



●FEATURE

1. Carbonyl Powder.
2. Compact design.
3. High current, low DCR, high efficiency.
4. Very low acoustic noise and very low leakage flux noise.
5. High reliability.
6. Operating Temperature: -40 ~ +125°C
7. Compliant with AEC-Q200



●APPLICATION

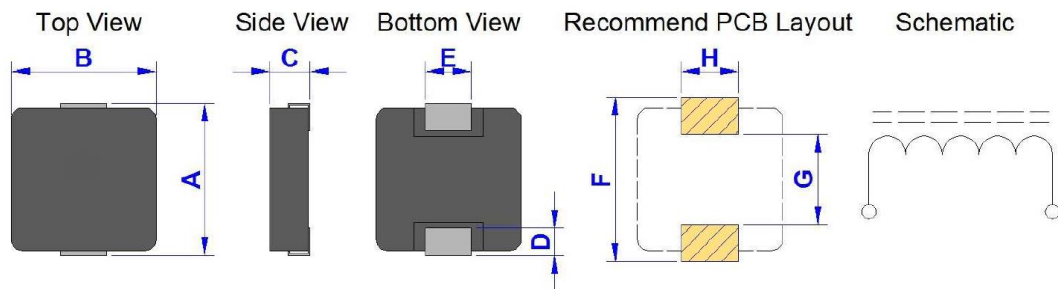
Note PC Power System, Incl. IMVP-6, DC/DC Converter.

●ORDERING INFORMATION

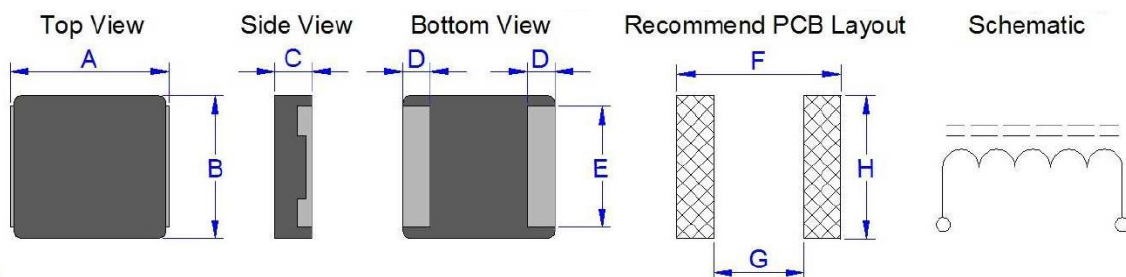
<u>WSG</u>	<u>03020</u>	<u>U</u>	<u>-R10</u>	<u>Y</u>	<u>Q</u>
Series	Dimension (L*W*H)	Material code	Inductance (L) (uH)	Tolerance(T) M=±20%,Y=±30%	AEC-Q

●SHAPE AND DIMENSION

Type: 03012, 03020, 04012, 04020, 05012, 05015, 05018, 05020, 05030, 06012, 06015, 06018, 06020, 06024, 06030, 06050, 10040, 10050, 12038, 12050, 12060, 12065



Type: 17070





●SPECIFICATION

Unit: mm

Type	A	B	C	D	E	F	G	H
03012	3.50±0.20	3.20±0.20	1.00±0.20	0.70±0.20	1.20±0.20	4.10 Ref.	1.90 Ref.	1.45 Ref.
03020	3.50±0.20	3.20±0.20	1.80±0.20	0.70±0.20	1.20±0.20	4.10 Ref.	1.90 Ref.	1.45 Ref.
04012	4.45±0.25	4.06±0.25	1.00±0.20	0.76±0.30	2.00±0.20	5.20 Ref.	2.20 Ref.	2.40 Ref.
04020	4.45±0.25	4.06±0.25	1.80±0.20	0.76±0.30	2.00±0.20	5.20 Ref.	2.20 Ref.	2.40 Ref.
05012	5.70±0.30	5.20±0.20	1.00±0.30	1.10±0.30	2.50±0.30	6.20 Ref.	2.20 Ref.	2.80 Ref.
05015	5.70±0.30	5.20±0.20	1.30±0.30	1.10±0.30	2.50±0.30	6.20 Ref.	2.20 Ref.	2.80 Ref.
05018	5.70±0.30	5.20±0.20	1.60±0.30	1.10±0.30	2.50±0.30	6.20 Ref.	2.20 Ref.	2.80 Ref.
05020	5.70±0.30	5.20±0.20	1.80±0.30	1.10±0.30	2.50±0.30	6.20 Ref.	2.20 Ref.	2.80 Ref.
05030	5.70±0.30	5.20±0.20	2.80±0.20	1.10±0.30	1.50±0.30	6.20 Ref.	2.20 Ref.	1.80 Ref.
06012	7.00±0.30	6.60±0.30	1.00±0.20	1.80±0.30	2.50±0.30	7.70 Ref.	2.50 Ref.	3.00 Ref.
06015	7.00±0.30	6.60±0.30	1.30±0.20	1.80±0.30	3.00±0.30	7.70 Ref.	2.50 Ref.	3.50 Ref.
06018	7.00±0.30	6.60±0.30	1.60±0.20	1.80±0.30	3.00±0.30	7.70 Ref.	2.50 Ref.	3.50 Ref.
06020	7.00±0.30	6.60±0.30	1.80±0.20	1.80±0.30	3.00±0.30	7.70 Ref.	2.50 Ref.	3.50 Ref.
06024	7.00±0.30	6.60±0.30	2.20±0.20	1.80±0.30	3.00±0.30	7.70 Ref.	2.50 Ref.	3.50 Ref.
06030	7.30±0.30	6.60±0.30	2.80±0.20	1.80±0.30	3.00±0.30	8.40 Ref.	2.50 Ref.	3.50 Ref.
06050	7.30±0.30	6.60±0.30	4.80±0.20	1.80±0.30	3.00±0.30	8.40 Ref.	2.50 Ref.	3.50 Ref.
10040	11.00±0.50	10.00±0.30	3.80±0.20	2.30±0.30	3.00±0.30	13.6 Ref.	5.40 Ref.	3.50 Ref.
10050	11.00±0.50	10.00±0.30	4.80±0.20	2.00±0.30	2.75±0.55	12.5 Ref.	5.40 Ref.	3.50 Ref.
12038	13.50±0.50	12.50±0.30	3.60±0.20	2.30±0.30	4.70±0.30	14.2 Ref.	8.00 Ref.	5.00 Ref.
12050	13.50±0.50	12.50±0.30	4.80±0.20	2.30±0.30	4.70±0.30	14.2 Ref.	8.00 Ref.	5.00 Ref.
12060	13.50±0.50	12.50±0.30	5.70±0.20	2.30±0.30	4.70±0.30	14.2 Ref.	8.00 Ref.	5.00 Ref.
12065	13.50±0.50	12.50±0.30	6.20±0.20	2.30±0.30	4.70±0.30	14.2 Ref.	8.00 Ref.	5.00 Ref.
17070	18.0 Max.	16.90±0.30	6.70±0.30	2.10±0.30	11.9±0.30	18.5 Ref.	12.20 Ref.	12.50 Ref.



● **ELECTRICAL CHARACTERISTICS**

Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG03012-R47M	0.47	25.0	30.0	7.2	5.0
WSG03012-R68M	0.68	34.0	40.0	6.1	4.0
WSG03012-1R0M	1.00	50.0	60.0	5.5	3.0
WSG03012-1R5M	1.50	71.0	85.0	4.0	3.3
WSG03012-2R2M	2.20	98.0	115.0	3.4	3.0
WSG03012-3R3M	3.30	191.0	210.0	3.1	2.0
WSG03012-4R7M	4.70	266.0	293.0	2.8	1.6
WSG03012-6R8M	6.80	360.0	400.0	2.0	1.4
WSG03012-8R2M	8.20	420.0	463.0	1.7	1.2
WSG03012-100M	10.0	498.0	550.0	1.4	1.0

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%

Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG03020-R10Y	0.10	6.6	9.0	14.0	10.5
WSG03020-R22Y	0.22	11.0	14.0	11.2	9.0
WSG03020-R33M	0.33	17.0	21.0	10.0	8.0
WSG03020-R47M	0.47	19.7	23.0	9.0	7.0
WSG03020-R68M	0.68	25.5	29.0	7.0	5.5
WSG03020-1R0M	1.00	32.0	38.0	5.0	4.0
WSG03020-1R2M	1.20	39.0	47.0	4.5	3.9
WSG03020-1R5M	1.50	42.0	50.0	4.0	3.8
WSG03020-2R2M	2.20	65.0	75.0	3.7	3.5
WSG03020-3R3M	3.30	125.0	145.0	3.5	3.0
WSG03020-4R7M	4.70	172.0	200.0	3.0	2.6
WSG03020-5R6M	5.60	205.0	238.0	2.6	2.2
WSG03020-6R8M	6.80	260.0	300.0	2.2	1.9
WSG03020-8R2M	8.20	340.0	390.0	1.9	1.6
WSG03020-100M	10.0	366.0	422.0	1.6	1.4

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* T=Tolerance: Y=±30%, M±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%



Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG04012-R10Y	0.10	4.3	5.5	25.0	11.5
WSG04012-R22M	0.22	6.6	8.0	20.0	8.5
WSG04012-R33M	0.33	13.6	16.0	11.0	7.0
WSG04012-R47M	0.47	18.0	20.0	6.5	6.0
WSG04012-R68M	0.68	32.0	37.0	6.0	5.0
WSG04012-1R0M	1.00	41.0	47.0	6.0	4.0
WSG04012-1R2M	1.20	48.0	56.0	5.0	3.5
WSG04012-1R5M	1.50	55.0	63.3	4.0	3.0
WSG04012-2R2M	2.20	69.2	80.0	3.5	2.8
WSG04012-3R3M	3.30	84.0	97.0	3.0	2.3
WSG04012-4R7M	4.70	128.0	145.0	2.5	2.0
WSG04012-5R6M	5.60	180.0	208.0	2.3	1.7
WSG04012-6R8M	6.80	300.0	360.0	1.7	1.5
WSG04012-8R2M	8.20	313.0	376.0	1.6	1.4
WSG04012-100M	10.0	410.0	463.0	1.4	1.3

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* T=Tolerance: Y=±30%, M±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%

Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG04020-R10Y	0.10	3.2	4.0	35.0	12.0
WSG04020-R18Y	0.18	4.6	5.4	28.0	13.5
WSG04020-R22Y	0.22	6.6	7.3	24.0	13.0
WSG04020-R33M	0.33	7.8	8.6	18.0	10.0
WSG04020-R47M	0.47	11.2	14.0	12.0	8.0
WSG04020-R56M	0.56	13.5	16.0	10.0	7.3
WSG04020-R68M	0.68	16.0	19.0	10.0	7.0
WSG04020-1R0M	1.00	22.0	27.0	8.5	5.0
WSG04020-1R2M	1.20	25.0	30.0	7.8	4.8
WSG04020-1R5M	1.50	34.8	42.0	7.0	4.5
WSG04020-2R2M	2.20	51.0	61.0	6.0	4.0
WSG04020-3R3M	3.30	69.0	76.0	4.0	3.5
WSG04020-4R7M	4.70	95.0	105.0	3.5	2.6
WSG04020-5R6M	5.60	112.0	125.0	3.0	2.2
WSG04020-6R8M	6.80	150.0	172.0	2.8	2.1
WSG04020-8R2M	8.20	158.0	180.0	2.5	2.0
WSG04020-100M	10.0	215.0	243.0	2.3	1.8
WSG04020-150M	15.0	325.0	374.0	1.9	1.5
WSG04020-220M	22.0	470.0	500.0	1.4	1.2

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* T=Tolerance: Y=±30%, M±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%



Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG05012-R10Y	0.10	4.3	5.2	14.5	14.0
WSG05012-R22Y	0.22	5.5	6.7	14.0	10.7
WSG05012-R33M	0.33	7.8	9.4	13.5	8.5
WSG05012-R36M	0.36	10.0	11.5	13.0	8.0
WSG05012-R47M	0.47	13.6	15.8	11.0	7.0
WSG05012-R68M	0.68	21.5	24.5	9.0	6.0
WSG05012-1R0M	1.00	26.0	30.0	6.0	5.0
WSG05012-1R2M	1.20	33.0	40.0	5.5	4.5
WSG05012-1R5M	1.50	38.0	44.0	5.0	4.0
WSG05012-2R2M	2.20	65.0	75.0	4.0	3.5
WSG05012-3R3M	3.30	75.0	86.0	3.8	3.0
WSG05012-4R7M	4.70	100.0	115.0	3.2	2.5
WSG05012-5R6M	5.60	175.0	201.0	3.2	2.4
WSG05012-6R8M	6.80	193.0	222.0	3.0	2.0
WSG05012-8R2M	8.20	327.0	378.0	2.8	1.7
WSG05012-100M	10.0	335.0	385.0	1.8	1.5

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* T=Tolerance: Y=±30%, M±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%

Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG05015-R33M	0.33	8.5	9.8	16.0	9.0
WSG05015-R47M	0.47	12.0	13.8	15.0	8.0
WSG05015-R68M	0.68	14.0	16.2	13.0	7.0
WSG05015-1R0M	1.00	22.0	25.3	9.0	6.0
WSG05015-1R5M	1.50	39.0	45.0	7.0	4.5
WSG05015-2R2M	2.20	45.0	52.0	6.0	4.0
WSG05015-3R3M	3.30	78.0	90.0	4.5	3.2
WSG05015-4R7M	4.70	103.0	118.0	4.0	2.7
WSG05015-5R6M	5.60	126.0	152.0	3.2	2.4
WSG05015-6R8M	6.80	142.0	171.0	3.0	2.3
WSG05015-8R2M	8.20	175.0	210.0	2.6	2.1
WSG05015-100M	10.0	210.0	235.0	2.3	2.0

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%



Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG05018-R33M	0.33	7.5	8.6	15.0	11.0
WSG05018-R47M	0.47	9.8	11.3	14.0	10.0
WSG05018-R68M	0.68	12.4	14.3	13.0	9.0
WSG05018-1R0M	1.00	18.2	21.0	10.0	6.8
WSG05018-1R5M	1.50	26.0	30.0	9.0	6.0
WSG05018-2R2M	2.20	42.0	48.3	7.5	4.5
WSG05018-3R3M	3.30	60.0	69.0	5.0	3.5
WSG05018-4R7M	4.70	85.0	98.0	4.5	3.0
WSG05018-5R6M	5.60	110.0	127.0	4.0	2.5
WSG05018-6R8M	6.80	118.0	137.0	3.5	2.4
WSG05018-8R2M	8.20	143.0	165.0	3.0	2.3
WSG05018-100M	10.0	165.0	190.0	2.8	2.3

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%

Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG05020-R33M	0.33	6.3	7.3	21.3	12.0
WSG05020-R47M	0.47	7.3	8.6	18.0	11.5
WSG05020-R68M	0.68	11.0	12.4	12.8	10.0
WSG05020-1R0M	1.00	17.5	20.0	13.7	7.0
WSG05020-1R2M	1.20	23.0	28.0	11.0	6.2
WSG05020-1R5M	1.50	26.5	30.5	9.8	5.5
WSG05020-2R2M	2.20	42.0	50.0	9.0	4.2
WSG05020-3R3M	3.30	66.0	76.0	7.3	3.3
WSG05020-4R7M	4.70	103.0	116.0	5.0	2.8
WSG05020-5R6M	5.60	112.0	122.0	4.0	2.5
WSG05020-6R8M	6.80	130.0	150.0	3.8	2.4
WSG05020-8R2M	8.20	148.0	171.0	3.5	2.3
WSG05020-100M	10.0	180.0	199.0	3.4	2.3

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%



Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG05030-R33M	0.33	4.3	5.0	18.0	14.0
WSG05030-R47M	0.47	6.4	7.4	16.0	12.0
WSG05030-R68M	0.68	10.0	12.0	14.0	8.5
WSG05030-1R0M	1.00	13.0	14.0	11.0	7.0
WSG05030-1R2M	1.20	14.0	16.0	11.0	6.5
WSG05030-1R5M	1.50	16.0	25.0	10.0	6.0
WSG05030-2R2M	2.20	25.0	35.0	9.0	5.5
WSG05030-3R3M	3.30	32.0	38.0	8.0	5.0
WSG05030-4R7M	4.70	50.0	53.0	6.0	4.6
WSG05030-5R6M	5.60	55.0	63.0	4.5	4.3
WSG05030-6R8M	6.80	68.0	76.2	4.3	4.0
WSG05030-8R2M	10.0	110.0	128.0	3.5	2.8
WSG05030-100M	22.0	220.0	250.0	1.7	1.9

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%

Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG06012-R22Y	0.22	6.5	7.5	19.0	11.0
WSG06012-R33M	0.33	9.0	10.0	16.0	9.5
WSG06012-R47M	0.47	13.0	17.0	12.0	8.5
WSG06012-R68M	0.68	17.0	19.0	9.0	7.0
WSG06012-1R0M	1.00	27.0	30.0	7.0	6.0
WSG06012-1R2M	1.20	31.0	36.0	6.8	5.0
WSG06012-1R5M	1.50	35.0	40.0	6.5	4.5
WSG06012-2R2M	2.20	53.0	61.0	5.0	4.0
WSG06012-3R3M	3.30	90.0	103.0	4.0	3.2
WSG06012-4R7M	4.70	130.0	150.0	3.8	2.5
WSG06012-6R8M	6.80	172.0	198.0	3.0	2.1
WSG06012-100M	10.0	280.0	290.0	2.5	1.8

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* T=Tolerance: Y=±30%, M±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%



Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG06015-R22Y	0.22	4.3	5.2	22.0	14.0
WSG06015-R33M	0.33	6.6	7.6	18.0	11.0
WSG06015-R47M	0.47	9.0	10.3	16.0	9.5
WSG06015-R68M	0.68	13.8	15.2	15.0	7.5
WSG06015-1R0M	1.00	23.0	25.8	12.0	6.5
WSG06015-1R2M	1.20	29.0	34.0	10.5	5.6
WSG06015-1R5M	1.50	37.0	42.5	9.5	5.0
WSG06015-2R2M	2.20	48.0	55.0	6.5	4.5
WSG06015-3R3M	3.30	62.0	74.0	6.0	4.2
WSG06015-4R7M	4.70	96.0	111.0	5.0	3.8
WSG06015-5R6M	5.60	115.0	138.0	4.5	3.0
WSG06015-6R8M	6.80	128.0	148.0	3.5	2.6
WSG06015-8R2M	8.20	153.0	184.0	3.2	2.4
WSG06015-100M	10.0	180.0	216.0	2.8	2.3

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* T=Tolerance: Y=±30%, M±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%

Part Number	Inductance (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG06018-R33M	0.33	4.8	5.8	22.0	14.0
WSG06018-R47M	0.47	6.4	7.4	18.0	12.0
WSG06018-R68M	0.68	9.5	11.0	17.0	10.0
WSG06018-R82M	0.82	11.5	14.0	15.5	8.5
WSG06018-1R0M	1.00	14.5	17.0	14.0	7.0
WSG06018-1R2M	1.20	20.0	24.0	13.5	6.5
WSG06018-1R5M	1.50	21.0	25.2	13.0	6.0
WSG06018-2R2M	2.20	31.0	35.0	11.0	6.0
WSG06018-3R3M	3.30	40.0	46.0	9.0	5.0
WSG06018-4R7M	4.70	68.0	76.0	7.0	4.0
WSG06018-5R6M	5.60	78.0	86.0	6.0	3.5
WSG06018-6R8M	6.80	93.0	104.0	5.5	3.0
WSG06018-8R2M	8.20	123.0	140.0	4.5	2.6
WSG06018-100M	10.0	143.0	160.0	3.5	2.3

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%





Part Number	Inductance (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG06020-R10Y	0.10	2.0	2.4	40.0	21.0
WSG06020-R20Y	0.20	2.5	3.0	35.0	18.0
WSG06020-R33M	0.33	4.5	5.0	25.0	14.0
WSG06020-R47M	0.47	7.1	8.3	20.0	11.7
WSG06020-R68M	0.68	8.3	10.0	16.0	10.5
WSG06020-1R0M	1.00	16.5	18.0	14.0	8.0
WSG06020-1R5M	1.50	23.0	27.0	12.0	7.0
WSG06020-2R2M	2.20	32.0	37.0	10.0	6.0
WSG06020-3R3M	3.30	43.0	48.0	8.0	5.0
WSG06020-4R7M	4.70	53.0	60.0	7.0	4.5
WSG06020-5R6M	5.60	59.0	68.0	6.0	4.0
WSG06020-6R8M	6.80	63.0	73.0	5.5	4.0
WSG06020-8R2M	8.20	101.0	116.0	5.0	3.2
WSG06020-100M	10.0	134.0	154.0	4.0	2.8
WSG06020-220M	22.0	236.0	280.0	2.5	1.5

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* T=Tolerance: Y=±30%, M±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%

Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG06024-R10Y	0.10	1.4	1.7	70.0	30.0
WSG06024-R15Y	0.15	1.8	2.3	45.0	30.0
WSG06024-R20M	0.20	1.9	2.8	40.0	23.0
WSG06024-R22M	0.22	2.0	3.2	34.0	21.0
WSG06024-R33M	0.33	3.6	4.4	30.0	18.0
WSG06024-R36M	0.36	3.8	4.6	29.0	17.0
WSG06024-R47M	0.47	4.8	5.1	26.0	15.0
WSG06024-R56M	0.56	5.5	6.5	24.0	13.0
WSG06024-R60M	0.60	5.7	6.9	22.0	13.0
WSG06024-R68M	0.68	6.4	7.2	21.0	13.0
WSG06024-R82M	0.82	8.0	9.5	17.0	11.0
WSG06024-1R0M	1.00	10.5	13.5	16.0	11.0
WSG06024-1R5M	1.50	17.0	20.0	15.0	9.0
WSG06024-2R2M	2.20	23.0	28.0	14.0	7.0
WSG06024-3R3M	3.30	34.0	39.0	10.0	6.0
WSG06024-4R7M	4.70	41.0	50.0	9.0	5.5
WSG06024-5R6M	5.60	56.0	62.0	8.0	5.0
WSG06024-6R8M	6.80	65.0	72.0	7.0	4.0
WSG06024-8R2M	8.20	81.0	95.0	6.0	3.6
WSG06024-100M	10.0	92.0	101.0	5.0	3.2
WSG06024-150M	15.0	150.0	180.0	3.5	2.5
WSG06024-220M	22.0	185.0	215.0	3.0	1.8

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* T=Tolerance: Y=±30%, M±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%



Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG06030-R10Y	0.10	1.2	1.7	60.0	32.5
WSG06030-R18Y	0.18	1.7	2.3	43.0	25.0
WSG06030-R22Y	0.22	2.1	2.8	40.0	23.0
WSG06030-R33M	0.33	3.5	3.9	32.0	20.0
WSG06030-R47M	0.47	4.0	4.2	26.0	17.5
WSG06030-R56M	0.56	4.7	5.0	25.5	16.5
WSG06030-R68M	0.68	4.8	5.5	25.0	15.5
WSG06030-R75M	0.75	5.5	6.6	24.5	14.5
WSG06030-R82M	0.82	6.7	8.0	24.0	13.0
WSG06030-1R0M	1.00	8.3	10.0	22.0	11.0
WSG06030-1R5M	1.50	13.0	15.0	18.0	9.0
WSG06030-1R8M	1.80	14.0	17.0	16.0	8.5
WSG06030-2R2M	2.20	18.0	20.0	14.0	8.0
WSG06030-2R5M	2.50	20.0	22.0	13.0	7.0
WSG06030-3R3M	3.30	28.0	30.0	13.5	6.0
WSG06030-4R7M	4.70	37.0	40.0	10.0	5.5
WSG06030-5R6M	5.60	43.0	48.0	9.0	5.0
WSG06030-6R8M	6.80	54.0	60.0	8.0	4.5
WSG06030-8R2M	8.20	64.0	68.0	7.5	4.0
WSG06030-100M	10.0	75.0	85.0	6.0	3.5
WSG06030-150M	15.0	107.0	123.0	4.0	3.0
WSG06030-220M	22.0	165.0	190.0	3.5	2.0
WSG06030-270M	27.0	185.0	220.0	3.0	2.0
WSG06030-330M	33.0	200.0	240.0	2.5	2.0
WSG06030-470M	47.0	302.0	363.0	2.0	1.75

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* T=Tolerance: Y=±30%, M±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%



Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG06050-R33M	0.33	2.5	3.0	32.0	25.0
WSG06050-R47M	0.47	3.5	3.9	30.0	22.0
WSG06050-R56M	0.56	3.6	4.2	27.0	20.0
WSG06050-R60M	0.60	3.8	4.3	25.0	19.0
WSG06050-R68M	0.68	4.0	4.5	24.0	18.0
WSG06050-R82M	0.82	4.6	4.9	22.0	16.5
WSG06050-1R0M	1.00	6.1	6.5	20.0	15.0
WSG06050-1R2M	1.20	6.7	7.5	18.0	14.0
WSG06050-1R5M	1.50	8.6	9.0	16.5	12.0
WSG06050-2R2M	2.20	11.2	12.0	14.0	10.0
WSG06050-3R3M	3.30	19.0	20.9	12.0	8.0
WSG06050-4R7M	4.70	28.0	30.8	10.0	6.5
WSG06050-5R6M	5.60	43.5	49.0	9.0	6.0
WSG06050-6R8M	6.80	46.0	51.5	8.5	5.5
WSG06050-8R2M	8.20	56.0	63.0	8.0	5.0
WSG06050-100M	10.0	60.0	69.0	7.5	4.0
WSG06050-220M	22.0	140.0	170.0	5.5	2.5
WSG06050-330M	33.0	173.0	200.0	3.5	2.0
WSG06050-470M	47.0	290.0	330.0	2.7	1.9
WSG06050-560M	56.0	342.0	396.0	2.1	1.6
WSG06050-680M	68.0	386.0	445.0	2.0	1.2

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance =  $\pm 20\%$

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%



Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG10040-R22M	0.22	0.80	1.00	60.0	35.0
WSG10040-R33M	0.33	1.00	1.20	60.0	31.0
WSG10040-R36M	0.36	1.05	1.20	60.0	31.0
WSG10040-R39M	0.39	1.10	1.30	60.0	30.0
WSG10040-R45M	0.45	1.30	1.50	45.0	29.0
WSG10040-R56M	0.56	1.60	1.80	40.0	25.0
WSG10040-R68M	0.68	2.40	2.70	39.0	22.0
WSG10040-1R0M	1.00	3.00	3.30	36.0	18.0
WSG10040-1R5M	1.50	4.00	4.60	33.0	16.0
WSG10040-2R2M	2.20	6.50	7.00	27.0	12.0
WSG10040-3R3M	3.30	10.80	11.80	20.0	11.0
WSG10040-4R7M	4.70	15.00	15.50	17.0	10.0
WSG10040-5R6M	5.60	17.00	19.30	14.0	9.0
WSG10040-6R8M	6.80	17.50	23.30	13.5	8.5
WSG10040-8R2M	8.20	20.00	22.50	12.5	8.0
WSG10040-100M	10.0	27.00	30.00	12.0	7.5
WSG10040-150M	15.0	40.00	45.00	10.0	6.3
WSG10040-220M	22.0	64.00	74.00	7.0	5.0
WSG10040-330M	33.0	92.00	112.00	5.0	3.5
WSG10040-470M	47.0	145.00	167.00	4.5	3.0
WSG10040-680M	68.0	205.00	240.00	3.0	2.0
WSG10040-820M	82.0	265.00	320.00	2.5	1.5

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%

Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG10050-R36M	0.36	0.82	0.92	52.0	34.0
WSG10050-R47M	0.47	1.15	1.32	46.0	33.0
WSG10050-R68M	0.68	1.60	1.90	35.0	28.0
WSG10050-1R0M	1.00	2.60	3.00	33.0	25.0
WSG10050-1R5M	1.50	3.40	3.80	21.0	23.0
WSG10050-2R2M	2.20	5.10	5.60	20.0	19.0
WSG10050-3R3M	3.30	8.10	9.10	17.5	17.0
WSG10050-4R7M	4.70	9.30	10.50	16.0	15.0
WSG10050-5R6M	5.60	12.80	14.40	15.0	13.0
WSG10050-6R8M	6.80	15.00	17.30	14.0	12.0
WSG10050-100M	10.0	18.90	21.80	13.0	7.6
WSG10050-101M	100.0	242.00	290.00	2.8	2.2

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%



Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG12038-1R0M	1.00	3.3	3.5	40.0	24.0
WSG12038-1R5M	1.50	5.1	5.5	35.0	19.0
WSG12038-1R8M	1.80	6.0	7.0	30.0	16.5
WSG12038-2R2M	2.20	7.2	8.0	29.0	16.0
WSG12038-3R3M	3.30	11.0	12.0	27.0	12.0
WSG12038-4R7M	4.70	14.3	15.0	24.0	10.0
WSG12038-5R6M	5.60	17.1	18.0	19.0	9.5
WSG12038-6R8M	6.80	19.8	22.0	18.0	9.0
WSG12038-8R2M	8.20	24.8	28.0	16.0	8.5
WSG12038-100M	10.0	30.4	34.0	14.0	7.0

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%

Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG12050-R33M	0.33	0.70	0.90	80.0	42.0
WSG12050-R47M	0.47	0.86	1.10	65.0	38.0
WSG12050-R56M	0.56	1.00	1.50	55.0	36.0
WSG12050-R68M	0.68	1.40	1.70	54.0	34.0
WSG12050-1R0M	1.00	1.85	2.50	50.0	29.0
WSG12050-1R2M	1.20	2.50	3.00	49.0	28.0
WSG12050-1R5M	1.50	2.80	3.30	48.0	27.0
WSG12050-1R8M	1.80	4.00	4.90	40.0	21.0
WSG12050-2R2M	2.20	4.20	5.50	32.0	20.0
WSG12050-3R3M	3.30	6.80	9.20	32.0	15.0
WSG12050-4R7M	4.70	11.40	15.00	27.0	12.0
WSG12050-5R6M	5.60	12.30	16.50	22.0	11.5
WSG12050-6R8M	6.80	14.50	18.50	21.0	11.0
WSG12050-R82M	8.20	16.80	22.50	18.0	9.5
WSG12050-100M	10.0	21.40	25.50	16.0	9.0

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%



Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG12060-6R8M	6.8	12.0	13.8	25.0	15.0
WSG12060-100M	10.0	18.0	20.7	21.0	11.0
WSG12060-120M	12.0	20.0	23.0	18.0	9.5
WSG12060-150M	15.0	25.0	29.0	16.0	9.0
WSG12060-180M	18.0	30.0	35.0	15.0	8.5
WSG12060-220M	22.0	34.0	39.5	14.0	8.0
WSG12060-270M	27.0	49.0	56.0	13.0	7.0
WSG12060-330M	33.0	65.0	75.0	12.0	6.0
WSG12060-470M	47.0	80.0	90.0	11.0	5.5
WSG12060-560M	56.0	101.0	118.0	10.0	5.3
WSG12060-680M	68.0	120.0	140.0	9.0	5.0
WSG12060-820M	82.0	138.0	161.0	8.5	4.5
WSG12060-101M	100.0	180.0	200.0	8.0	4.0
WSG12060-121M	120.0	210.0	235.0	7.0	3.5
WSG12060-151M	150.0	300.0	350.0	6.0	3.0

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%

Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat (Amp) Typ.	Irms (Amp) Typ.
WSG12065-R40M	0.40	0.70	1.00	64.0	44.0
WSG12065-R47M	0.47	0.90	1.20	63.0	41.0
WSG12065-R50M	0.50	0.92	1.25	60.0	40.0
WSG12065-R82M	0.82	1.50	1.90	50.0	33.0
WSG12065-1R0M	1.00	1.70	2.30	48.0	30.0
WSG12065-1R5M	1.50	2.50	3.00	45.0	27.0
WSG12065-2R2M	2.20	3.80	4.20	37.0	22.0
WSG12065-3R3M	3.30	5.70	6.80	30.0	18.0
WSG12065-4R7M	4.70	7.00	8.40	28.0	13.5
WSG12065-6R8M	6.80	9.50	11.50	18.0	11.5
WSG12065-8R2M	8.20	12.00	15.50	16.0	10.5
WSG12065-100M	10.0	13.20	16.50	15.5	10.0
WSG12065-120M	12.0	16.00	20.00	14.0	9.5
WSG12065-130M	13.0	21.00	24.00	13.0	9.0
WSG12065-150M	15.0	23.20	28.00	12.5	9.0
WSG12065-220M	22.0	32.50	37.00	12.0	9.0
WSG12065-250M	25.0	40.00	47.00	11.5	8.5
WSG12065-330M	33.0	48.00	58.00	11.0	8.0
WSG12065-470M	47.0	76.00	90.00	9.5	6.5
WSG12065-680M	68.0	110.00	130.00	7.8	4.8
WSG12065-820M	82.0	135.00	155.00	6.5	4.5
WSG12065-101M	100.0	145.00	165.00	5.5	4.2

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat : Saturated Current measured at the point of L drop approximately 30%



Part Number	Inductance (L) (uH)	D.C.R (mΩ) Typ.	D.C.R (mΩ) Max.	Isat 1 (Amp) Typ.	Isat 2 (Amp) Typ.	Irms (Amp) Typ.
WSG17070-R45M	0.45	0.80	0.96	85.0	125.0	62.0
WSG17070-R47M	0.47	0.95	1.03	80.0	123.0	62.0
WSG17070-1R0M	1.00	1.60	2.00	60.0	70.0	52.0
WSG17070-1R3M	1.30	1.70	2.30	54.0	67.0	49.0
WSG17070-1R5M	1.50	2.00	2.50	52.0	65.0	47.0
WSG17070-1R8M	1.80	2.10	2.50	49.0	63.0	45.0
WSG17070-2R2M	2.20	2.40	2.70	47.0	62.0	43.5
WSG17070-3R3M	3.30	3.50	3.90	45.0	54.0	28.0
WSG17070-4R7M	4.70	4.80	5.50	41.0	50.0	25.0
WSG17070-5R6M	5.60	5.80	7.05	40.0	45.0	21.0
WSG17070-6R8M	6.80	8.40	9.20	32.0	39.0	19.0
WSG17070-7R4M	7.40	8.80	9.70	27.0	34.0	18.5
WSG17070-8R2M	8.20	9.60	10.80	25.0	31.0	18.0
WSG17070-100M	10.0	11.80	13.00	24.0	29.0	16.5
WSG17070-150M	15.0	17.80	20.50	23.0	27.0	12.5
WSG17070-220M	22.0	25.10	26.50	18.0	23.0	12.0
WSG17070-330M	33.0	38.00	44.00	15.0	20.0	10.7
WSG17070-390M	39.0	40.00	48.00	11.0	18.0	9.2
WSG17070-470M	47.0	48.00	55.00	9.5	16.0	8.7
WSG17070-560M	56.0	54.00	62.00	9.0	15.0	7.8
WSG17070-680M	68.0	68.00	80.00	8.0	13.0	7.0
WSG17070-820M	82.0	87.00	100.00	7.0	12.0	5.7
WSG17070-101M	100.0	102.00	118.00	6.5	12.0	5.3

\* Test Condition @100KHz , 1.0Vrms , 25°C Ambient

\* M=Tolerance = ±20%

\* Irms : Rated Current Loading when temperature rise approximately 40°C

\* Isat 1 : Saturated Current measured at the point of L drop approximately 20%

\* Isat 2 : Saturated Current measured at the point of L drop approximately 30%



●RELIABILITY

Test Item	Test Condition	Specification												
Dimension	Actual Size ...	Meet Spec												
Thermal Shock (Temperature Cycle)	Temperature: -40 ~ +125°C kept stabilized for 30 min. each Cycle: 100 Cycles (power off)	Elec. no variation Appearance no deformation												
Humidity Resistance	Humidity: 90% ~ 95% RH Temperature: 60 ± 2°C Test Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation												
High Temperature	Temperature: 125 ± 2°C Testing Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation												
Low Temperature	Temperature: -40 ± 2°C Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation												
Temperature and Humidity Cycle	<table border="1"> <thead> <tr> <th>Temperature</th> <th>Humidity</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>25°C</td> <td>90% ~ 95% RH</td> <td>3.0 Hr</td> </tr> <tr> <td>55°C</td> <td>95% ~ 96% RH</td> <td>5.0 Hr</td> </tr> <tr> <td>25°C</td> <td>90% ~ 95% RH</td> <td>3.0 Hr</td> </tr> </tbody> </table>	Temperature	Humidity	Time	25°C	90% ~ 95% RH	3.0 Hr	55°C	95% ~ 96% RH	5.0 Hr	25°C	90% ~ 95% RH	3.0 Hr	Elec. no variation Appearance no deformation
	Temperature	Humidity	Time											
	25°C	90% ~ 95% RH	3.0 Hr											
	55°C	95% ~ 96% RH	5.0 Hr											
25°C	90% ~ 95% RH	3.0 Hr												
Cycle: 20 Cycles														
Vibration	Frequency: 10Hz ~ 55Hz , Amplitude: 1.5 mm Direction: X, Y, Z, Time: 2 Hours each	Elec. no variation Appearance no deformation												
Solderability	Go through real SMT IR-Reflow .... The profile like our suggest profile. Preheat: 160 ± 10°C (90 sec) Peak: 245 ± 5°C Peak Time: 50 Sec. / up 217°C	Elec. no variation Appearance no deformation												
Soldering Heat Resistance	Preheat: 160 ± 10°C (90 sec) Solder: Sn / Ag / Cu (Pb Free) Solder Temp.: 260 ± 5°C, Time: 3 ± 1 seconds	Elec. no variation Appearance no deformation												
Iron Solder Heat Resistance	Solder Temp.: 350 ± 5°C Flux: Rosin, Time: 3 ± 1 seconds	Elec. no variation Appearance no deformation												
Bending Strength	<p>Unit : mm</p> <p>Force : 1Kg / min.</p>	Elec. no variation Appearance no deformation												
Flexure Strength	<p>Unit : mm</p> <p>Solder cream 0.15 mm</p>	Elec. no variation Appearance no deformation												
Terminal Strength	<p>Mount on PCB Solder Cream 0.15 mm</p> <p>Push 10N force to X , Y direction</p>	Elec. no variation Appearance no deformation												
High-Voltage	100 V DC between core & winding	Elec. no variation Appearance no deformation												
Load life	Temperature: 25 ± 3°C Load: Allowed DC Current, Test Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation												





● **TEST EQUIPMENT**

1. HP4284A, HP42841A - L, Q, DCR, IDC
2. HP8753D Network analyzer – SRF

● **OPERATING & STORAGE CONDITION**

1. Operating Temp: -40 ~ +125°C (Including self - temperature rise)
2. Storage Temp: a. Product with Taping: -10 ~ 45°C, 50 ~ 60% RH  
b. On Board: -40 ~ +125°C
3. Storage Life Time: 12 Month (Less than 40°C and 60% RH)

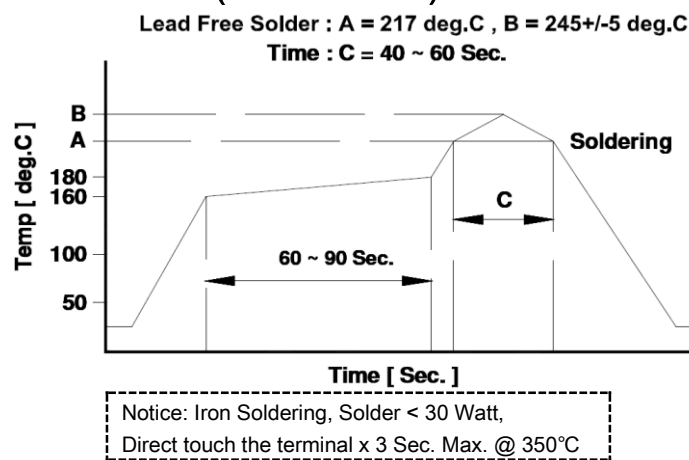
Standard Atmosphere Conditions:

Ambient Temperature 20 ± 15°C; Humidity RH 65 ± 20%

If there may be any doubt on the test result, Measurement shall be made within the following limits:

Ambient Temperature 25 ± 5°C; Humidity RH 75 ± 10%

● **RECOMMEND REFLOW CURVE (TIME: Second)**



● **ATTENTION & CAUTION:**

- \* Keep out of Splashing water or salt water
- \* Avoid Toxic Gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
- \* Vibrations or shocks which exceed the specified condition
- \* Dew condense
- \* Layout near the edge of PCB
- \* Over flexure after SMT mounting & PCBA
- \* Pin foot or SMD pad solder ability: Pb free type is best within 6 months after delivery
- \* Humidity sensitive, IPC/JEDEC J-STD-020 MSL if over Level 1, recommend bake 30mins@150°C before PCBA
- \* Caution for human life relative applications: PLS contact & consult with AiT team in design stage.



Care Note for Use:

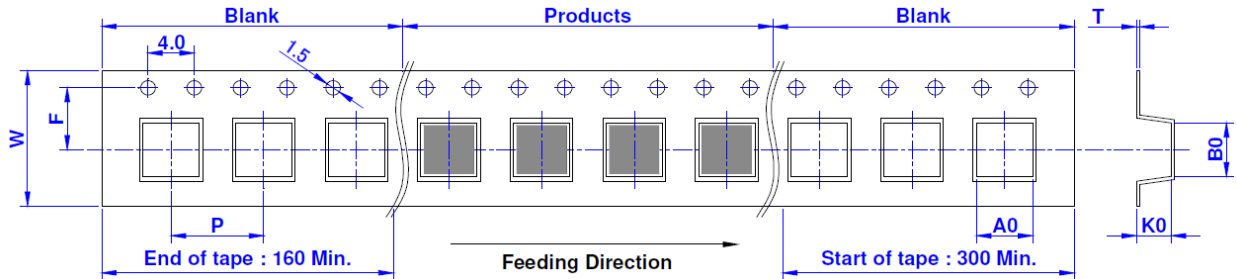
- (1) Storage Condition:  
Temperature 25 to 35°C, Humidity 45 to 60% RH
- (2) Use Temperature:
  - a. Minimum Temperature: -40°C Ambient temperature of this product.
  - b. Maximum Temperature: +125°C The value of temperature including ambient and temperature rise of this product.
  - c. Reliability test temperature range from -40 ~ +125°C
  - d. However, this is not meant as temperature grade guarantee for UL.
- (3) Model:  
When this product was used in a similar or as new product to the original one, sometimes it might be unable to satisfy the specifications due to difference in condition of usage.
- (4) Drop:  
If this product suffered mechanical stress such as drop, characteristics may become poor ( due to damage on coil / bobbin / ferrite ... etc. )  
Never use such stressed product.

Care Note for Safety:

- (1) Provision to Abnormal Condition:  
This product itself does not have any protective function in abnormal condition such as overload, short-circuit and open-circuit conditions, etc.  
Therefore, it shall be confirmed from the end product that there is no risk of smoking, fire, dielectric withstand voltage insulation resistance, etc. in abnormal conditions to provide protective devices and /or protection circuit in the end product.
- (2) Temperature Rise:  
Temperature rise on this product depends on the installation condition on end products.  
It shall be confirmed on the actual end product that temperature rise of this product is within the specified temperature class limit.
- (3) Dielectric Strength:  
Dielectric withstanding test with higher voltage than specific value will damage insulating material and shorten its life.
- (4) Water:  
This product must not be used in wet condition resulted from water, coffee or any liquid contact because insulation strength becomes very low under such condition.
- (5) Potting:  
If this product is potted in some compound, coating material of magnet wire might be occasionally damaged. Please ask us if you intend to pot this product.
- (6) Detergent:  
Please consult AiT Semi immediately once under such circumstances because product reliability confirmation etc. is needed when this product come in contact with these chemicals.



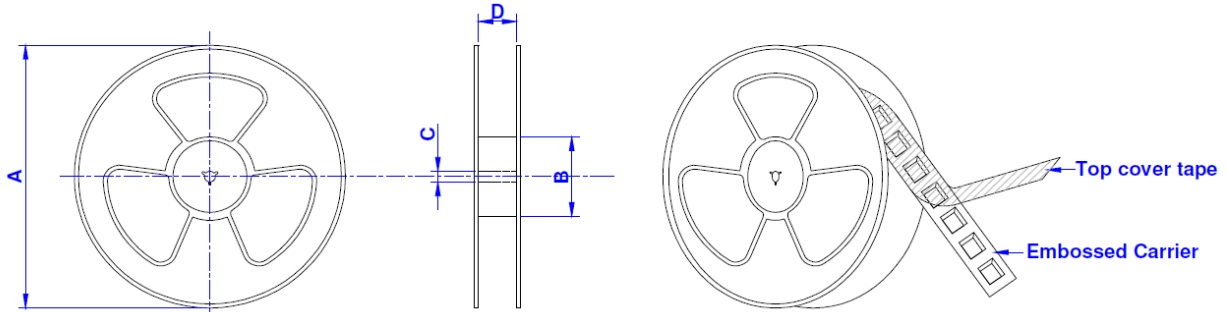
●TAPE DIMENSION: mm



SIZE/mm	W	P	A0	B0	K0	T	F
03012	12.0	8.0	3.50	3.80	1.50	0.35	5.50
03020	12.0	8.0	3.50	3.80	2.30	0.35	5.50
04012	12.0	8.0	4.40	5.00	1.50	0.35	5.50
04020	12.0	8.0	4.40	5.00	2.30	0.35	5.50
05012	12.0	8.0	5.50	6.20	1.50	0.35	5.50
05015	12.0	8.0	5.50	6.20	1.80	0.35	5.50
05018	12.0	8.0	5.50	6.20	2.10	0.35	5.50
05020	12.0	8.0	5.50	6.30	2.30	0.35	5.50
05030	12.0	8.0	5.50	6.20	3.30	0.35	5.50
06012	16.0	12.0	7.00	7.70	1.50	0.35	7.50
06015	16.0	12.0	7.00	7.70	1.80	0.35	7.50
06018	16.0	12.0	7.00	7.70	2.10	0.35	7.50
06020	16.0	12.0	7.00	7.70	2.30	0.35	7.50
06024	16.0	12.0	7.00	7.70	2.70	0.35	7.50
06030	16.0	12.0	7.00	7.70	3.30	0.35	7.50
06050	16.0	12.0	7.00	7.70	5.30	0.35	7.50
10040	24.0	16.0	10.40	11.60	4.50	0.35	11.50
10050	24.0	16.0	10.40	11.60	5.30	0.35	11.50
12038	24.0	16.0	12.90	14.10	4.10	0.35	11.50
12050	24.0	16.0	12.90	14.10	5.50	0.35	11.50
12060	24.0	16.0	12.90	14.10	6.50	0.35	11.50
12065	24.0	16.0	12.90	14.10	7.00	0.35	11.50
17070	32.0	24.0	17.50	18.50	7.50	0.50	14.20



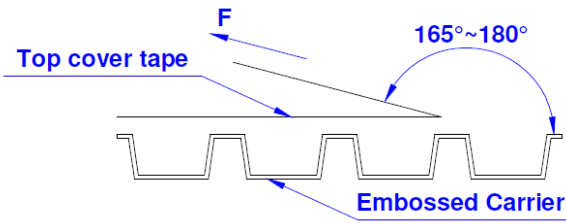
●REEL DIMENSION: mm



SIZE / mm	REEL SIZE	A	B	C	D	QTY/REEL
03012	13" × 12 mm	330	100	13.0	12.5	4,000 PCS
03020	13" × 12 mm	330	100	13.0	12.5	3,000 PCS
04012	13" × 12 mm	330	100	13.0	12.5	4,000 PCS
04020	13" × 12 mm	330	100	13.0	12.5	3,000 PCS
05012	13" × 12 mm	330	100	13.0	12.5	4,000 PCS
05015	13" × 12 mm	330	100	13.0	12.5	3,500 PCS
05018	13" × 12 mm	330	100	13.0	12.5	3,000 PCS
05020	13" × 12 mm	330	100	13.0	12.5	3,000 PCS
05030	13" × 12 mm	330	100	13.0	12.5	2,000 PCS
06012	13" × 16 mm	330	100	13.0	16.5	3,000 PCS
06015	13" × 16 mm	330	100	13.0	16.5	2,000 PCS
06018	13" × 16 mm	330	100	13.0	16.5	2,000 PCS
06020	13" × 16 mm	330	100	13.0	16.5	1,500 PCS
06024	13" × 16 mm	330	100	13.0	16.5	1,500 PCS
06030	13" × 16 mm	330	100	13.0	16.5	1,000 PCS
06050	13" × 16 mm	330	100	13.0	16.5	800 PCS
10040	13" × 24 mm	330	100	13.0	24.5	500 PCS
10050	13" × 24 mm	330	100	13.0	24.5	500 PCS
12038	13" × 24 mm	330	100	13.0	24.5	500 PCS
12050	13" × 24 mm	330	100	13.0	24.5	500 PCS
12060	13" × 24 mm	330	100	13.0	24.5	500 PCS
12065	13" × 24 mm	330	100	13.0	24.5	500 PCS
17070	13" × 32 mm	330	100	13.0	32.4	200 PCS



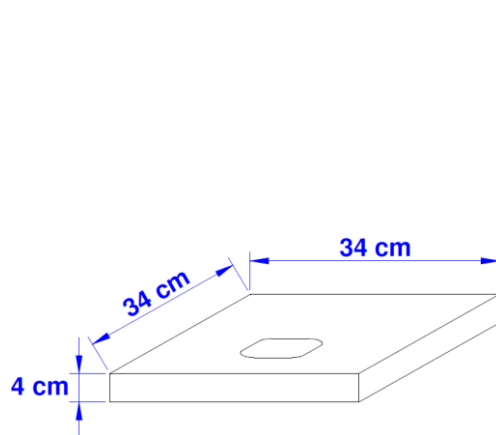
● **TEARING OFF FORCE:**



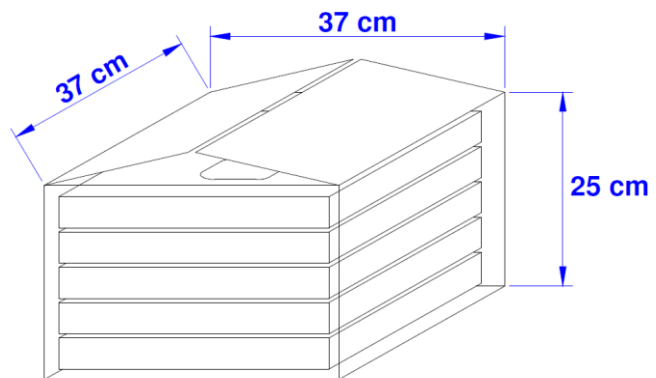
The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions (referenced ANSI/EIA - 481 - D - 2008 of 4.11 standard).

Room Temp. (°C)	Room Humidity (%)	Room Atm. (hPa)	Tearing Speed (mm / min)
5 ~ 35	45 ~ 85	860~1060	300

● **BOX PACKAGE: cm**



**13" Small Box**



**Large Box**

SIZE/mm	Reels in Small Box	Small Box in Large Box
03012	2	5
03020	2	5
04012	2	5
04020	2	5
05012	2	5
05015	2	5
05018	2	5
05020	2	5
05030	2	5
06012	1	5
06015	1	5
06018	1	5
06020	1	5
06024	1	5
06030	1	5
06050	1	5
10040	1	5
10050	1	5
12038	1	5
12050	1	5
12060	1	5
12065	1	5
17070	1	5



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