SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	SU1038□□□□F□-□□□		
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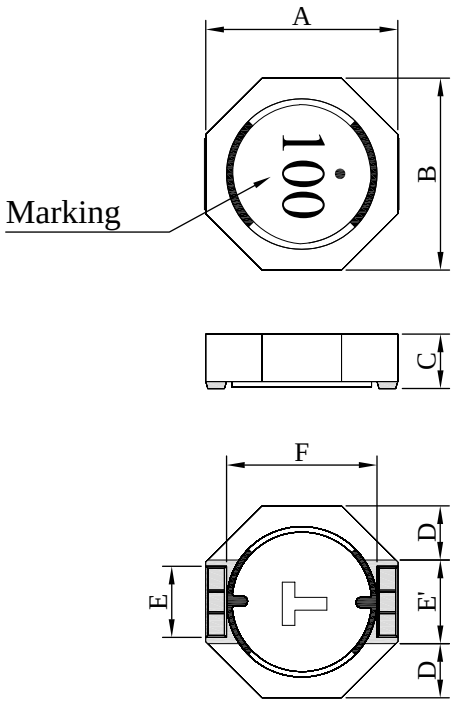
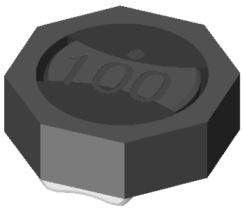
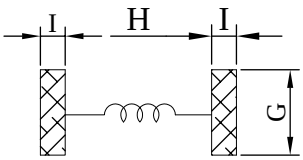
Ⅰ．Configuration and dimensions：







(PCB Pattern)

Unit：mm

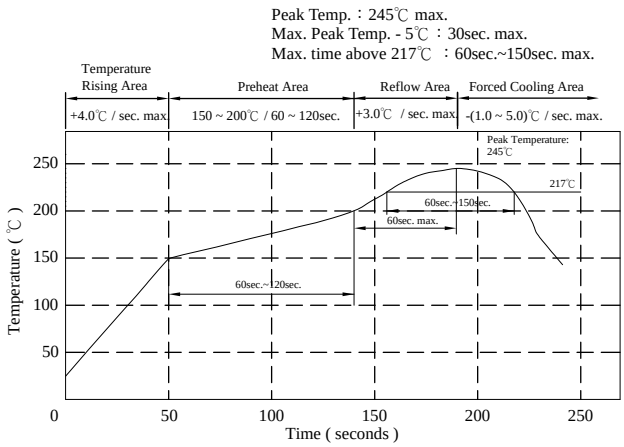
A	B	C	D	E	E'	F	G	H	I
10.00 ±0.3	10.00 ±0.3	3.80 ±0.3	2.50 typ.	3.20 typ.	5.00 ±0.5	7.40 typ.	4.00 ref.	7.20 ref.	1.80 ref.

Ⅱ．Description：

a．Ferrite drum core construction
b．Magnetically shielded
c．Enamelled copper wire：F、H class
d．Product weight： 1.26 g（ref.）
e．Moisture sensitivity Level 1
f．Products comply with RoHS' requirements
g．Halogen free

Ⅲ．General specification：

a．Storage temp.：-40℃ ----+125℃
b．Operating temp.：-40℃----+125℃
(Temp. rise included.)
c．Resistance to solder heat：260℃.10 sec.



千如電子集團
ABC-ATEC ELECTRONICS GROUP

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Ⅳ．Electrical characteristics：

DWG. No.	Inductance (μH)	Q ref.	SRF (MHz) typ.	RDC (mΩ) typ.	RDC (mΩ) max.	Irms (A) max.	Isat (A) typ.
SU10381R5YF□ -□□□	1.5 ± 30 %	14	65	5.2	7.5	7.20	7.00
SU10382R2YF□ -□□□	2.2 ± 30 %	12	55	7.7	10.5	6.80	6.50
SU10383R5YF□ -□□□	3.5 ± 30 %	14	35	11.5	15.0	5.50	5.50
SU10385R0YF□ -□□□	5.0 ± 30 %	12	30	14.5	22.0	4.60	4.80
SU10386R2YF□ -□□□	6.2 ± 30 %	12	25	16.5	24.0	4.00	4.20
SU1038100YF□ -□□□	10.0 ± 30 %	24	20	25.0	35.0	3.80	3.60
SU1038150YF□ -□□□	15.0 ± 30 %	24	16	37.0	50.0	2.80	2.70
SU1038220YF□ -□□□	22.0 ± 30 %	20	12	55.8	75.0	2.20	2.30
SU1038330YF□ -□□□	33.0 ± 30 %	22	10	86.0	112.0	1.80	1.80
SU1038470YF□ -□□□	47.0 ± 30 %	22	8	121.0	160.0	1.65	1.60
SU1038680YF□ -□□□	68.0 ± 30 %	24	7	166.0	216.0	1.30	1.30
SU1038101YF□ -□□□	100.0 ± 30 %	24	6	220.0	300.0	1.10	1.10
SU1038151YF□ -□□□	150.0 ± 30 %	20	5	358.0	476.0	0.90	0.80
SU1038221YF□ -□□□	220.0 ± 30 %	22	4	565.0	740.0	0.65	0.65
SU1038331YF□ -□□□	330.0 ± 30 %	20	3	773.0	1000.0	0.55	0.52

1). Electrical specifications at 25℃

2). Inductance Test Freq.：100kHz / 1V

3).Q Test Freq.：1R5~6R2--7.96MHz , 100~680--2.52MHz , 101~331--0.796MHz

4). Isat base on △L / L0A=35% typ.

5). Irms base on Temp. rise 40℃ max.

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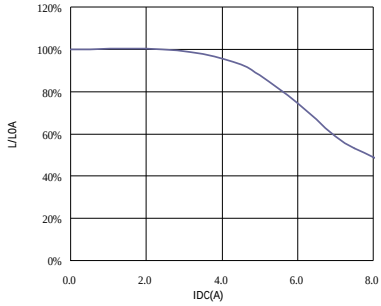
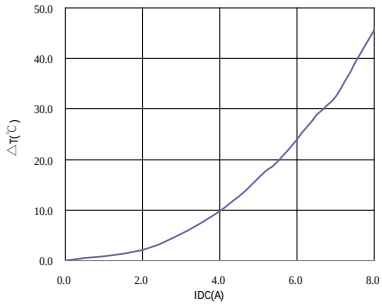
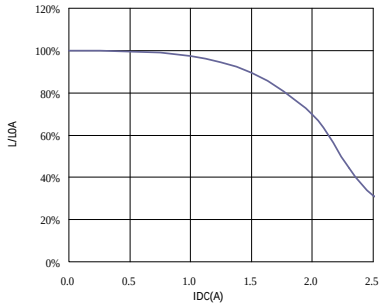
Ⅴ．Curve：

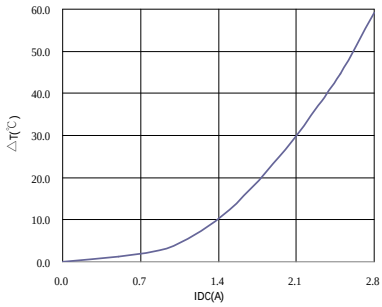
SU10383R5YF□



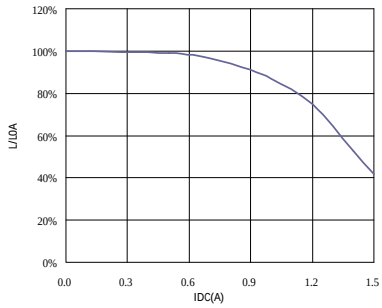


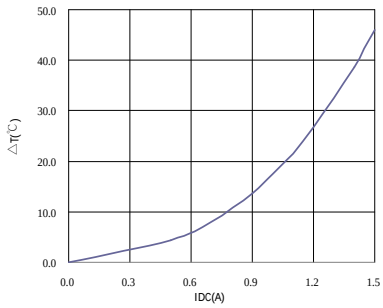
SU1038330YF□



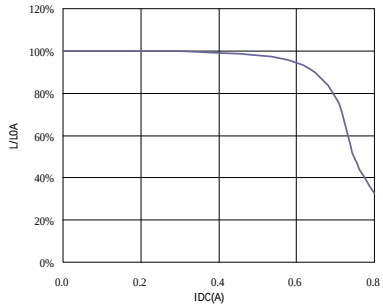


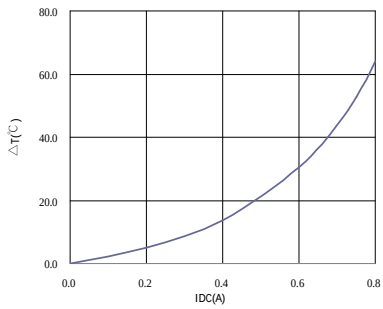
SU1038101YF□





SU1038331YF□





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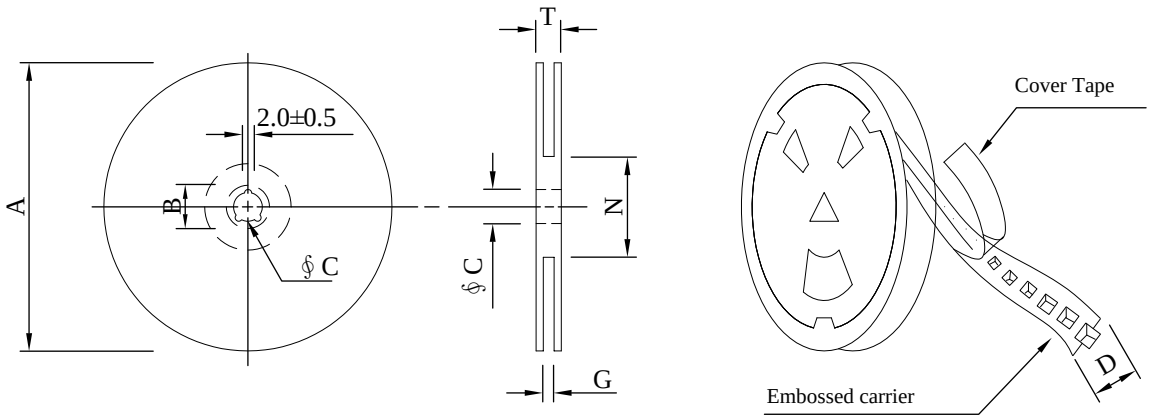
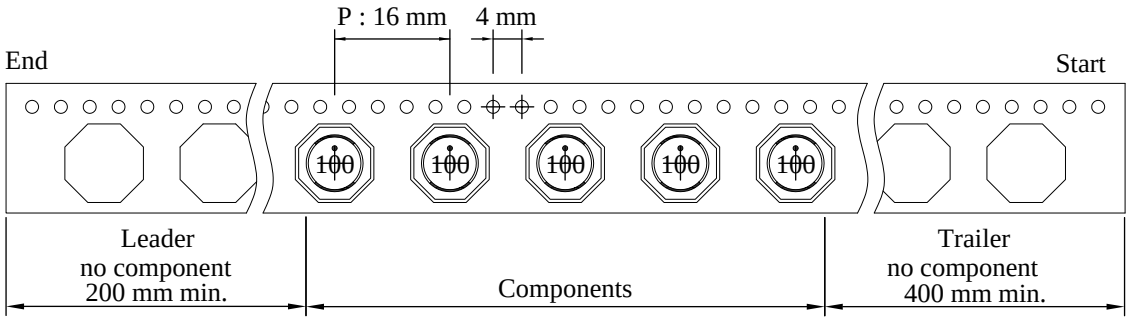
Ⅵ．Packaging information：

(1) Configuration



※Carrier tape width : D



User direction of feed

(2) Dimensions

Unit:mm

Style	A	B	C	D	G	N	T
13 - 24	330	21±0.8	13±0.5	24	26^{+0}	60^{-0}	30.4

(3) Q'TY & G.W. Per package

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (g)	Style	Q'TY (pcs)	G.W. (kg)	Size (cm)
B	800	1480	13 - 24	3,200	7.2	38 x 37 x 22
C	1,000	1730	13 - 24	4,000	8.2	38 x 37 x 22

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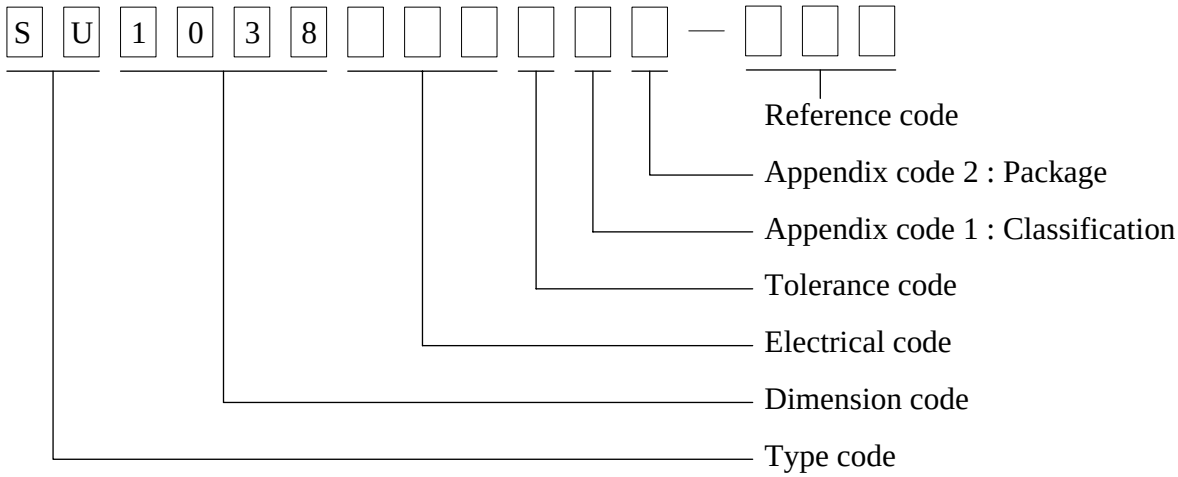
Ⅶ．Drawing number expression：



Appendix code 1：Product Classification

Appendix code 2：Package Information

Code	Inner package	Cover tape	Carrier tape	Bag	Package Q'TY	Remark
B	T /R (Reel package)	UCT	Antistatic	Antistatic	800 pcs	
C	T /R (Reel package)	UCT	Antistatic	Antistatic	1,000 pcs	

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Ⅶ．Reliability test：

Item	Reference documents	Test Condition	Test Specification
1.High Temperature Exposure	MIL-STD-202 Method 108	1.Temperature:125±2℃ 2.Time:96±2 hours.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
2.Temperature Cycling	JESD22-A 104	1.Temperature: -40℃ ~ +125℃ 2.Number of cycle:100 cycles 3.Dwell time:30 minutes	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
3.Biased Humidity Test	MIL-STD-202 Method 103	1.Temperature：85±2 ℃ 2.Humidity: 85% RH. 3.Time:96±2 Hours	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
4.Operational Life	JESD22-A 108	1.Temperature: 125℃(Temp. rise included) 2.Time:96±2 hours. 3.Rated current	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
5.External Visual	JESD22-B 101 & MIL-STD-883 Method 2009	Inspect product constructions, marking and workmanship.	1.No pollution on the surface of products. 2.Clear marking. 3.No crack.
6.Physical Dimensions	JESD22-B 100	Verify physical dimensions to the applicable product detail specification.	Per product specification standard
7.Resistance to solvents	MIL-STD-202 Method 215	Immerse into solvent for 3±0.5 minutes & brush 10 times for 3 cycles.	1.No body change in apperarance. 2.No marking blurred. 3.Inductance shall not change more than ±20%.
8.Vibration Test	MIL-STD-202 Method 204	1.Frequency and Amplitued : 10-2000-10 Hz, 1.5 mm. 2.Direction:X, Y, Z 3.Test duration:2 hours for each direction, 6 hours in total.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
9.Resistance To Soldering Heat Test	MIL-STD-202 Method 210 & J-STD020D.1	1.Highest temperature：245±5℃ 2.Time（temp.≧ 217℃）：60~150 Seconds. 3.IR reflow times：3 times.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
10.Saturation Current	JIS C 6436 & User SPEC.	1.Applied rated current for 5 seconds. 2.Saturation current	Inductance shall not drop more than 35% typ.
11.Over load	JIS C 6436 & User SPEC.	1.Applied one and half rated current for a period of 5 minutes. 2.Rated current	No electrical or mechanical damage
12.Temperature Rise Current	JIS C 6436 & User SPEC.	1.Applied rated current for 10 minutes. 2.Temperature measure by digital surface thermometer. 3.Irms current	Surface temperature rise is less than 40℃ max.
13.Solderability Test	J-STD-002 & JESD22-B 102	1.Baking in pre-testing： 150±5℃ / 16Hours±30 min. 2.Peak temperature：240±5℃ 3.Time（temp.≧217℃）：60~150 seconds. 4.IR reflow times：1 time.	More than 95% soldering coverage min on terminations.
14.Electrical Characteriazation	MIL-STD-202 Method 304 & User SPEC.	1.Operating temperature：-40℃~125℃ 2.Room temperature：25℃.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
15.Drop	CNS-C6354 & GB/T 2423.8	1.Products shall be mounted on SPEC. PCB and dropped down from a height of 1m 2.Drop total time：6 times (Every side of sample drop 2 times)	1. Adhesion on PCB shall be enough. 2. Product appearance shall not break. 3. No electrical damage.
16.Terminal Strength Test	IEC 60068-2-21	1.Apply push force to samples mounted on PCB. 2.Force of 1.8 kg for 60±1 seconds.	After test, inductors shall be no mechanical damage.

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Ⅸ．Change history：

DATE/REV.	DISCRIPTION	DRAWN	CHECKED	APPROVED
20080805-B	Modify the enamelled copper wire： from F class change to F、H class	Miz Hsieh	Nick Chen	Nick Chen
20090506-C	Add package code C			
20100507-D	Modify the 2D drawing			
20120928-E	1. Modify the package size： Dimension N from 50 change to 60 min. 2. Modify the specification form			
20131001-F	Add the current curve			
20131015-G	3. Change the Irms(A)：680Y --- 1.10A → 1.30A 101Y --- 1.30A → 1.10A			
20150603-H	Modify the Reliability test and the Package weight			
20161027-I	1. Add Change history and Drawing number expression 2. Change the current curve format	Miz Hsieh	Nick Chen	Nick Chen
20191119-J	1. Modify the Unit：m/m → mm ; Kg → kg 2. Modify the Resistance to solder heat： 245℃.10 secs.→260℃.10 secs.	Miz Hsieh	Nick Chen	Ken hsiao
20200722-K	1. Modify the 2D drawing 2. Change the D size from 3.4typ. to 2.5typ. 3. Add the E' size	Lijuan Y	Alan Jiang	Roger Fan