



● **FEATURE**

1. Various high power inductors are superior to be high saturation for surface mounting

● **APPLICATION**

1. DC-DC converter of portable equipment
2. Digital Camera, PDA, MP3
3. Notebook, Camcorder and others
4. LCD TV



WSF4D18	WSF6D18	WSF3D16	WSF8D28
WSF4D28	WSF6D28	WSF3D28	WSF8D38
WSF5D18	WSF6D38	WSF5D28R	WSF8D43
WSF5D28		WSF10D40	
		WSF10D50	

● **ORDERING INFORMATION**

WSF4D18

PN

-1R0

Inductance

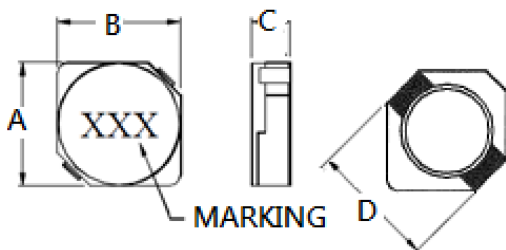
I

M :±20%

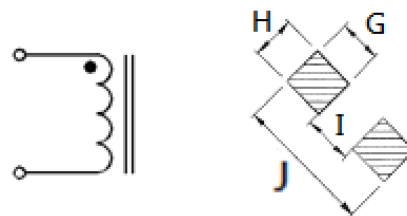
N :±30%

● **SHAPE AND DIMENSION**

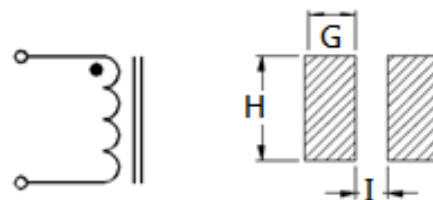
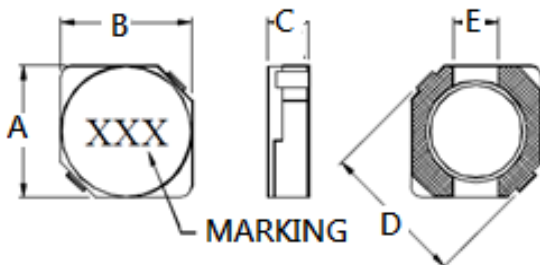
WSF3D16



● **SCHEMATICS AND LAND PATTERNS(mm)**

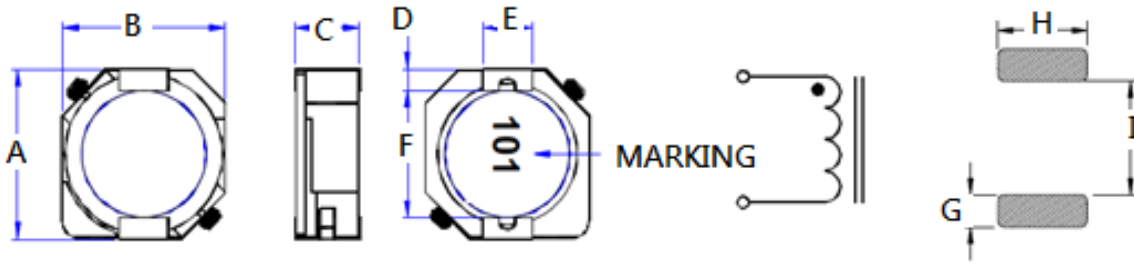


WSF3D28/4D18/4D28/5D18/5D28

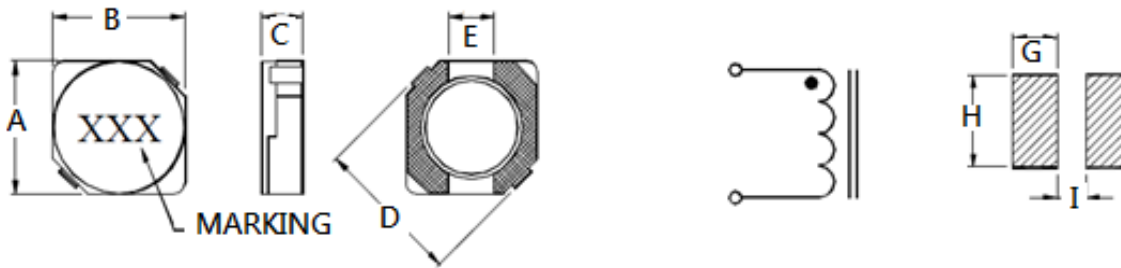




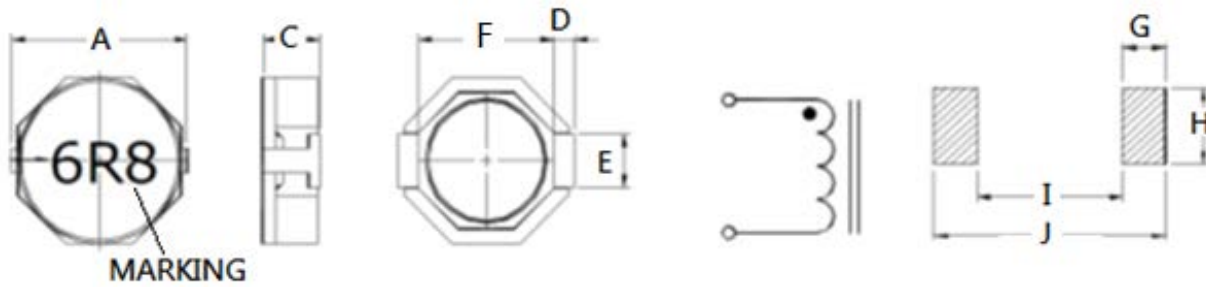
WSF5D28R



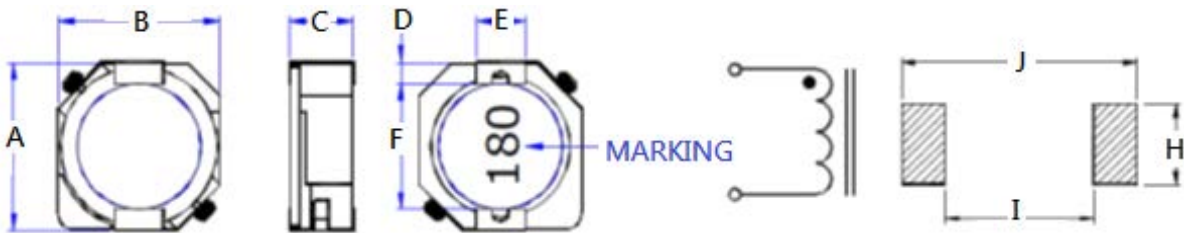
WSF6D18/6D28/6D38



WSF8D28/8D38/8D43



WSF10D40/10D50





● SPECIFICATION (Marking=Inductance Value)

Dimension in mm

TYPE	A	B	C (MAX)	D (REF)	E (REF)	F (REF)	G (REF)	H (REF)	I (REF)	J (REF)
WSF3D16	3.80±0.30	3.80±0.30	1.80	4.20			1.40	1.50	2.40	5.20
WSF3D28	3.80±0.30	3.80±0.30	3.00	4.40			1.58	4.30	1.15	
WSF4D18	4.70±0.30	4.70±0.30	2.00	6.90	1.50		1.90	5.30	1.50	
WSF4D28	4.70±0.30	4.70±0.30	3.00	6.90	1.50		1.90	5.30	1.50	
WSF5D18	5.70±0.30	5.70±0.30	2.00	8.20	2.00		2.15	6.30	2.00	
WSF5D28	5.70±0.30	5.70±0.30	3.00	8.20	2.00		2.15	6.30	2.00	
WSF5D28R	6.30(max)	6.20(max)	3.00	0.60	2.00	4.70	1.00	2.60	4.60	
WSF6D18	6.70±0.30	6.70±0.30	2.00	9.50	2.00		2.65	7.30	2.00	
WSF6D28	6.70±0.30	6.70±0.30	3.00	9.50	2.00		2.65	7.30	2.00	
WSF6D38	6.70±0.30	6.70±0.30	4.00	9.50	2.00		2.65	7.30	2.00	
WSF8D28	8.30(max)		3.00	1.20	2.50	6.30	2.00	2.80	6.10	10.10
WSF8D38	8.30(max)		4.00	1.20	2.50	6.30	2.00	2.80	6.10	10.10
WSF8D43	8.30(max)		4.50	1.20	2.50	6.30	2.00	2.80	6.10	10.10
WSF10D40	10.10±0.30	10.0±0.30	4.00	1.20	3.00	7.70		3.60	7.30	10.70
WSF10D50	10.10±0.30	10.0±0.30	5.10	1.20	3.00	7.70		3.60	7.30	10.70



●ELECTRICAL CHARACTERISTICS

PART NUMBER	L(uH)	DCR(ΩMax)	IDC(A)(Max)
WSF3D16-1R5T	1.5	0.052	1.55
WSF3D16-1R8T	1.8	0.053	1.40
WSF3D16-2R2T	2.2	0.072	1.20
WSF3D16-2R7T	2.7	0.075	1.15
WSF3D16-3R3T	3.3	0.085	1.10
WSF3D16-4R7T	4.7	0.105	0.90
WSF3D16-6R8T	6.8	0.170	0.73
WSF3D16-100T	10	0.210	0.55
WSF3D16-150T	15	0.295	0.45
WSF3D16-220T	22	0.430	0.40
WSF3D16-330T	33	0.675	0.32
WSF3D16-470T	47	0.860	0.24
WSF3D16-101T	100	2.670	0.21

Note1. Measurement frequency of Inductance value : at 100kHz

Note2. Measurement ambient temperature of L, DCR and IDC : at 25°C

Note3. The rated current indicates the current when the inductance decreases to 65% over of it's nominal value or D.C. current when the temperature rising  $\Delta t=30^{\circ}\text{C}$  lower, whichever is lower

Note4. Inductance tolerance: N:  $\pm 30\%$  ; M:  $\pm 20\%$

PART NUMBER	L(uH)	DCR(ΩMax)	IDC(A)(Max)
WSF3D28-2R2T	2.2	0.061	2.20
WSF3D28-3R3T	3.3	0.088	2.00
WSF3D28-4R7T	4.7	0.124	1.80
WSF3D28-6R8T	6.8	0.145	1.50
WSF3D28-100T	10	0.158	1.30
WSF3D28-150T	15	0.255	1.10
WSF3D28-220T	22	0.264	0.90
WSF3D28-330T	33	0.462	0.65
WSF3D28-390T	39	0.540	0.60
WSF3D28-470T	47	0.599	0.50
WSF3D28-680T	68	0.673	0.45
WSF3D28-101T	100	1.140	0.35
WSF3D28-471T	470	6.370	0.18
WSF3D28-561T	560	9.490	0.15

Note: Measurement frequency of Inductance value : at 100kHz, 1V



<b>PART NUMBER</b>	<b>L(uH)</b>	<b>DCR(<math>\Omega</math>Max)</b>	<b>Rated Current(A)</b>
WSF4D18-1R0T	1.0	0.045	1.72
WSF4D18-2R2T	2.2	0.075	1.32
WSF4D18-2R7T	2.7	0.105	1.28
WSF4D18-3R3T	3.3	0.110	1.04
WSF4D18-3R9T	3.9	0.155	0.88
WSF4D18-4R7T	4.7	0.162	0.84
WSF4D18-5R6T	5.6	0.170	0.80
WSF4D18-6R8T	6.8	0.200	0.76
WSF4D18-8R2T	8.2	0.245	0.68
WSF4D18-100T	10	0.200	0.61
WSF4D18-120T	12	0.210	0.56
WSF4D18-150T	15	0.240	0.50
WSF4D18-180T	18	0.338	0.48
WSF4D18-220T	22	0.397	0.41
WSF4D18-270T	27	0.441	0.35
WSF4D18-330T	33	0.694	0.32
WSF4D18-390T	39	0.709	0.30
WSF4D18-470T	47	0.922	0.28
WSF4D18-560T	56	1.080	0.26
WSF4D18-680T	68	1.300	0.24
WSF4D18-820T	82	1.560	0.22
WSF4D18-101T	100	1.730	0.20
WSF4D18-121T	120	2.390	0.18
WSF4D18-151T	150	2.670	0.15
WSF4D18-181T	180	4.000	0.14

Note: Measurement frequency of Inductance value : at 100kHz, 0.25V



<b>PART NUMBER</b>	<b>L(uH)</b>	<b>DCR(<math>\Omega</math>Max)</b>	<b>Rated Current(A)</b>
WSF4D28-1R2T	1.2	0.0236	2.56
WSF4D28-1R8T	1.8	0.0275	2.20
WSF4D28-2R2T	2.2	0.0313	2.04
WSF4D28-2R7T	2.7	0.0433	1.60
WSF4D28-3R3T	3.3	0.0492	1.57
WSF4D28-3R9T	3.9	0.0648	1.44
WSF4D28-4R7T	4.7	0.0720	1.32
WSF4D28-5R6T	5.6	0.1009	1.17
WSF4D28-6R8T	6.8	0.1089	1.12
WSF4D28-8R2T	8.2	0.1175	1.04
WSF4D28-100T	10	0.1283	1.00
WSF4D28-120T	12	0.1316	0.84
WSF4D28-150T	15	0.1490	0.76
WSF4D28-180T	18	0.1660	0.72
WSF4D28-220T	22	0.2350	0.70
WSF4D28-270T	27	0.2610	0.58
WSF4D28-330T	33	0.3313	0.56
WSF4D28-390T	39	0.3837	0.50
WSF4D28-470T	47	0.5870	0.48
WSF4D28-560T	56	0.6245	0.41
WSF4D28-680T	68	0.6990	0.35
WSF4D28-820T	82	0.9148	0.32
WSF4D28-101T	100	1.02	0.29
WSF4D28-121T	120	1.27	0.27
WSF4D28-151T	150	1.35	0.24
WSF4D28-181T	180	1.54	0.22

Note: Measurement frequency of Inductance value : at 100kHz, 0.25V



<b>PART NUMBER</b>	<b>L(uH)</b>	<b>DCR(<math>\Omega</math>Max)</b>	<b>Rated Current(A)</b>
WSF5D18-2R2T	2.2	0.052	2.20
WSF5D18-3R3T	3.3	0.055	2.10
WSF5D18-4R7T	4.7	0.068	1.65
WSF5D18-6R2T	6.2	0.096	1.40
WSF5D18-6R8T	6.8	0.110	1.30
WSF5D18-8R2T	8.2	0.115	1.27
WSF5D18-100T	10	0.124	1.20
WSF5D18-120T	12	0.153	1.10
WSF5D18-150T	15	0.196	0.97
WSF5D18-180T	18	0.210	0.85
WSF5D18-220T	22	0.290	0.80
WSF5D18-270T	27	0.330	0.75
WSF5D18-330T	33	0.386	0.65
WSF5D18-390T	39	0.520	0.57
WSF5D18-470T	47	0.595	0.54
WSF5D18-560T	56	0.665	0.50
WSF5D18-680T	68	0.840	0.43
WSF5D18-820T	82	0.840	0.43
WSF5D18-101T	100	1.200	0.36

Note: Measurement frequency of Inductance value : at 100kHz, 0.25V



<b>PART NUMBER</b>	<b>L(uH)</b>	<b>DCR(<math>\Omega</math>Max)</b>	<b>Rated Current(A)</b>
WSF5D28-2R5T	2.5	0.0176	2.60
WSF5D28-3R0T	3.0	0.024	2.40
WSF5D28-3R3T	3.3	0.029	2.30
WSF5D28-4R2T	4.2	0.034	2.20
WSF5D28-4R7T	4.7	0.036	2.10
WSF5D28-5R6T	5.6	0.042	1.80
WSF5D28-6R8T	6.8	0.050	1.70
WSF5D28-8R2T	8.2	0.053	1.60
WSF5D28-100T	10	0.065	1.30
WSF5D28-120T	12	0.076	1.20
WSF5D28-150T	15	0.103	1.10
WSF5D28-180T	18	0.110	1.00
WSF5D28-220T	22	0.122	0.90
WSF5D28-270T	27	0.175	0.85
WSF5D28-330T	33	0.189	0.75
WSF5D28-390T	39	0.212	0.70
WSF5D28-470T	47	0.250	0.62
WSF5D28-560T	56	0.305	0.58
WSF5D28-680T	68	0.355	0.52
WSF5D28-820T	82	0.463	0.46
WSF5D28-101T	100	0.520	0.42

Note: Measurement frequency of Inductance value : at 100kHz, 0.25V





<b>PART NUMBER</b>	<b>L(uH)</b>	<b>DCR(<math>\Omega</math>Max)</b>	<b>Rated Current(A)</b>
WSF5D28R-2R5T	2.5	0.0176	2.60
WSF5D28R-3R3T	3.3	0.0203	2.30
WSF5D28R-4R0T	4.0	0.0270	2.10
WSF5D28R-4R7T	4.7	0.0300	1.95
WSF5D28R-5R0T	5.0	0.0311	1.85
WSF5D28R-6R0T	6.0	0.0419	1.70
WSF5D28R-8R0T	8.0	0.0499	1.50
WSF5D28R-100T	10	0.0540	1.30
WSF5D28R-120T	12	0.0716	1.20
WSF5D28R-150T	15	0.0824	1.10
WSF5D28R-180T	18	0.102	1.05
WSF5D28R-220T	22	0.119	0.95
WSF5D28R-270T	27	0.146	0.85
WSF5D28R-330T	33	0.183	0.76
WSF5D28R-390T	39	0.210	0.68
WSF5D28R-470T	47	0.230	0.60
WSF5D28R-560T	56	0.305	0.55
WSF5D28R-680T	68	0.351	0.48
WSF5D28R-820T	82	0.419	0.45
WSF5D28R-101T	100	0.520	0.40

Note: Measurement frequency of Inductance value : at 100kHz, 0.1V



<b>PART NUMBER</b>	<b>L(uH)</b>	<b>DCR(<math>\Omega</math>Max)</b>	<b>Rated Current(A)</b>
WSF6D18-2R2T	2.2	0.045	3.50
WSF6D18-3R3T	3.3	0.050	3.00
WSF6D18-4R7T	4.7	0.076	2.80
WSF6D18-6R8T	6.8	0.087	2.20
WSF6D18-100T	10	0.150	1.80
WSF6D18-120T	12	0.200	1.70
WSF6D18-150T	15	0.260	1.50
WSF6D18-220T	22	0.396	1.30
WSF6D18-330T	33	0.540	1.05
WSF6D18-470T	47	0.672	0.75

Note: Measurement frequency of Inductance value : at 100kHz,0.25V

<b>PART NUMBER</b>	<b>L(uH)</b>	<b>DCR(<math>\Omega</math>Max)</b>	<b>Rated Current(A)</b>
WSF6D28-1R0T	1.0	0.0132	5.50
WSF6D28-2R2T	2.2	0.018	4.00
WSF6D28-3R0T	3.0	0.024	3.00
WSF6D28-3R9T	3.9	0.027	2.60
WSF6D28-4R7T	4.7	0.030	2.50
WSF6D28-5R0T	5.0	0.031	2.40
WSF6D28-6R8T	6.8	0.054	2.10
WSF6D28-100T	10	0.065	1.70
WSF6D28-120T	12	0.070	1.55
WSF6D28-150T	15	0.084	1.40
WSF6D28-180T	18	0.095	1.32
WSF6D28-220T	22	0.128	1.20
WSF6D28-270T	27	0.142	1.05
WSF6D28-330T	33	0.165	0.97
WSF6D28-390T	39	0.210	0.86
WSF6D28-470T	47	0.238	0.80
WSF6D28-560T	56	0.277	0.73
WSF6D28-680T	68	0.304	0.65
WSF6D28-820T	82	0.390	0.60
WSF6D28-101T	100	0.535	0.54
WSF6D28-151T	150	1.200	0.48

Note: Measurement frequency of Inductance value : at 10kHz, 0.25V



<b>PART NUMBER</b>	<b>L(uH)</b>	<b>DCR(<math>\Omega</math>Max)</b>	<b>Rated Current(A)</b>
WSF6D38-2R2T	2.2	0.018	4.00
WSF6D38-3R3T	3.3	0.020	3.50
WSF6D38-4R7T	4.7	0.024	3.00
WSF6D38-5R0T	5.0	0.024	2.90
WSF6D38-5R6T	5.6	0.026	2.80
WSF6D38-6R8T	6.8	0.029	2.40
WSF6D38-7R4T	7.4	0.031	2.30
WSF6D38-8R7T	8.7	0.034	2.20
WSF6D38-100T	10	0.038	2.00
WSF6D38-120T	12	0.053	1.70
WSF6D38-150T	15	0.057	1.60
WSF6D38-180T	18	0.092	1.50
WSF6D38-220T	22	0.096	1.30
WSF6D38-270T	27	0.109	1.20
WSF6D38-330T	33	0.124	1.10
WSF6D38-390T	39	0.138	1.00
WSF6D38-470T	47	0.155	0.95
WSF6D38-560T	56	0.202	0.85
WSF6D38-680T	68	0.234	0.75
WSF6D38-820T	82	0.324	0.70
WSF6D38-101T	100	0.358	0.65

Note: Measurement frequency of Inductance value : at 100kHz, 0.25V



PART NUMBER	L(uH)	DCR( $\Omega$ Max)	Isat(A)	Irms(A)
WSF8D28-2R5T	2.5	0.0156	4.50	6.40
WSF8D28-3R3T	3.3	0.0182	4.00	6.00
WSF8D28-4R7T	4.7	0.0247	3.40	4.50
WSF8D28-7R3T	7.3	0.0390	2.80	3.40
WSF8D28-100T	10	0.0470	2.50	3.20
WSF8D28-150T	15	0.0690	1.90	2.35
WSF8D28-220T	22	0.0990	1.60	1.85
WSF8D28-330T	33	0.156	1.30	1.45
WSF8D28-470T	47	0.195	1.15	1.30
WSF8D28-680T	68	0.286	0.920	0.980
WSF8D28-101T	100	0.430	0.750	0.800

Note: Measurement frequency of Inductance value : at 100kHz, 0.1V

PART NUMBER	L (uH)	DCR ( $\Omega$ Max)	Isat (A)	Irms (A)
WSF8D38-1R8T	1.8	0.0156	7.00	6.80
WSF8D38-2R5T	2.5	0.0175	6.50	6.00
WSF8D38-3R5T	3.5	0.024	5.00	5.20
WSF8D38-4R7T	4.7	0.029	4.60	4.40
WSF8D38-6R0T	6.0	0.032	4.20	4.00
WSF8D38-100T	10	0.048	3.00	3.20
WSF8D38-150T	15	0.067	2.75	2.50
WSF8D38-220T	22	0.105	2.30	2.00
WSF8D38-330T	33	0.157	1.75	1.60
WSF8D38-470T	47	0.189	1.52	1.42
WSF8D38-680T	68	0.290	1.30	1.08
WSF8D38-101T	100	0.410	1.05	0.88

Note: Measurement frequency of Inductance value : at 100kHz, 0.1V



PART NUMBER	L (uH)	DCR ( $\Omega$ Max)	Isat (A)	Irms (A)
WSF8D43-2R0T	2.0	0.014	7.00	5.50
WSF8D43-3R9T	3.9	0.019	5.90	4.50
WSF8D43-4R7T	4.7	0.022	5.60	4.10
WSF8D43-6R8T	6.8	0.025	4.40	3.90
WSF8D43-100T	10	0.036	4.00	3.20
WSF8D43-150T	15	0.053	2.90	2.30
WSF8D43-220T	22	0.075	2.60	1.80
WSF8D43-330T	33	0.125	2.20	1.40
WSF8D43-470T	47	0.150	1.80	1.30
WSF8D43-560T	56	0.200	1.60	1.10
WSF8D43-680T	68	0.240	1.50	1.00
WSF8D43-101T	100	0.360	1.30	0.80

Note: Measurement frequency of Inductance value : at 100kHz, 0.1V

PART NUMBER	L (uH)	DCR ( $\Omega$ Max)	Isat (A)	Irms (A)
WSF10D40-1R5T	1.5	0.0081	10.0	6.50
WSF10D40-2R5T	2.5	0.0105	7.50	6.10
WSF10D40-3R3T	3.3	0.013	6.10	5.60
WSF10D40-3R8T	3.8	0.013	6.00	5.50
WSF10D40-4R7T	4.7	0.025	5.70	5.40
WSF10D40-5R2T	5.2	0.022	5.50	5.40
WSF10D40-6R8T	6.8	0.027	4.80	4.50
WSF10D40-7R0T	7.0	0.027	4.80	4.50
WSF10D40-100T	10	0.035	4.40	3.80
WSF10D40-150T	15	0.050	3.60	3.10
WSF10D40-220T	22	0.073	2.90	2.50
WSF10D40-330T	33	0.093	2.30	2.20
WSF10D40-470T	47	0.128	2.10	1.90
WSF10D40-680T	68	0.213	1.50	1.42
WSF10D40-101T	100	0.304	1.35	1.25
WSF10D40-151T	150	0.506	1.15	0.85
WSF10D40-221T	220	0.756	0.92	0.70
WSF10D40-331T	330	1.090	0.70	0.52

Note: Measurement frequency of Inductance value : at 100kHz, 0.25V



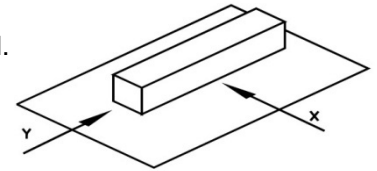
PART NUMBER	L (uH)	DCR ( $\Omega$ Max)	Isat (A)	Irms (A)
WSF10D50-R80T	0.8	0.0043	13.5	9.50
WSF10D50-1R5T	1.5	0.0043	10.5	8.30
WSF10D50-2R2T	2.2	0.0072	9.25	7.50
WSF10D50-3R3T	3.3	0.0104	7.80	6.50
WSF10D50-4R7T	4.7	0.0123	6.40	6.10
WSF10D50-6R8T	6.8	0.018	5.40	5.40
WSF10D50-8R2T	8.2	0.020	4.85	5.00
WSF10D50-100T	10	0.026	4.45	4.45
WSF10D50-120T	12	0.033	4.00	3.80
WSF10D50-150T	15	0.041	3.60	3.40
WSF10D50-180T	18	0.046	3.20	3.10
WSF10D50-220T	22	0.061	2.95	2.90
WSF10D50-270T	27	0.069	2.70	2.60
WSF10D50-330T	33	0.084	2.40	2.50
WSF10D50-390T	39	0.106	2.30	2.25
WSF10D50-470T	47	0.130	2.00	2.00
WSF10D50-560T	56	0.149	1.90	1.90
WSF10D50-680T	68	0.201	1.65	1.60
WSF10D50-820T	82	0.227	1.50	1.45
WSF10D50-101T	100	0.253	1.35	1.35
WSF10D50-121T	120	0.303	1.28	1.18
WSF10D50-151T	150	0.370	1.12	1.10
WSF10D50-181T	180	0.419	1.04	1.00
WSF10D50-221T	220	0.500	0.94	0.94
WSF 10D50-271T	270	0.672	0.84	0.80
WSF10D50-331T	330	0.812	0.75	0.73
WSF 10D50-391T	390	0.953	0.70	0.70
WSF10D50-471T	470	1.290	0.60	0.54
WSF10D50-561T	560	1.430	0.54	0.52
WSF10D50-681T	680	1.600	0.52	0.51
WSF10D50-821T	820	1.770	0.50	0.48
WSF10D50-102T	1000	1.990	0.48	0.42

Note: Measurement frequency of Inductance value : at 100kHz, 0.25V

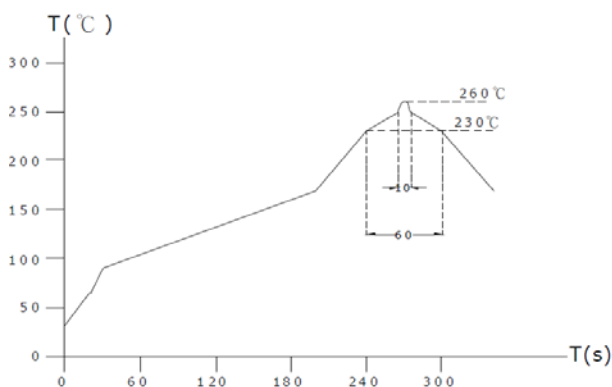


●GENERAL CHARACTERISTICS

1. Operating temperature range: -40 TO + 85°C (Includes temperature when the coil is heated)
2. External appearance: On visual inspection, the coil has external defects.
3. Terminal strength: After soldering. Between copper plate and terminals of coil.  
Push in two directions of X.Y with withstanding at below conditions.  
Terminal should not peel off. (refer to figure at right) 0.5kg
4. Insulating resistance: Over 100MΩ at 100V D.C. between coil and core.
5. Dielectric strength: No dielectric breakdown at 100V D.C. for 1 minute between coil and core.
6. Temperature characteristics: Inductance coefficient  $(0\sim 2,000)\times 10^{-6}/^{\circ}\text{C}$  (-25~+80°C).
7. Humidity characteristics(Moisture Resistance): Inductance deviation within  $\pm 5\%$ , after 96 hours in 90~95% relative humidity at  $40 \pm 2^{\circ}\text{C}$  and 1 hour drying under normal condition.
8. Vibration resistance: Inductance deviation within  $\pm 5\%$ , after vibration for 1 hour. In each of three orientations at sweep vibration (10~55~10 Hz) with 1.5mm P-P amplitudes.
9. Shock resistance: Inductance deviation within  $\pm 5\%$ , after being dropped once with 981m/s<sup>2</sup> (100G) shock attitude upon a rubber block method shock testing machine, in three different orientations.
10. Resistance to Soldering Heat: 260°C, 10 seconds.
11. Storage environment  
Storage condition:  
Temperature Range: 10°C ~ 35°C (Generally: 21°C ~ 31°C)  
Humidity Range: 50% ~ 80% RH (Generally: 65% ~ 75%)  
Transportation condition:  
Temperature Range: -35°C ~ 85°C, Humidity Range: 50% ~ 95% RH
12. Use components within 6 months. If 6 months or more have elapsed, check solderability before use.
13. Reflow profile recommend:



Lead - free heat endurance test



Lead-free the recommended reflow condition

