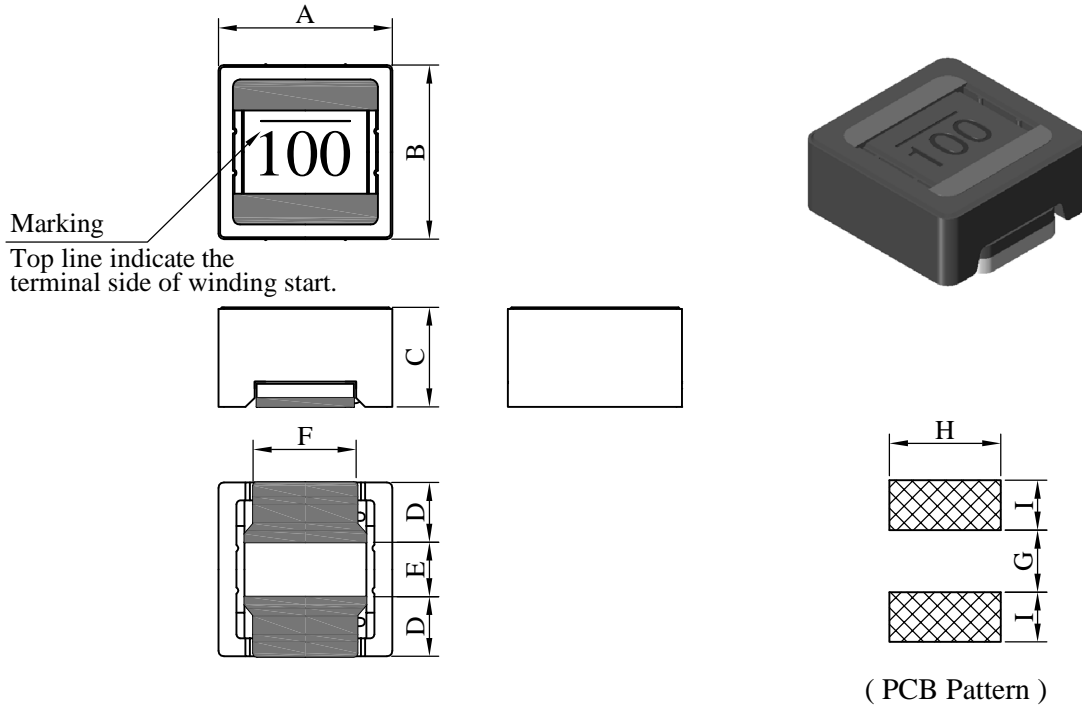


SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.		QS3818□□□□L□-□□□		
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I . Configuration and dimensions :



Unit : mm

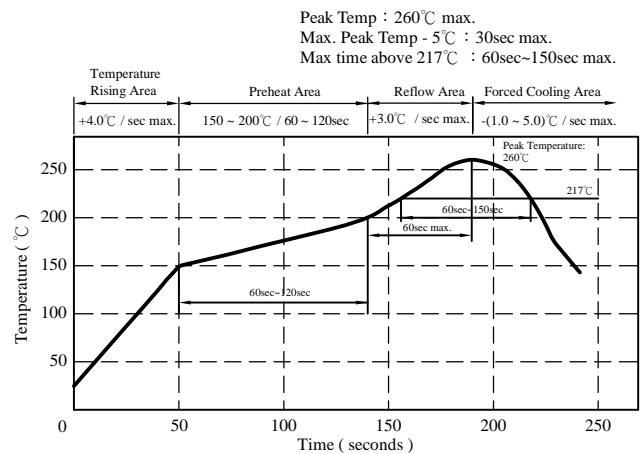
A	B	C	D	E	F	G	H	I
3.80 ±0.2	3.80 ±0.2	1.80 ±0.2	1.30 ±0.2	1.20 ±0.2	2.00 ±0.2	0.80 ref.	2.90 ref.	1.70 ref.

II . Description :

- a . Ferrite drum core construction
- b . Magnetically shielded
- c . Enamelled copper wire : H class
- d . Product weight : 0.11 g (ref.)
- e . Moisture sensitivity Level 1
- f . Products comply with RoHS' requirements
- g . Halogen free

III . General specification :

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



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IV . Electrical characteristics :

DWG. No.	Inductance (μH)	RDC (mΩ)		SRF (MHz) typ.	Isat (A) typ.	Irms1 (A) typ.	Irms2 (A) typ.
		typ.	max.				
QS38181R0YL□-□□□	1.0 ±30%	27.5	37.0	165	2.10	2.75	3.60
QS38181R5YL□-□□□	1.5 ±30%	33.0	47.0	125	1.60	2.50	3.10
QS38182R2YL□-□□□	2.2 ±30%	45.5	60.0	95	1.40	2.00	2.60
QS38182R7YL□-□□□	2.7 ±30%	49.5	65.0	90	1.30	1.90	2.50
QS38183R3YL□-□□□	3.3 ±30%	64.5	85.0	75	1.15	1.70	2.10
QS38183R9YL□-□□□	3.9 ±30%	80.0	105.0	70	1.05	1.60	2.00
QS38184R7YL□-□□□	4.7 ±30%	90.0	120.0	60	0.95	1.50	1.90
QS38186R8YL□-□□□	6.8 ±30%	125.0	160.0	50	0.80	1.25	1.60
QS3818100ML□-□□□	10.0 ±20%	180.0	235.0	40	0.65	1.00	1.30
QS3818150ML□-□□□	15.0 ±20%	260.0	340.0	30	0.55	0.80	1.05
QS3818220ML□-□□□	22.0 ±20%	395.0	500.0	25	0.43	0.65	0.80
QS3818330ML□-□□□	33.0 ±20%	590.0	740.0	20	0.34	0.50	0.65
QS3818470ML□-□□□	47.0 ±20%	825.0	1030.0	15	0.30	0.45	0.56
QS3818680ML□-□□□	68.0 ±20%	1280.0	1600.0	13	0.24	0.38	0.46
QS3818101ML□-□□□	100.0 ±20%	2040.0	2600.0	11	0.20	0.28	0.34

- 1). Electrical specifications at 25°C
- 2). Inductance Test Freq :100kHz /0.1V
- 3). Isat base on $\Delta L / L0A=35\%$ typ.(Approximately transient current)
- 4). Irms1 base on Temp. rise 20°C typ.
- 5). Irms2 base on Temp. rise 40°C typ.

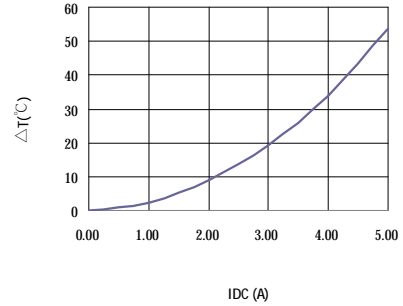
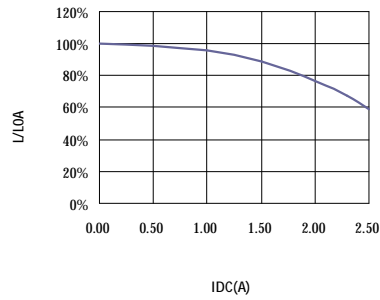
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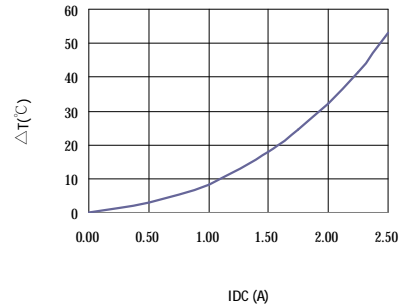
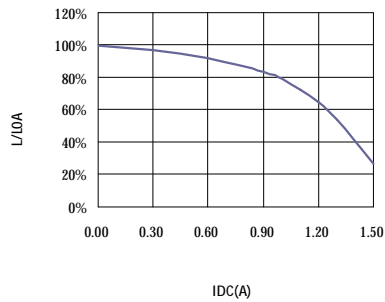
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V . Curve :

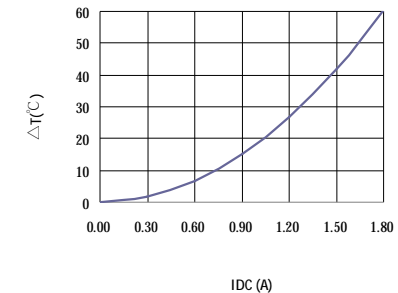
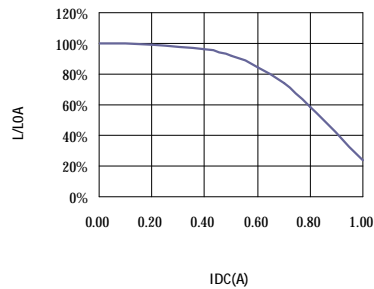
QS38181R0YL□



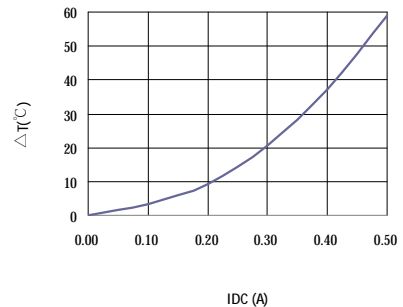
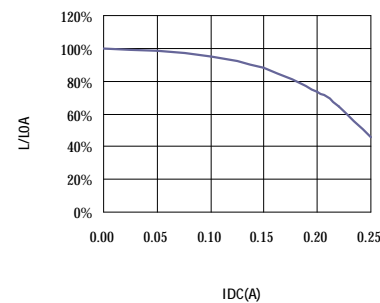
QS38184R7YL□



QS3818100ML□



QS3818101ML□



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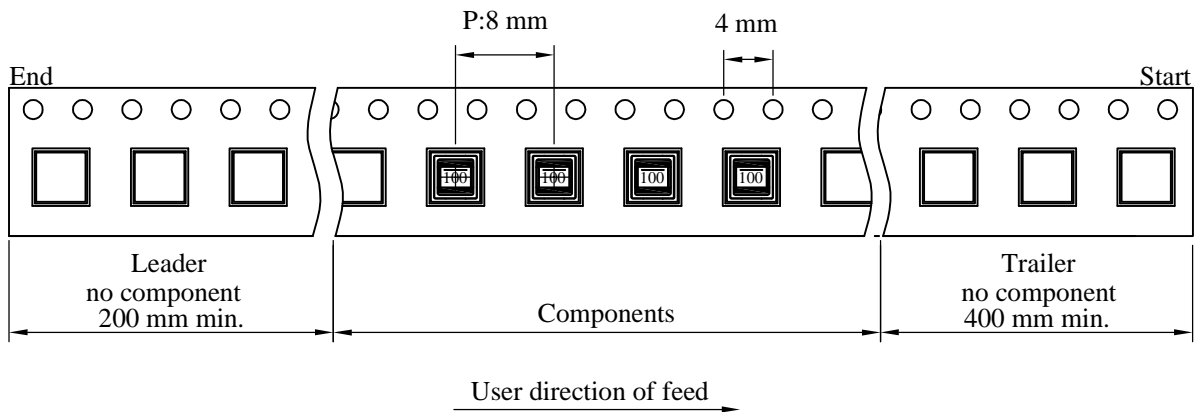
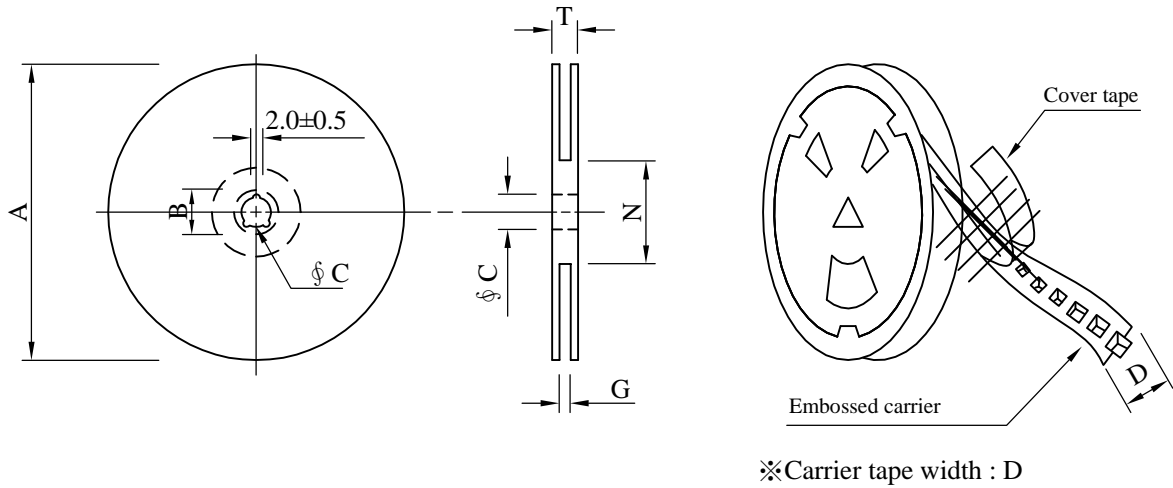
SPECIFICATION FOR APPROVAL

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VI . Packaging information :

(1) Configuration



(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

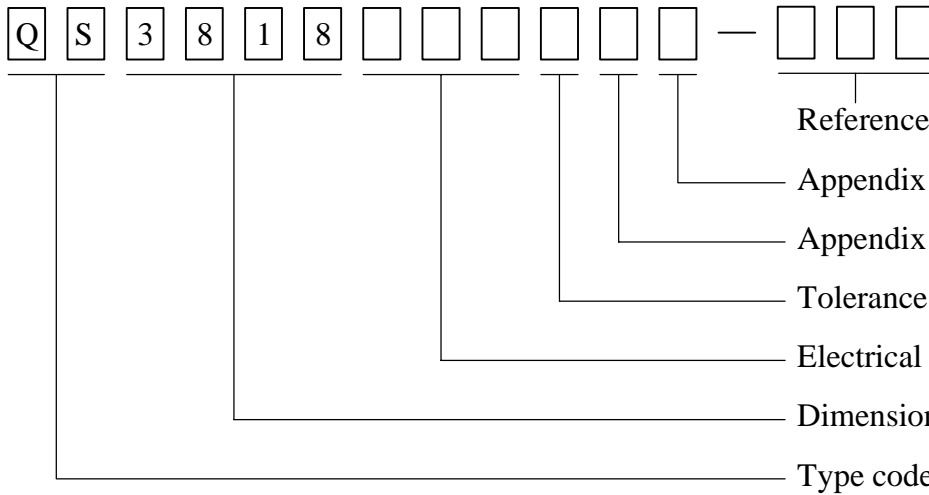
Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (g)	Style	Q'TY (pcs)	G.W. (kg)	Size (cm)
B	1,000	220	07 - 12	40,000	10.0	42 x 41 x 24

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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	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 appearance. 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.

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