100KHz,1V

**•SPH8080**

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current	Saturation Current	Measuring Condition
				Typ.	Max.	DC Amp.	DC Amps.	
						Idc(A) Max.	Isat(A) Max.	
SPH80800R9NETN	4.0mm	0.9	± 30%	6	8	7.8	13	100KHz,1V
SPH80801R4NETN		1.4	± 30%	7	9	7	10	100KHz,1V
SPH80802R0NETN		2	± 30%	9	12	6.3	8.1	100KHz,1V
SPH80803R6NETN		3.6	± 30%	15	20	4.9	6.4	100KHz,1V
SPH80804R7NETN		4.7	± 30%	18	23	4.1	5.4	100KHz,1V
SPH80806R8NETN		6.8	± 30%	25	33	3.7	4.4	100KHz,1V
SPH8080100METN		10	± 20%	34	44	3.1	3.8	100KHz,1V
SPH8080150METN		15	± 20%	50	65	2.4	2.9	100KHz,1V
SPH8080220METN		22	± 20%	66	86	2.2	2.4	100KHz,1V
SPH8080101METN		100	± 20%	28	34	1.1	1.0	100KHz,1V

All test data are referenced to 25°C ambient.

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

※Idc: DC current(A) that will cause an approximate ΔT of 20°C (at 25°C ambient)



## Part Numbers & Characteristic (SPN Series for Ferrite Coating)

### •SPN2016

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current	Saturation Current	Measuring Condition
				Typ.	Max.	DC Amp.	DC Amps.	
						Idc(A) Max.	Isat(A) Typ.	
SPN2016R24NPSA	1.0mm	0.24	± 30%	26	31	3.7	4	1MHz,1V
SPN2016R47NPSA		0.47	± 30%	49	59	2.6	2.56	1MHz,1V
SPN20161R0NPSA		1	± 30%	96	115	1.6	1.69	1MHz,1V
SPN20161R5NPSA		1.5	± 30%	143	172	1.4	1.46	1MHz,1V
SPN20161R8NPSA		1.8	± 30%	175	210	1.35	1.35	1MHz,1V
SPN20162R2MPSA		2.2	± 20%	196	235	1.3	1.26	1MHz,1V
SPN20163R3MPSA		3.3	± 20%	247	296	1.05	0.9	1MHz,1V
SPN20164R7MPSA		4.7	± 20%	370	444	0.9	0.76	1MHz,1V
SPN20166R8MPSA		6.8	± 20%	664	797	0.6	0.72	1MHz,1V
SPN2016100MPSA		10	± 20%	1108	1330	0.45	0.55	1MHz,1V

### •SPN2520

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current	Saturation Current	Measuring Condition
				Typ.	Max.	DC Amp.	DC Amps.	
						Idc(A) Max.	Isat(A) Typ.	
SPN2520R47NPSA	1.0mm	0.47	± 30%	38	46	2.65	2.5	1MHz,1V
SPN2520R68NPSA		0.68	± 30%	52	62	2.2	2.05	1MHz,1V
SPN25201R0NPSA		1	± 30%	70	84	1.9	1.75	1MHz,1V
SPN25201R5MPSA		1.5	± 20%	107	128	1.5	1.45	1MHz,1V
SPN25202R2MPSA		2.2	± 20%	158	190	1.2	1.2	1MHz,1V
SPN25203R3MPSA		3.3	± 20%	229	275	1	0.94	1MHz,1V
SPN25204R7MPSA		4.7	± 20%	332	398	0.82	0.8	1MHz,1V
SPN25206R8MPSA		6.8	± 20%	443	532	0.71	0.68	1MHz,1V
SPN2520100MPSA		10	± 20%	712	854	0.55	0.56	1MHz,1V
SPN2520R47NPSC		1.2mm	0.47	± 30%	47	56	2.4	2.75
SPN25201R0NPSC	1		± 30%	73	88	2.15	2.2	1MHz,1V
SPN25201R5MPSC	1.5		± 20%	105	126	1.65	1.8	1MHz,1V
SPN25202R2MPSC	2.2		± 20%	129	155	1.55	1.55	1MHz,1V
SPN25203R3MPSC	3.3		± 20%	227	272	1.15	1.25	1MHz,1V
SPN25204R7MPSC	4.7		± 20%	338	406	1.08	1.05	1MHz,1V
SPN25206R8MPSC	6.8		± 20%	510	612	0.78	0.85	1MHz,1V
SPN2520100MPSC	10		± 20%	630	756	0.72	0.73	1MHz,1V

### •SPN3030

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance (mΩ)		Heat Rating Current	Saturation Current	Measuring Condition
				Typ.	Max.	DC Amp.	DC Amps.	
						Idc(A) Max.	Isat(A) Max.	
SPN30301R0NPPTA	1.0mm	1	± 30%	65	78	1.4	1.3	100KHz,1V
SPN30301R5NPPTA		1.5	± 30%	80	96	1.3	1.2	100KHz,1V
SPN30302R2MPPTA		2.2	± 20%	95	114	1.1	1.1	100KHz,1V
SPN30303R3MPPTA		3.3	± 20%	140	168	0.94	0.87	100KHz,1V
SPN30304R7MPPTA		4.7	± 20%	190	228	0.78	0.75	100KHz,1V
SPN30306R8MPPTA		6.8	± 20%	300	360	0.63	0.61	100KHz,1V
SPN3030100MPPTA		10	± 20%	450	540	0.51	0.5	100KHz,1V
SPN3030150MPPTA		15	± 20%	740	888	0.4	0.4	100KHz,1V
SPN3030220MPPTA		22	± 20%	1030	1236	0.35	0.35	100KHz,1V
SPN3030330MPPTA		33	± 20%	1550	1860	0.28	0.26	100KHz,1V
SPN3030470MPPTA	47	± 20%	2050	2460	0.24	0.22	100KHz,1V	
SPN30301R0NPTE	1.5mm	1	± 30%	30	36	2.1	2.1	100KHz,1V
SPN30301R5NPTE		1.5	± 30%	40	48	1.82	1.8	100KHz,1V
SPN30302R2MPTE		2.2	± 20%	60	72	1.5	1.48	100KHz,1V
SPN30303R3MPTE		3.3	± 20%	80	96	1.23	1.21	100KHz,1V
SPN30304R7MPTE		4.7	± 20%	120	144	1.04	1.02	100KHz,1V
SPN30306R8MPTE		6.8	± 20%	160	192	0.88	0.87	100KHz,1V
SPN3030100MPTE		10	± 20%	230	276	0.71	0.7	100KHz,1V
SPN3030150MPTE		15	± 20%	360	432	0.56	0.56	100KHz,1V
SPN3030220MPTE		22	± 20%	520	624	0.47	0.47	100KHz,1V
SPN3030330MPTE		33	± 20%	840	1008	0.37	0.39	100KHz,1V
SPN3030470MPTE	47	± 20%	1340	1608	0.3	0.32	100KHz,1V	

※ (note: SPN2016□□□□PSA SPN2520□□□□PSA specifications is defined an approximately ΔT of 40°C)

•SPN4040

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance		Heat Rating Current	Saturation Current	Measuring Condition
				(mΩ)		DC Amp.	DC Amps.	
				Typ.	Max.	Idc(A) Max.	Isat(A) Max.	
SPN40401R0NETA	1.0mm	1	± 30%	100	120	1.05	1.8	100KHz,1V
SPN40402R2NETA		2.2	± 30%	150	180	0.89	1.15	100KHz,1V
SPN40403R3META		3.3	± 20%	180	216	0.82	1.1	100KHz,1V
SPN40404R7META		4.7	± 20%	210	252	0.75	0.9	100KHz,1V
SPN40406R8META		6.8	± 20%	300	360	0.62	0.74	100KHz,1V
SPN4040100META		10	± 20%	380	456	0.6	0.56	100KHz,1V
SPN4040150META		15	± 20%	510	612	0.51	0.47	100KHz,1V
SPN4040220META		22	± 20%	870	1044	0.4	0.36	100KHz,1V
SPN4040330META		33	± 20%	1540	1848	0.3	0.28	100KHz,1V
SPN4040470META		47	± 20%	1810	2172	0.28	0.24	100KHz,1V
SPN40401R0NETC	1.2mm	1	± 30%	60	72	1.5	2.5	100KHz,1V
SPN40402R2METC		2.2	± 20%	90	108	1.2	1.65	100KHz,1V
SPN40403R3METC		3.3	± 20%	130	156	0.98	1.2	100KHz,1V
SPN40404R7METC		4.7	± 20%	140	168	0.96	1.05	100KHz,1V
SPN40406R8METC		6.8	± 20%	180	216	0.84	0.9	100KHz,1V
SPN4040100METC		10	± 20%	240	288	0.77	0.74	100KHz,1V
SPN4040150METC		15	± 20%	400	480	0.6	0.56	100KHz,1V
SPN4040220METC		22	± 20%	480	576	0.54	0.51	100KHz,1V
SPN4040330METC		33	± 20%	810	972	0.42	0.4	100KHz,1V
SPN4040470METC		47	± 20%	1000	1200	0.37	0.35	100KHz,1V
SPN40401R0NETG	1.8mm	1	± 30%	30	36	1.83	4	100KHz,1V
SPN40402R2METG		2.2	± 20%	60	72	1.44	2.7	100KHz,1V
SPN40403R3METG		3.3	± 20%	70	84	1.23	2	100KHz,1V
SPN40404R7METG		4.7	± 20%	90	108	1.2	1.7	100KHz,1V
SPN40406R8METG		6.8	± 20%	110	132	1.06	1.45	100KHz,1V
SPN4040100METG		10	± 20%	180	216	0.84	1.2	100KHz,1V
SPN4040150METG		15	± 20%	250	300	0.65	0.94	100KHz,1V
SPN4040220METG		22	± 20%	360	432	0.59	0.8	100KHz,1V
SPN4040330METG		33	± 20%	530	636	0.49	0.65	100KHz,1V
SPN4040470METG		47	± 20%	650	780	0.42	0.57	100KHz,1V
SPN4040680METG		68	± 20%	1000	1200	0.32	0.47	100KHz,1V
SPN4040101METG		100	± 20%	1500	1800	0.27	0.4	100KHz,1V
SPN4040151METG		150	± 20%	2500	3000	0.22	0.31	100KHz,1V
SPN4040221METG		220	± 20%	4000	4800	0.17	0.27	100KHz,1V

•SPN5050

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance		Heat Rating Current	Saturation Current	Measuring Condition
				(mΩ)		DC Amp.	DC Amps.	
				Typ.	Max.	Idc(A) Max.	Isat(A) Max.	
SPN50501R0NPTA	1.0mm	1	± 30%	70	84	1.75	2.35	100KHz,1V
SPN50502R2NPTA		2.2	± 30%	105	126	1.4	1.5	100KHz,1V
SPN50503R3MPTA		3.3	± 20%	125	150	1.25	1.4	100KHz,1V
SPN50504R7MPTA		4.7	± 20%	145	174	1.15	1.2	100KHz,1V
SPN50506R8MPTA		6.8	± 20%	185	222	1	1	100KHz,1V
SPN5050100MPTA		10	± 20%	250	300	0.9	0.85	100KHz,1V
SPN5050150MPTA		15	± 20%	400	480	0.65	0.68	100KHz,1V
SPN5050220MPTA		22	± 20%	600	720	0.45	0.55	100KHz,1V
SPN50501R0NPCT	1.2mm	1	± 30%	53	64	2.3	4.5	100KHz,1V
SPN50501R5NPCT		1.5	± 30%	70	84	2.2	3.8	100KHz,1V
SPN50502R2MPTC		2.2	± 20%	85	102	2	3.1	100KHz,1V
SPN50503R3MPTC		3.3	± 20%	160	192	1.45	2.4	100KHz,1V
SPN50504R7MPTC		4.7	± 20%	180	216	1.4	2.2	100KHz,1V
SPN50506R8MPTC		6.8	± 20%	260	312	1.1	1.7	100KHz,1V
SPN5050100MPTC		10	± 20%	420	504	0.85	1.4	100KHz,1V
SPN5050150MPTC		15	± 20%	670	804	0.64	1.2	100KHz,1V

※Isat :DC current(A) that will cause inductance to drop approximately 30% (referenced to 25°C ambient.)

※Idc: DC current(A) that will cause an approximate ΔT of 20°C (at 25°C ambient)

## •SPN5050

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance		Heat Rating	Saturation	Measuring Condition
				(mΩ)		DC Amp.	DC Amps.	
				Typ.	Max.	Idc(A) Max.	Isat(A) Max.	
SPN5050R47NPTD	1.4mm	0.47	± 30%	25	30	3.3	5.8	100KHz,1V
SPN50501R2NPTD		1.2	± 30%	45	54	2.4	3.8	100KHz,1V
SPN50502R2NPTD		2.2	± 30%	65	78	2	2.8	100KHz,1V
SPN50503R3NPTD		3.3	± 30%	80	96	1.7	2.35	100KHz,1V
SPN50504R7NPTD		4.7	± 30%	100	120	1.4	2.05	100KHz,1V
SPN50506R8MPTD		6.8	± 20%	150	180	1.2	1.6	100KHz,1V
SPN5050100MPTD		10	± 20%	200	240	1.05	1.4	100KHz,1V
SPN5050150MPTD		15	± 20%	320	384	0.65	1.1	100KHz,1V
SPN5050220MPTD		22	± 20%	450	540	0.55	0.9	100KHz,1V
SPN5050R47NPTH		2.0mm	0.47	± 30%	12	14	5	6.1
SPN50501R0NPTH	1		± 30%	21	25	3.6	4	100KHz,1V
SPN50501R5NPTH	1.5		± 30%	26	31	3.2	3.35	100KHz,1V
SPN50502R2NPTH	2.2		± 30%	35	42	2.9	2.9	100KHz,1V
SPN50503R3NPTH	3.3		± 30%	48	58	2.4	2.4	100KHz,1V
SPN50504R7MPTH	4.7		± 20%	60	72	2	2	100KHz,1V
SPN50506R8MPTH	6.8		± 20%	90	108	1.65	1.6	100KHz,1V
SPN5050100MPTH	10		± 20%	120	144	1.45	1.3	100KHz,1V
SPN5050150MPTH	15		± 20%	165	198	1.2	1.1	100KHz,1V
SPN5050220MPTH	22		± 20%	260	312	1	0.9	100KHz,1V
SPN50501R0NETI	2.4mm	1	± 30%	16	19	4.4	5.8	100KHz,1V
SPN50501R5NETI		1.5	± 30%	22	26	3.6	5.2	100KHz,1V
SPN50502R2NETI		2.2	± 30%	29	35	3.1	4.1	100KHz,1V
SPN50503R3NETI		3.3	± 30%	43	52	2.4	3.1	100KHz,1V
SPN50504R7METI		4.7	± 20%	55	66	2	2.7	100KHz,1V
SPN50506R8METI		6.8	± 20%	80	96	1.6	2.2	100KHz,1V
SPN5050100METI		10	± 20%	125	150	1.2	1.7	100KHz,1V
SPN5050150METI		15	± 20%	170	204	1	1.4	100KHz,1V
SPN5050220METI		22	± 20%	230	276	0.82	1.2	100KHz,1V
SPN5050330METI		33	± 20%	370	444	0.63	1	100KHz,1V
SPN5050R47NP TL	3.0mm	0.47	± 30%	10	13	5	9	100KHz,1V
SPN50501R0NP TL		1	± 30%	15	20	4	6.6	100KHz,1V
SPN50502R2NP TL		2.2	± 30%	23	30	3.5	4.2	100KHz,1V
SPN50503R3MP TL		3.3	± 20%	30	39	3	3.6	100KHz,1V
SPN50504R7MP TL		4.7	± 20%	35	46	2.6	3.1	100KHz,1V
SPN50506R8MP TL		6.8	± 20%	52	68	2.3	2.5	100KHz,1V
SPN5050100MP TL		10	± 20%	70	91	1.7	2.1	100KHz,1V
SPN5050150MP TL		15	± 20%	125	163	1.4	1.6	100KHz,1V
SPN5050220MP TL		22	± 20%	180	234	1.05	1.4	100KHz,1V
SPN5050330MP TL		33	± 20%	225	293	0.8	1.15	100KHz,1V
SPN5050470MP TL	47	± 20%	325	423	0.7	0.95	100KHz,1V	
SPN50501R5NETN	4.0mm	1.5	± 30%	20	26	3.6	6	100KHz,1V
SPN50502R2NETN		2.2	± 30%	22	29	3.5	4.6	100KHz,1V
SPN50503R3NETN		3.3	± 30%	27	35	3.3	3.8	100KHz,1V
SPN50504R7NETN		4.7	± 30%	29	38	3.1	3.3	100KHz,1V
SPN50506R8METN		6.8	± 20%	49	64	2.3	2.6	100KHz,1V
SPN5050100METN		10	± 20%	56	73	2.1	2.3	100KHz,1V
SPN5050150METN		15	± 20%	80	104	1.8	2	100KHz,1V
SPN5050220METN		22	± 20%	126	164	1.4	1.6	100KHz,1V
SPN5050330METN		33	± 20%	180	234	1.2	1.3	100KHz,1V
SPN5050470METN		47	± 20%	310	403	0.9	1.1	100KHz,1V

All test data are referenced to 25°C ambient.

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

※Idc: DC current(A) that will cause an approximate ΔT of 20°C (at 25°C ambient)

•SPN6060

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance		Heat Rating Current	Saturation Current	Measuring Condition
				(mΩ)		DC Amp.	DC Amps.	
				Typ.	Max.	Idc(A) Max.	Isat(A) Max.	
SPN60601R5MPTA	1.0mm	1.5	± 20%	90	108	1.9	2.4	100KHz, 1V
SPN60602R2MPTA		2.2	± 20%	110	132	1.7	1.9	100KHz, 1V
SPN60603R3MPTA		3.3	± 20%	135	162	1.5	1.6	100KHz, 1V
SPN60604R7MPTA		4.7	± 20%	165	198	1.4	1.3	100KHz, 1V
SPN60606R8MPTA		6.8	± 20%	220	264	1.2	1.2	100KHz, 1V
SPN6060100MPTA		10	± 20%	270	324	1.1	1	100KHz, 1V
SPN6060220MPTA		22	± 20%	580	696	0.7	0.65	100KHz, 1V
SPN60602R5NPTC	1.2mm	2.5	± 30%	90	108	1.73	2.1	100KHz, 1V
SPN60604R0NPTC		4	± 30%	105	126	1.57	1.8	100KHz, 1V
SPN60605R3MPTC		5.3	± 20%	125	150	1.4	1.5	100KHz, 1V
SPN60606R8MPTC		6.8	± 20%	165	198	1.18	1.3	100KHz, 1V
SPN6060100MPTC		10	± 20%	235	282	1	1	100KHz, 1V
SPN6060150MPTC		15	± 20%	330	396	0.79	0.8	100KHz, 1V
SPN6060220MPTC		22	± 20%	530	636	0.63	0.76	100KHz, 1V
SPN6060330MPTC		33	± 20%	700	840	0.53	0.59	100KHz, 1V
SPN6060470MPTC		47	± 20%	1050	1260	0.46	0.52	100KHz, 1V
SPN6060680MPTC		68	± 20%	1350	1620	0.41	0.44	100KHz, 1V
SPN6060101MPTC		100	± 20%	2180	2616	0.32	0.35	100KHz, 1V
SPN60601R2NPTD	1.4mm	1.2	± 30%	42	50	2.75	4	100KHz, 1V
SPN60602R2NPTD		2.2	± 30%	55	66	2.3	3	100KHz, 1V
SPN60603R3NPTD		3.3	± 30%	75	90	2	2.5	100KHz, 1V
SPN60604R7MPTD		4.7	± 20%	90	108	1.9	2	100KHz, 1V
SPN60606R8MPTD		6.8	± 20%	115	138	1.65	1.7	100KHz, 1V
SPN6060100MPTD		10	± 20%	140	168	1.4	1.4	100KHz, 1V
SPN6060150MPTD		15	± 20%	210	252	1.2	1.15	100KHz, 1V
SPN6060220MPTD	22	± 20%	300	360	1	0.95	100KHz, 1V	
SPN60600R8NETH	2.0mm	0.8	± 30%	20	24	3.8	5.5	100KHz, 1V
SPN60601R5NETH		1.5	± 30%	26	31	3.2	4	100KHz, 1V
SPN60602R2NETH		2.2	± 30%	34	41	2.7	3.2	100KHz, 1V
SPN60603R3NETH		3.3	± 30%	40	48	2.6	2.8	100KHz, 1V
SPN60604R7NETH		4.7	± 30%	58	70	2	2.4	100KHz, 1V
SPN60606R8NETH		6.8	± 30%	85	102	1.8	2	100KHz, 1V
SPN6060100METH		10	± 20%	125	150	1.4	1.7	100KHz, 1V
SPN6060220METH	22	± 20%	290	348	0.95	1.05	100KHz, 1V	
SPN60600R9NETK	2.8mm	0.9	± 30%	13	17	4.6	6.6	100KHz, 1V
SPN60601R5NETK		1.5	± 30%	16	21	4.2	5	100KHz, 1V
SPN60602R2NETK		2.2	± 30%	20	26	3.7	4.2	100KHz, 1V
SPN60603R0NETK		3	± 30%	23	30	3.4	3.6	100KHz, 1V
SPN60604R7METK		4.7	± 20%	31	40	3	2.7	100KHz, 1V
SPN60606R0METK		6	± 20%	40	52	2.5	2.5	100KHz, 1V
SPN6060100METK		10	± 20%	65	85	1.9	1.9	100KHz, 1V
SPN6060150METK		15	± 20%	95	124	1.8	1.6	100KHz, 1V
SPN6060220METK		22	± 20%	135	176	1.4	1.3	100KHz, 1V
SPN6060330METK		33	± 20%	220	286	1.1	1.1	100KHz, 1V
SPN6060470METK		47	± 20%	300	390	0.92	0.95	100KHz, 1V
SPN6060680METK		68	± 20%	420	546	0.77	0.76	100KHz, 1V
SPN6060101METK		100	± 20%	600	780	0.66	0.62	100KHz, 1V

DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance		Heat Rating Current	Saturation Current	Measuring Condition
				(mΩ)		DC Amp.	DC Amps.	
				Typ.	Max.	Idc(A) Max.	Isat(A) Max.	
SPN60601R0NETP	4.5mm	1	± 30%	14	18	4.2	8.5	100KHz,1V
SPN60601R3NETP		1.3	± 30%	16	21	4	8	100KHz,1V
SPN60601R8NETP		1.8	± 30%	18	23	3.7	7	100KHz,1V
SPN60602R3NETP		2.3	± 30%	21	27	3.5	6	100KHz,1V
SPN60603R0NETP		3	± 30%	24	31	3.2	5	100KHz,1V
SPN60604R5METP		4.5	± 20%	31	40	3	4	100KHz,1V
SPN60606R3METP		6.3	± 20%	38	49	2.8	3.8	100KHz,1V
SPN6060100METP		10	± 20%	47	61	2.5	3	100KHz,1V
SPN6060150METP		15	± 20%	77	100	1.9	2.3	100KHz,1V
SPN6060220METP		22	± 20%	115	150	1.5	1.9	100KHz,1V
SPN6060330METP		33	± 20%	145	189	1.4	1.5	100KHz,1V
SPN6060470METP		47	± 20%	220	286	1.1	1.3	100KHz,1V
SPN6060680METP		68	± 20%	330	429	0.9	1	100KHz,1V
SPN6060101METP		100	± 20%	500	650	0.7	0.8	100KHz,1V

All test data are referenced to 25°C ambient.

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

※Idc: DC current(A) that will cause an approximate ΔT of 20°C (at 25°C ambient)

**•SPN8080**

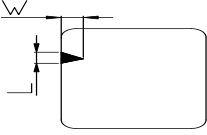
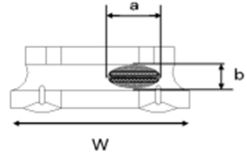
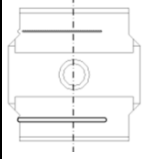
DARFON P/N	Thickness	Inductance (uH)	Tolerance	DC Resistance		Heat Rating Current	Saturation Current	Measuring Condition
				(mΩ)		DC Amp.	DC Amps.	
				Typ.	Max.	Idc(A) Max.	Isat(A) Max.	
SPN80801R0NETL	3.0mm	1	± 30%	9	12	6.2	7.8	100KHz,1V
SPN80801R5NETL		1.5	± 30%	12	16	5.3	6.2	100KHz,1V
SPN80802R2NETL		2.2	± 30%	15	20	4.8	4.9	100KHz,1V
SPN80803R3METL		3.3	± 20%	19	25	4.3	4.2	100KHz,1V
SPN80804R7METL		4.7	± 20%	22	29	4	3.6	100KHz,1V
SPN80806R8METL		6.8	± 20%	29	38	3.4	3	100KHz,1V
SPN8080100METL		10	± 20%	33	43	3	2.4	100KHz,1V
SPN8080150METL		15	± 20%	60	78	2.2	2	100KHz,1V
SPN8080220METL		22	± 20%	70	91	1.9	1.75	100KHz,1V
SPN8080330METL		33	± 20%	120	156	1.5	1.3	100KHz,1V
SPN8080470METL	47	± 20%	170	221	1.3	1.1	100KHz,1V	
SPN80800R9NETN	4.0mm	0.9	± 30%	6	8	7.8	11	100KHz,1V
SPN80801R4NETN		1.4	± 30%	7	9	7	9	100KHz,1V
SPN80802R0NETN		2	± 30%	9	12	6.3	7.4	100KHz,1V
SPN80803R6NETN		3.6	± 30%	15	20	4.9	5.3	100KHz,1V
SPN80804R7NETN		4.7	± 30%	18	23	4.1	4.7	100KHz,1V
SPN80806R8NETN		6.8	± 30%	25	33	3.7	4	100KHz,1V
SPN8080100METN		10	± 20%	34	44	3.1	3.4	100KHz,1V
SPN8080150METN		15	± 20%	50	65	2.4	2.7	100KHz,1V
SPN8080220METN		22	± 20%	66	86	2.2	2.2	100KHz,1V
SPN8080330METN		33	± 20%	100	130	1.7	1.9	100KHz,1V
SPN8080470METN		47	± 20%	150	195	1.4	1.5	100KHz,1V
SPN8080680METN		68	± 20%	230	299	1.1	1.2	100KHz,1V
SPN8080101METN		100	± 20%	290	377	1	1	100KHz,1V

All test data are referenced to 25°C ambient.

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

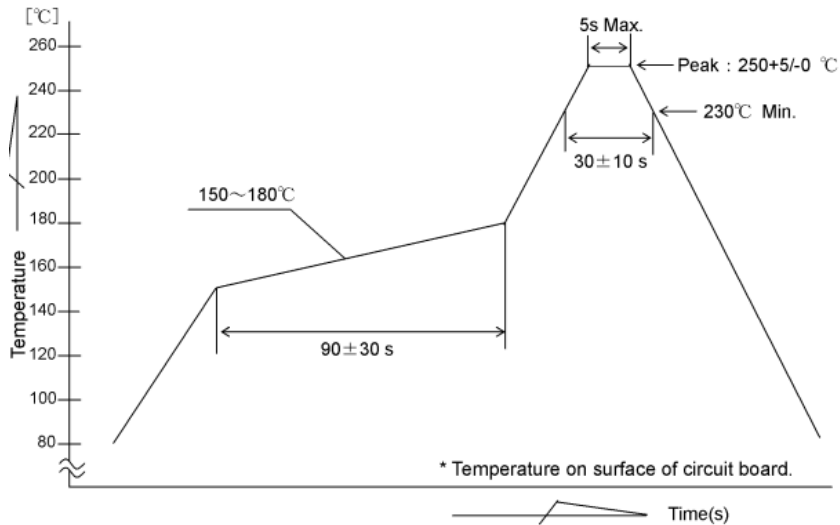
※Idc: DC current(A) that will cause an approximate ΔT of 20°C (at 25°C ambient)

## Testing Condition & Requirements

No.	Item	Specification Description	Test Method
1.	Product temperature range	Operation temp.: -40°C ~ +125°C (Including self-generated heat) Storage temp.: -40°C ~ +85°C	---
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 : As the specification W: As the specification	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 $a \leq w/2$ 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	 <Cross section of wire joint part> <Appearance judgment> Conforming Only top side of wire is exposed. (regardless of whole top side of wire exposed) Wire is soldered insufficiently and less than half of outer diameter is covered with solder. Less than 1/2 of joint side length. (More than 1/2 is selected as defect)	Visual inspection
3.	Solder ability	The surface of terminal immersed shall be minimum of 90% covered with a new coating of solder	Solder heat proof : 1. Preheating : 160±10°C 90s 2. Retention time: 245±5°C 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°C ± 2°C , 30±3 minutes) → (room temperature , 5 minutes) → (+125°C ± 2°C , 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°C±2°C 2. Applied current : rated current 3. Duration : 500 +4/-0 hours

No.	Item	Specification Description	Test Method
8.	Humidity resistance	Inductance change : within $\pm 10\%$ without mechanical damage such as break	1. Environment condition : $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 2. Humidity : 90~95% 3. Applied current : rated current 4. Duration : 500 +4/-0 hours
9.	Low temperature storage	Inductance change : within $\pm 10\%$ without mechanical damage such as break	Store temperature : $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for total 500 +4/-0 hours
10.	High temperature storage	Inductance change : within $\pm 10\%$ without mechanical damage such as break	Store temperature : $+125^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for total 500 +4/-0 hours
11	Inductance	a. Temperature: $25 \pm 3^{\circ}\text{C}$ 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	$\leq 30/60\%$	168+5/-0	85/60	n/a	n/a



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