SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	QS4818□□□□L□-□□□		
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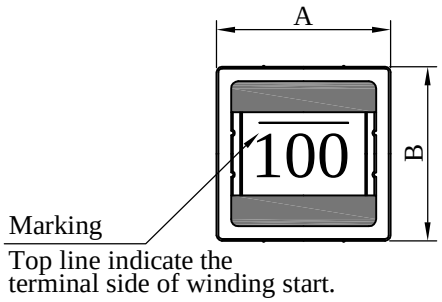
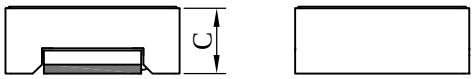
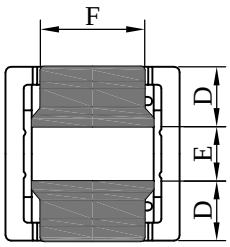
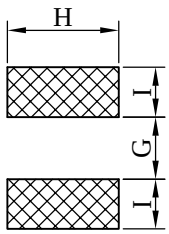
Ⅰ．Configuration and dimensions：









(PCB Pattern)

Unit：mm

A	B	C	D	E	F	G	H	I
4.80 ±0.2	4.80 ±0.2	1.80 ±0.2	1.60 ±0.2	1.60 ±0.2	2.90 ±0.2	1.17 ref.	4.20 ref.	1.98 ref.

Ⅱ．Description：

a．Ferrite drum core construction

b．Magnetically shielded

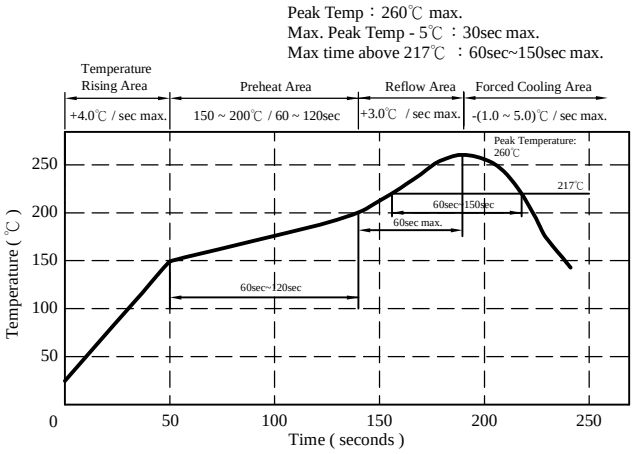
c．Enamelled copper wire：H class

d．Product weight：0.19 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 secs.

千如電子集團
ABC-ATEC ELECTRONICS GROUP

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Ⅳ．Electrical characteristics：

DWG. No.	Inductance (μH)	RDC (mΩ)		SRF (MHz)	Isat (A)	Irms1 (A)	Irms2 (A)
		typ.	max.	typ.	typ.	typ.	typ.
QS48181R0YL□-□□□	1.0 ±30%	19.2	25.0	140	3.60	4.00	5.10
QS48181R5YL□-□□□	1.5 ±30%	25.2	35.0	105	3.00	3.75	4.70
QS48182R2YL□-□□□	2.2 ±30%	33.7	45.0	90	2.43	2.70	3.50
QS48183R3YL□-□□□	3.3 ±30%	42.8	55.0	70	2.10	2.50	3.10
QS48183R9YL□-□□□	3.9 ±30%	54.5	70.0	65	1.90	2.20	2.70
QS48184R7YL□-□□□	4.7 ±30%	59.4	80.0	55	1.50	2.00	2.60
QS48185R6YL□-□□□	5.6 ±30%	74.3	90.0	50	1.35	1.75	2.30
QS48186R8YL□-□□□	6.8 ±30%	82.1	100.0	45	1.25	1.65	2.20
QS48188R2YL□-□□□	8.2 ±30%	97.7	130.0	43	1.15	1.55	1.90
QS4818100ML□-□□□	10.0 ±20%	109.8	140.0	40	1.05	1.45	1.80
QS4818120ML□-□□□	12.0 ±20%	132.2	170.0	37	0.95	1.30	1.60
QS4818150ML□-□□□	15.0 ±20%	176.7	220.0	30	0.87	1.25	1.50
QS4818180ML□-□□□	18.0 ±20%	214.8	280.0	28	0.79	1.10	1.40
QS4818220ML□-□□□	22.0 ±20%	280.3	360.0	25	0.72	1.00	1.25
QS4818270ML□-□□□	27.0 ±20%	317.6	400.0	22	0.63	0.90	1.15
QS4818330ML□-□□□	33.0 ±20%	399.1	500.0	20	0.56	0.70	0.90
QS4818390ML□-□□□	39.0 ±20%	439.3	540.0	17	0.53	0.63	0.80
QS4818470ML□-□□□	47.0 ±20%	504.1	630.0	16	0.47	0.60	0.75
QS4818560ML□-□□□	56.0 ±20%	643.1	800.0	14	0.45	0.55	0.67
QS4818680ML□-□□□	68.0 ±20%	778.4	970.0	13	0.40	0.50	0.62
QS4818820ML□-□□□	82.0 ±20%	960.5	1200.0	12	0.35	0.45	0.57
QS4818101ML□-□□□	100.0 ±20%	1158.4	1400.0	10	0.33	0.38	0.50

1). Electrical specifications at 25℃

2). Inductance Test Freq :100kHz /0.1V

3). Isat base on △L / L0A=35% typ.(Approximately transient current)

4). Irms1 base on Temp. rise 20℃ typ.

5). Irms2 base on Temp. rise 40℃ typ.

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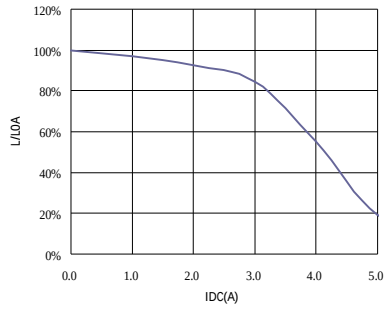
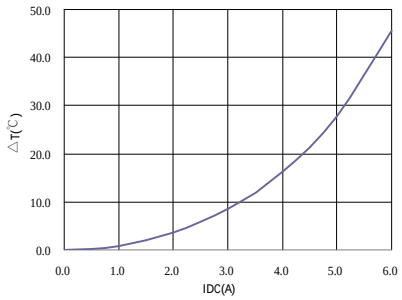
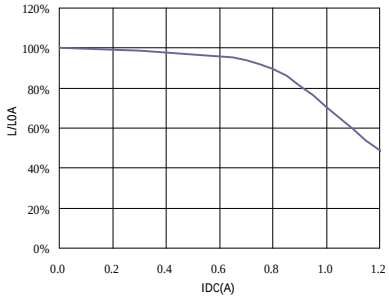
Ⅴ . Curve：

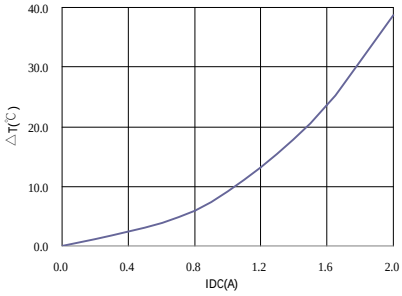
QS48181R0YL□



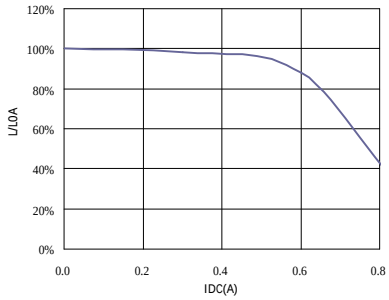


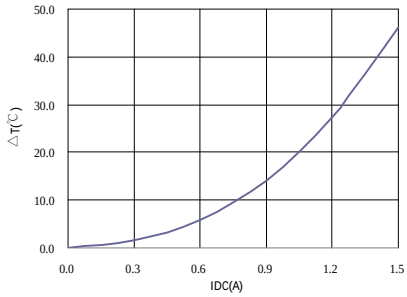
QS4818100ML□



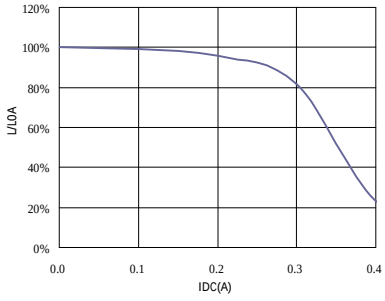


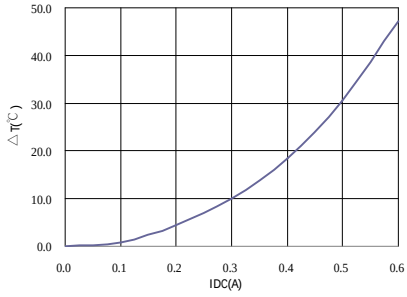
QS4818220ML□





QS4818101ML□





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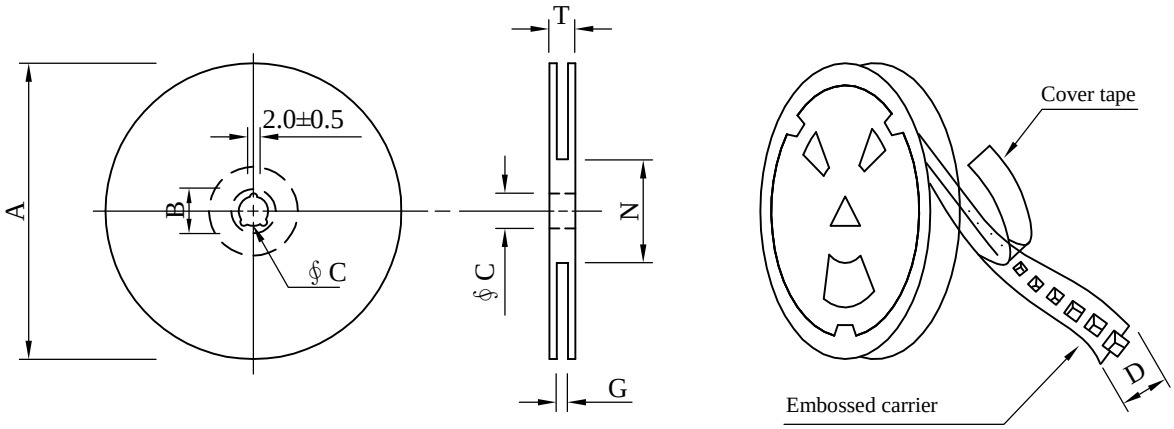
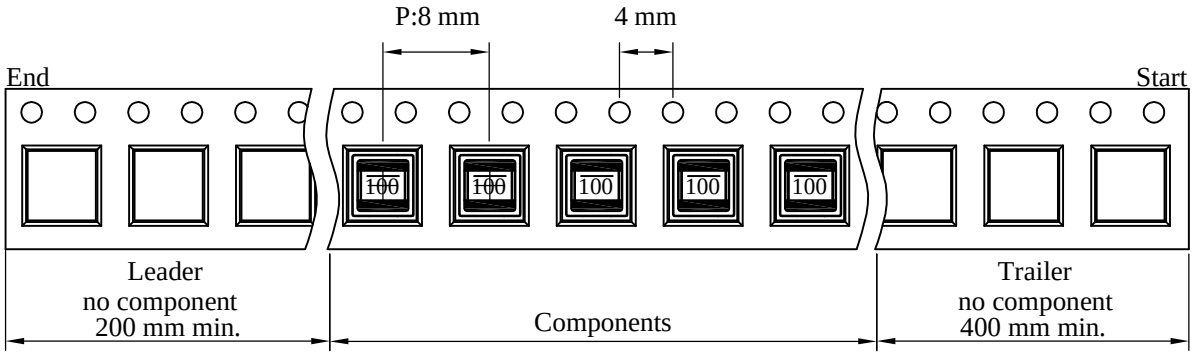
Ⅵ．Packaging information：

(1) Configuration



※Carrier tape width : D



User direction of feed

(2) Dimensions

Unit:mm

Style	A	B	C	D	G	N	T
07 - 12	178	21±0.8	13	12	14^{+0}	50^{-0}	16.5

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

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (w)	Style	Q'TY (pcs)	G.W. (kg)	Size (cm)
B	800	260	07 - 12	32,000	11.7	42 x 41 x 24
C	1,000	300	07 - 12	40,000	13.2	42 x 41 x 24

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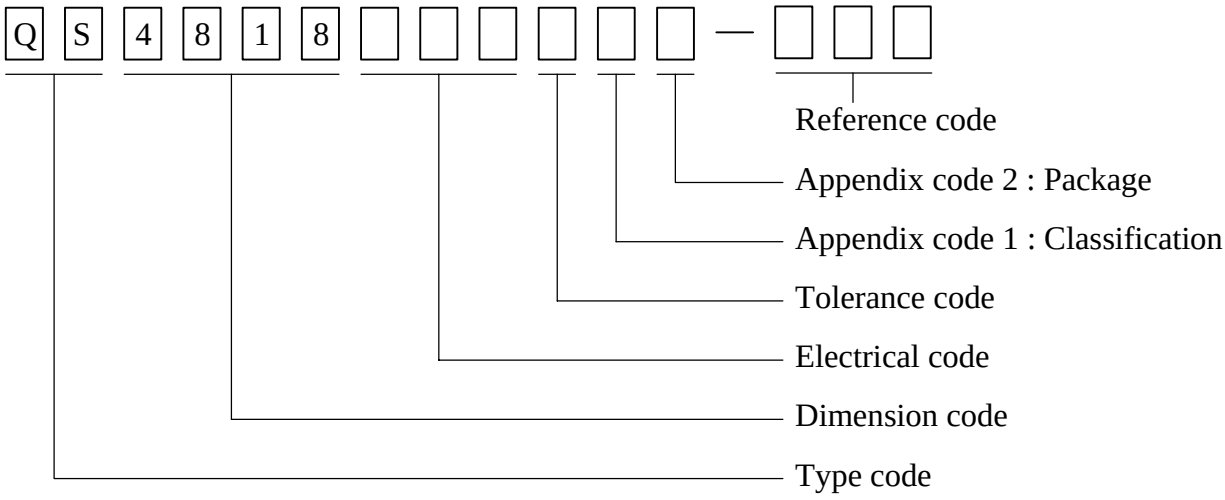
Ⅶ．Drawing number expression：



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	Non-antistatic	Antistatic	800 pcs	
C	T /R (Reel package)	UCT	Non-antistatic	Antistatic	1,000 pcs	

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Ⅷ．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.Apply 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：260±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.Apply 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.Apply 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.Apply Irms current.	Surface temperature rise is less than 40℃ typ.
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.