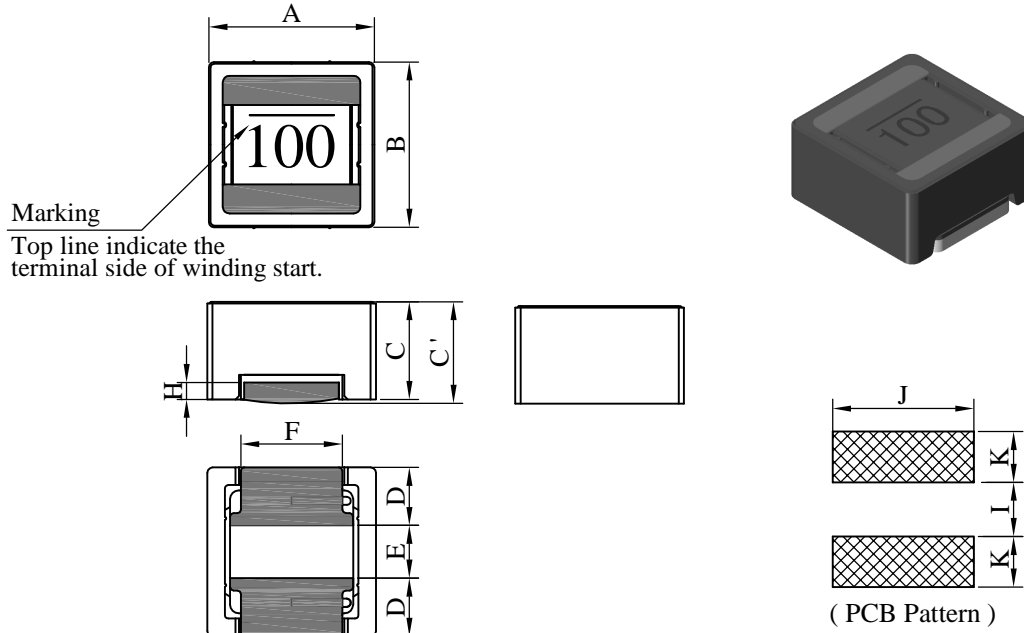


# SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	QS5828□□□□L□-□□□		
		REV.	20191106-G	PAGE	1

## I . Configuration and dimensions :



Unit : mm

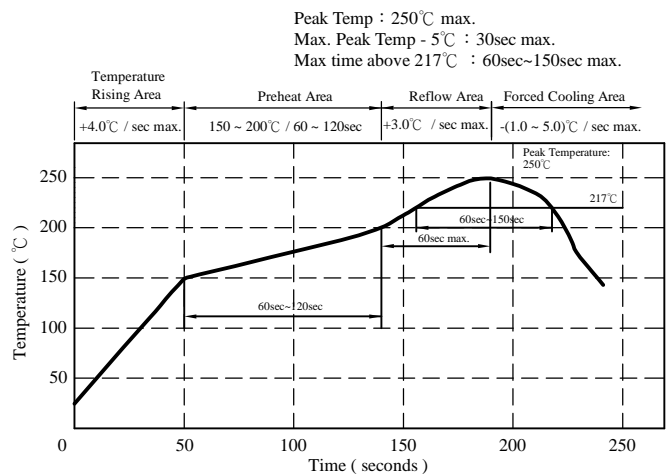
A	B	C	C'	D	E	F	H	I	J	K
5.80 ±0.30	5.80 ±0.30	2.80 ±0.20	3.20 max.	1.90 ±0.30	2.00 ±0.30	3.40 ±0.20	0.50 ±0.20	1.60 ref.	4.85 ref.	2.30 ref.

## II . Description :

- a . Ferrite drum core construction
- b . Magnetically shielded
- c . Enamelled copper wire : H class
- d . Product weight : 0.47g (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.



AR-001C

# SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	QS5828□□□□L□-□□□		
		REV.	20191106-G	PAGE	2

## IV . Electrical characteristics :

DWG. No.	Inductance ( $\mu$ H)	SRF ( MHz ) typ.	RDC ( m $\Omega$ )		Isat ( A ) typ.	Irms1 ( A ) typ.	Irms2 ( A ) typ.
			typ.	max.			
QS58282R6YL□-□□□	2.6 $\pm$ 30%	78.0	23.0	30.0	3.150	3.250	4.500
QS58284R7YL□-□□□	4.7 $\pm$ 30%	48.0	31.0	40.0	2.570	3.000	4.000
QS58285R3YL□-□□□	5.3 $\pm$ 30%	46.0	35.0	42.0	2.200	2.800	3.800
QS58286R2YL□-□□□	6.2 $\pm$ 30%	41.0	45.0	57.0	2.100	2.600	3.500
QS58288R2YL□-□□□	8.2 $\pm$ 30%	37.0	49.0	63.0	1.620	2.300	3.000
QS5828100ML□-□□□	10.0 $\pm$ 20%	32.0	64.0	83.0	1.550	2.000	2.600
QS5828120ML□-□□□	12.0 $\pm$ 20%	25.0	76.0	100.0	1.500	1.850	2.500
QS5828150ML□-□□□	15.0 $\pm$ 20%	25.0	90.0	115.0	1.350	1.700	2.250
QS5828180ML□-□□□	18.0 $\pm$ 20%	22.0	100.0	130.0	1.300	1.600	2.150
QS5828220ML□-□□□	22.0 $\pm$ 20%	19.0	125.0	160.0	1.150	1.350	1.750
QS5828270ML□-□□□	27.0 $\pm$ 20%	18.0	147.0	180.0	1.050	1.250	1.650
QS5828330ML□-□□□	33.0 $\pm$ 20%	15.0	190.0	230.0	0.920	1.100	1.400
QS5828390ML□-□□□	39.0 $\pm$ 20%	14.0	200.0	260.0	0.860	1.050	1.370
QS5828470ML□-□□□	47.0 $\pm$ 20%	13.0	247.0	305.0	0.780	1.000	1.330
QS5828560ML□-□□□	56.0 $\pm$ 20%	11.0	315.0	395.0	0.700	0.850	1.130
QS5828680ML□-□□□	68.0 $\pm$ 20%	10.0	375.0	470.0	0.650	0.800	1.030
QS5828820ML□-□□□	82.0 $\pm$ 20%	9.0	425.0	530.0	0.600	0.730	0.950
QS5828101ML□-□□□	100.0 $\pm$ 20%	8.0	515.0	645.0	0.530	0.600	0.800
QS5828151ML□-□□□	150.0 $\pm$ 20%	7.0	745.0	910.0	0.450	0.550	0.700
QS5828181ML□-□□□	180.0 $\pm$ 20%	5.5	885.0	1100.0	0.420	0.480	0.640
QS5828221ML□-□□□	220.0 $\pm$ 20%	5.0	1027.0	1200.0	0.370	0.450	0.620
QS5828331ML□-□□□	330.0 $\pm$ 20%	4.0	1800.0	2100.0	0.300	0.350	0.460
QS5828681ML□-□□□	680.0 $\pm$ 20%	3.0	4045.0	4800.0	0.210	0.230	0.310

- 1). Electrical specifications at 25°C
- 2). Inductance Test condition : 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.

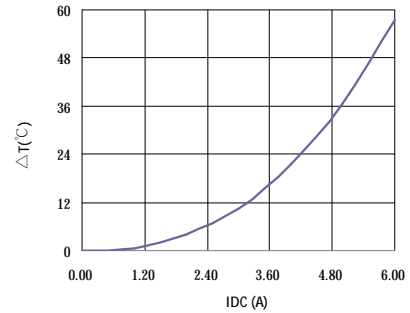
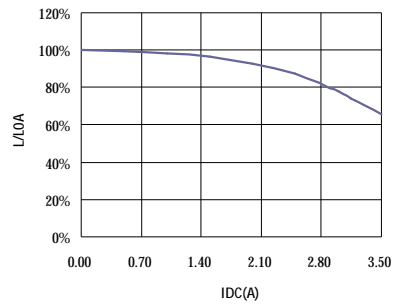
# SPECIFICATION FOR APPROVAL

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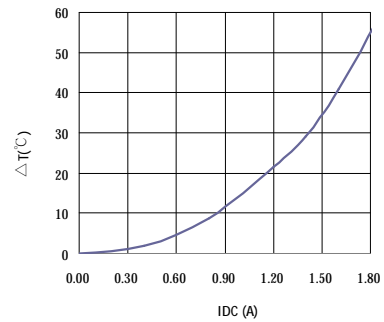
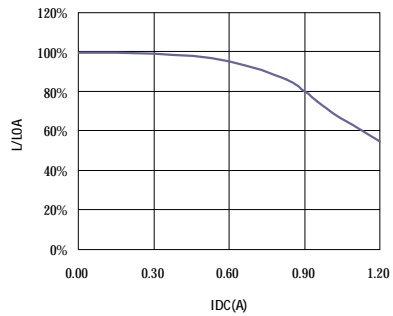
PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	QS5828□□□□L□-□□□		
		REV.	20191106-G	PAGE	3

V . Curve :

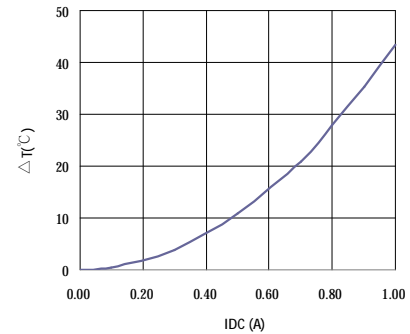
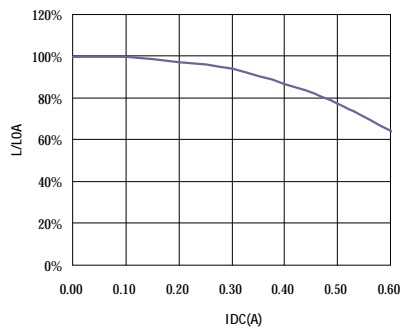
QS58282R6YL□



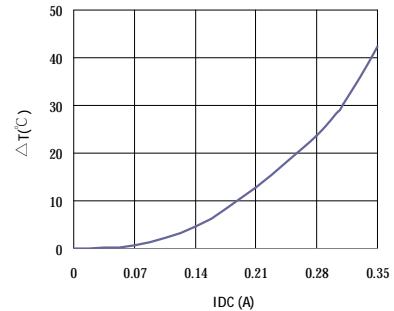
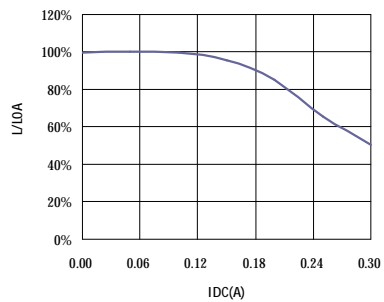
QS5828330ML□



QS5828101ML□



QS5828681ML□



AR-001C

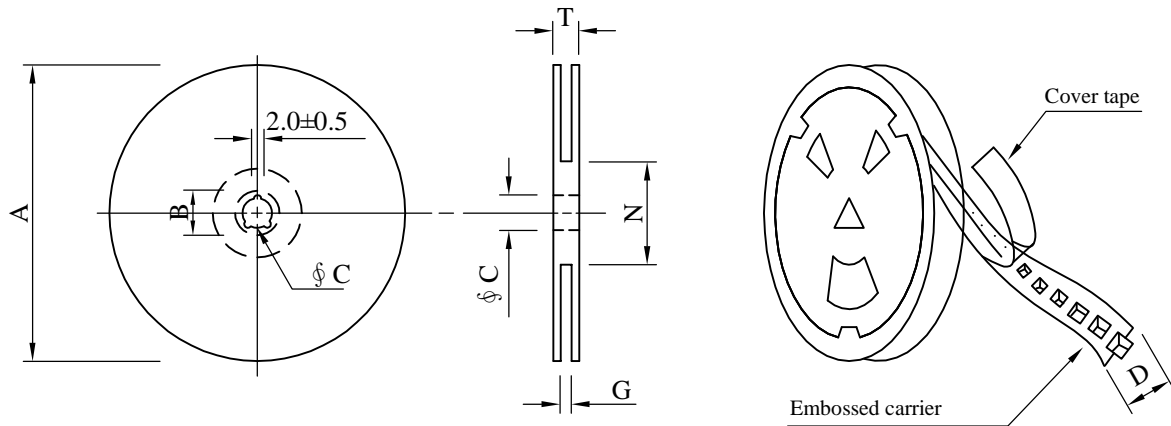
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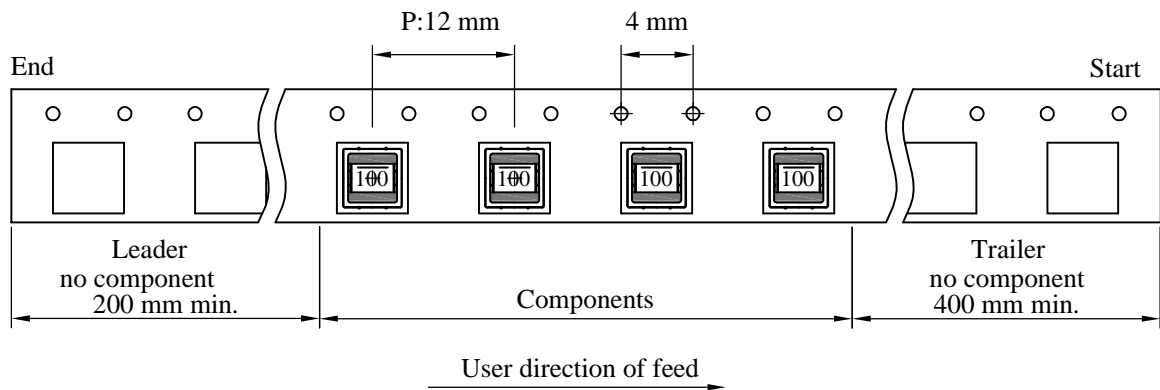
<b>PROD. NAME</b>	Shielded SMD Power Inductor	<b>ABC'S DWG NO.</b>	QS5828□□□□L□-□□□		
		<b>REV.</b>	20191106-G	<b>PAGE</b>	4

## VI . Packaging information :

### (1) Configuration



※Carrier tape width : D



### (2) Dimensions

Unit:mm

Style	A	B	C	D	G	N	T
07 - 16	178	21±0.8	13	16	18 <sup>+0</sup>	50 <sup>-0</sup>	20.5
13 - 16	330	21±0.8	13±0.5	16	18 <sup>+0</sup>	50 <sup>-0</sup>	22.4

### (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 , D	400	270	07 - 16	12,000	9.6	42 x 41 x 24
C , E	1,500	1,000	13 - 16	9,000	7.4	38 x 37 x 22

AR-001C



# SPECIFICATION FOR APPROVAL

REF. :

<b>PROD. NAME</b>	<b>Shielded SMD Power Inductor</b>	<b>ABC'S DWG NO.</b>	QS5828□□□□L□-□□□		
		<b>REV.</b>	20191106-G	<b>PAGE</b>	6

## 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.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 : 250±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℃ 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 heigh of 1m 2.Drop total time : 6 times (Every side ofsample 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.

AR-001C