

ECN/PCN No.: 1153

For Manufacturer			
Product Description: Power Inductor	Abracon Part Number / Part Series: ASPI-7318		<input checked="" type="checkbox"/> Series <input type="checkbox"/> Part Number
Affected Revision: D	New Revision: E	Application:	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Non-Safety

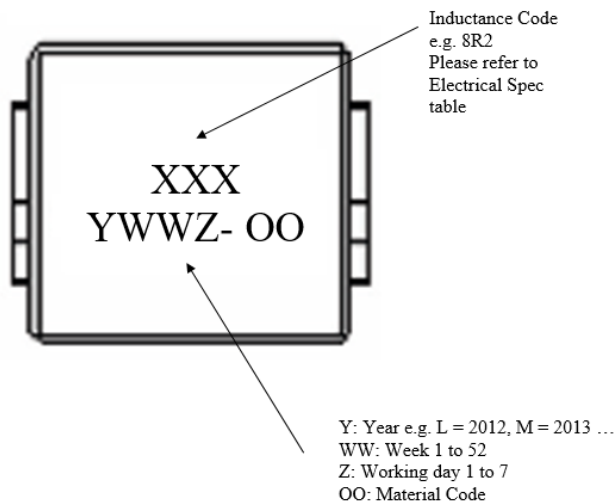
Prior to Change:

### 1.0 Key Electrical specs

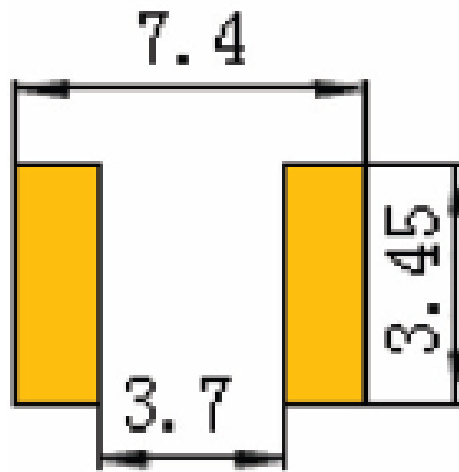
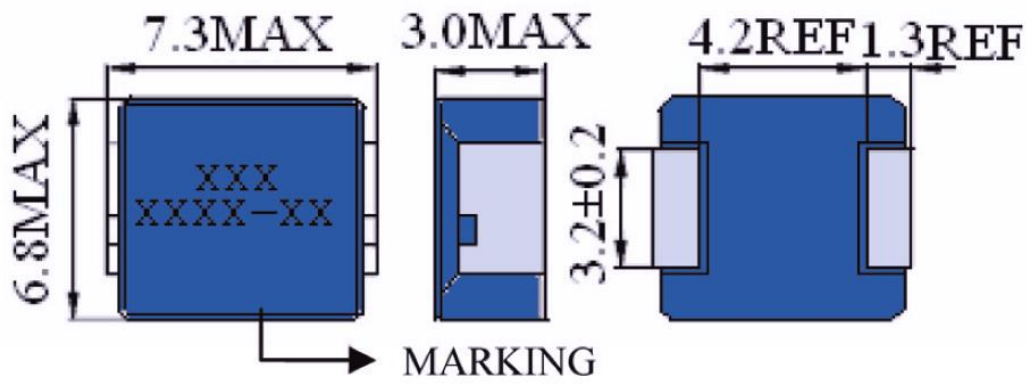
Part Number ASPI-7318- Inductance Code	L ( $\mu$ H)	Tolerance (M, N)	R <sub>DC</sub> Max	I <sub>sat</sub> Typ (A)	I <sub>rms</sub> Typ (A)
			m $\Omega$		
ASPI-7318-R10	0.10	N	1.7	50	30
ASPI-7318-R15	0.15	N	2.5	45	26
ASPI-7318-R20	0.20	N	3.0	41	24
ASPI-7318-R22	0.22	N	3.1	34	22
ASPI-7318-R33	0.33	M	3.9	28	20
ASPI-7318-R47	0.47	M	4.2	24	17.5
ASPI-7318-R56	0.56	M	5.3	23	15.5
ASPI-7318-R68	0.68	M	5.5	22	15.5
ASPI-7318-R82	0.82	M	8.0	19	13
ASPI-7318-1R0	1.0	M	10.0	17	11
ASPI-7318-1R5	1.5	M	15	15	9
ASPI-7318-2R2	2.2	M	20	12	8
ASPI-7318-2R5	2.5	M	22	11	8
ASPI-7318-3R3	3.3	M	30	10	6
ASPI-7318-4R7	4.7	M	40	8	5
ASPI-7318-5R6	5.6	M	54	7.5	5
ASPI-7318-6R8	6.8	M	60	7	4.5
ASPI-7318-8R2	8.2	M	68	6	4
ASPI-7318-100	10.0	M	105	5.5	3
ASPI-7318-220	22.0	M	230	3	2

5.0 Inductance and Temperature Curve -original plot only had 3 inductors plotted.

### 6.0 Marking



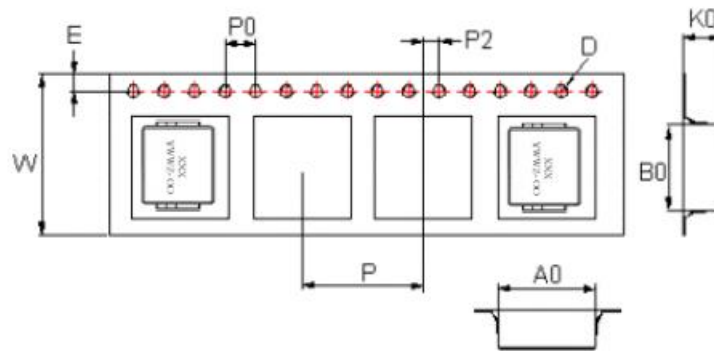
**7.0 Mechanical Dimensions**



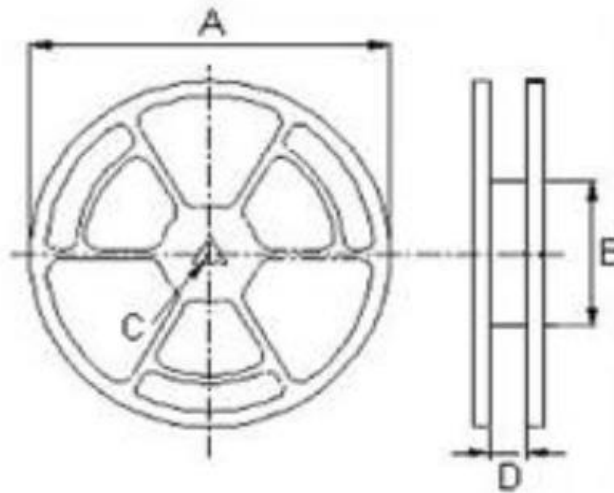
**8.1 Solder Reflow Profile - original reflow diagram**

9.0 Packing

T= tape and reel (1,000pcs/reel)



A <sub>0</sub>	B <sub>0</sub>	K <sub>0</sub>	D	E	W	P	P <sub>0</sub>	P <sub>2</sub>
6.9 ref.	7.6 ref.	3.4 ref.	1.5 ref.	1.75 ref.	16 ref.	12 ref.	4 ref.	2 ref.



A	B	C	D
330	100 ref.	13 ref.	16 ref.

Dimensions mm

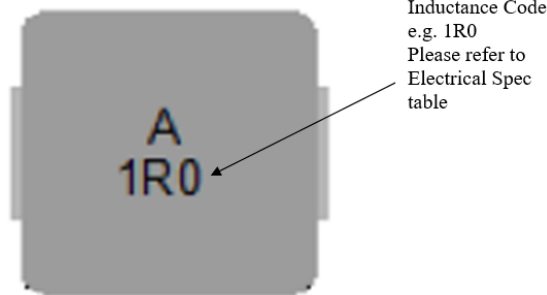
**After Change:**

**1.0 Key Electrical specs**

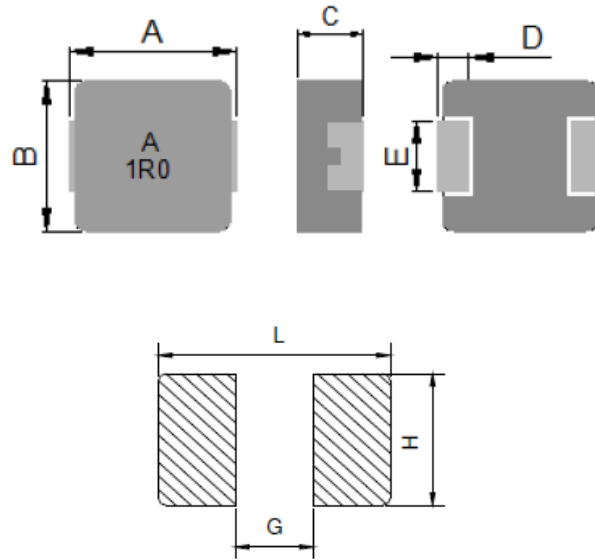
Part Number ASPI-7318- Inductance Code	L ( $\mu$ H)	Tolerance (M, N)	R <sub>DC</sub> Max	I <sub>sat</sub> Typ (A)	I <sub>rms</sub> Typ (A)
			m $\Omega$		
ASPI-7318-R10	0.10	N	1.7	60	32.5
ASPI-7318-R15	0.15	N	1.9	45	27
ASPI-7318-R20	0.20	N	2.5	41	24
ASPI-7318-R22	0.22	N	2.8	40	23
ASPI-7318-R33	0.33	M	3.9	32	20
ASPI-7318-R47	0.47	M	4.0	26	17.5
ASPI-7318-R56	0.56	M	5.0	25.5	16.0
ASPI-7318-R68	0.68	M	5.5	25	15.5
ASPI-7318-R82	0.82	M	8.0	24	13.0
ASPI-7318-1R0	1.0	M	10.0	22	11.0
ASPI-7318-1R5	1.5	M	15	18	9.0
ASPI-7318-2R2	2.2	M	20	14	8.0
ASPI-7318-2R5	2.5	M	22	13	7.0
ASPI-7318-3R3	3.3	M	30	13.5	6.0
ASPI-7318-4R7	4.7	M	40	10	5.5
ASPI-7318-5R6	5.6	M	48	9.0	5.0
ASPI-7318-6R8	6.8	M	60	8	4.5
ASPI-7318-8R2	8.2	M	68	7.5	4.0
ASPI-7318-100	10.0	M	85	6.0	3.5
ASPI-7318-220	22.0	M	190	3.5	2.0

**5.0 Inductance and Temperature Curve** - Removed due to inability to add all inductor plots in the series.

**6.0 Marking**



**7.0 Mechanical Dimensions**



A	B	C	D	E	L	G	H
7.3±0.3	6.6±0.3	2.8±0.2	1.8±0.3	3.0±0.3	8.4 Ref	2.5 Ref	3.5 Ref

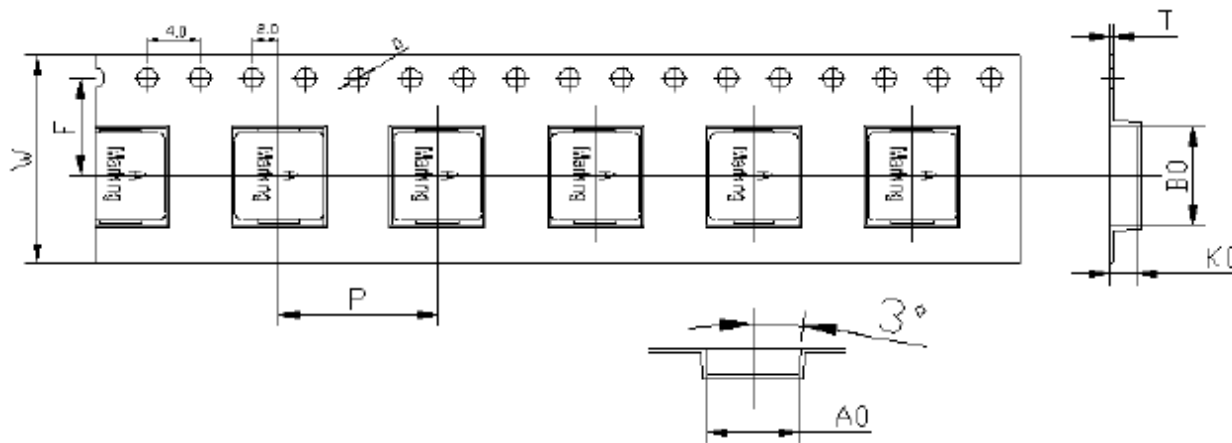
**8.1 Solder Reflow Profile - Updated with latest graphics**

## 9.0 Packaging

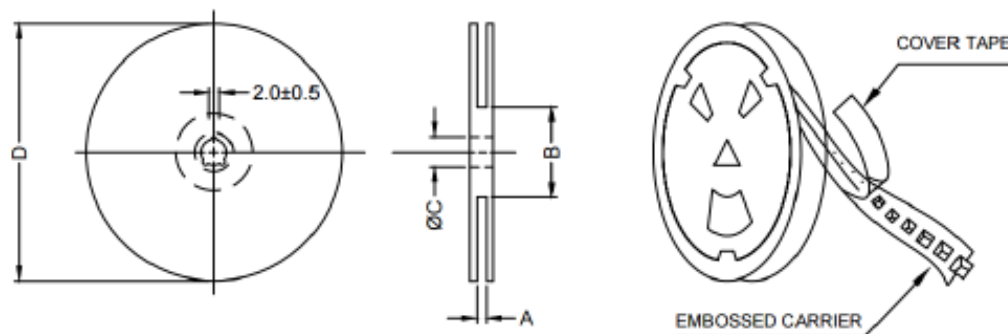
T= tape and reel (1,000pcs/reel)

Inner Box: 2,000pcs

Carton: 8,000pcs



$A_0$	$B_0$	$K_0$	$F$	$W$	$P$	$t$	$D$
$7.0 \pm 0.1$	$7.7 \pm 0.1$	$3.3 \pm 0.1$	$7.5 \pm 0.1$	$16 \pm 0.3$	$12 \pm 0.1$	$0.35 \pm 0.05$	$1.5 \pm 0.1$



Type	A	B	C	D
13" x 16mm	$16.4 + 2/-0$	$100 \pm 2$	$13 + 0.5/-0.2$	330

Dimension: mm

**Cause/Reason for Change:**

This is a general SCD update and does not affect the products form, fit or function. Updates to electrical parameters, mechanical graphics, soler profile graphics, etc

**Change Plan**

<b>Effective Date:</b> 3/26/2020	<b>Additional Remarks:</b>
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**Change Declaration:**

This is a general SCD update and does not affect the products form, fit or function.

<b>Issued Date:</b> 3/26/2020	<b>Issued By:</b> <i>Gerald Capwell</i>	<b>Issued Department:</b> Engineering
<b>Approval:</b> <i>Syed Raza</i> Engineering VP	<b>Approval:</b> <i>Reuben Quintanilla</i> Quality Manager	<b>Approval:</b> <i>Ying Huang</i> Purchasing Director

**For Abracon EOL only**

<b>Last Time Buy (if applicable):</b>	<b>Alternate Part Number / Part Series:</b>
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<b>Additional Approval:</b>	<b>Additional Approval:</b>	<b>Additional Approval:</b>
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**Customer Approval (If Applicable)**
**Qualification Status:**

Approved  Not accepted

*Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.*

<b>Customer Part Number:</b>	<b>Customer Project:</b>
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<b>Company Name:</b>	<b>Company Representative:</b>	<b>Representative Signature:</b>
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<b>Customer Remarks:</b>
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SAP Material ID	SAP_PARTY_ID	Manufacturer Part No
9757825	ABR	ASPI-7318-100M-T
107203029	ABR	ASPI-7318-1R0M-T
107203030	ABR	ASPI-7318-1R5M-T
107203043	ABR	ASPI-7318-3R3M-T
9757822	ABR	ASPI-7318-4R7M-T
9757823	ABR	ASPI-7318-6R8M-T
9757824	ABR	ASPI-7318-8R2M-T
9904721	ABR	ASPI-7318-R10N-T
9757817	ABR	ASPI-7318-R20M-T
107203035	ABR	ASPI-7318-R22M-T
107203054	ABR	ASPI-7318-R33M-T
9757818	ABR	ASPI-7318-R47M-T
9757819	ABR	ASPI-7318-R68M-T
9757820	ABR	ASPI-7318-R82M-T
107203031	ABR	ASPI-7318-2R2M-T
7001238695	ABR	ASPI-7318-R15N-T
7001238696	ABR	ASPI-7318-R20N-T
7001238697	ABR	ASPI-7318-R22N-T
9757816	ABR	ASPI-7318-R15M-T
9757821	ABR	ASPI-7318-2R5M-T



# HIGH CURRENT SHIELDED POWER INDUCTOR



7.3 x 6.8 x 3.0 mm

ASPI-7318

MSL Level:1

\*Not recommended for D.I. water wash



RoHS  
Compliant

## FEATURES:

- 100%lead (Pb) free.
- Lowest DCR/uH, in this package size.
- Frequency range up to 5.0MHz
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction.

## APPLICATIONS:

- Notebook/Desktop/Server applications.
- Low profile, high current power supplies.
- Battery powered devices.
- DC/DC converter for Field Programmable Gate Array(FPGA)

## ELECTRICAL SPECIFICATIONS:

Abrakon P/N:	ASPI-7318-xxx
Operating Temperature :	-55°C to +125°C
Storage Temperature	Less than +25°C, Humidity<75% RH.

Part Number ASPI-7318- Inductance Code	L (μH)	Tolerance (M, N)	R <sub>DC</sub> Max	I <sub>sat</sub> Typ (A)	I <sub>rms</sub> Typ (A)
			mΩ		
ASPI-7318-R10	0.10	N	1.7	60	32.5
ASPI-7318-R15	0.15	N	1.9	45	27
ASPI-7318-R20	0.20	N	2.5	41	24
ASPI-7318-R22	0.22	N	2.8	40	23
ASPI-7318-R33	0.33	M	3.9	32	20
ASPI-7318-R47	0.47	M	4.0	26	17.5
ASPI-7318-R56	0.56	M	5.0	25.5	16.0
ASPI-7318-R68	0.68	M	5.5	25	15.5
ASPI-7318-R82	0.82	M	8.0	24	13.0
ASPI-7318-1R0	1.0	M	10.0	22	11.0
ASPI-7318-1R5	1.5	M	15	18	9.0
ASPI-7318-2R2	2.2	M	20	14	8.0
ASPI-7318-2R5	2.5	M	22	13	7.0
ASPI-7318-3R3	3.3	M	30	13.5	6.0
ASPI-7318-4R7	4.7	M	40	10	5.5
ASPI-7318-5R6	5.6	M	48	9.0	5.0
ASPI-7318-6R8	6.8	M	60	8	4.5
ASPI-7318-8R2	8.2	M	68	7.5	4.0
ASPI-7318-100	10.0	M	85	6.0	3.5
ASPI-7318-220	22.0	M	190	3.5	2.0

## Test Conditions

1. Inductance tested at 200kHz, 0.25V, 0A; Tolerance M=±20%; N=±30%
2. All test data is in reference to 25°C ambient.
3. Isat will cause the inductance value to drop approximately 20%
4. Irms will cause an approximate ΔT of 40°C
5. The part temperature (ambient + temp. rise) should not exceed 125°C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
6. Please contact Abracon for the availability of other inductance values.

# HIGH CURRENT SHIELDED POWER INDUCTOR



7.3 x 6.8 x 3.0 mm

ASPI-7318



## ➤ OPTIONS AND PART IDENTIFICATION:

ASPI-7318---

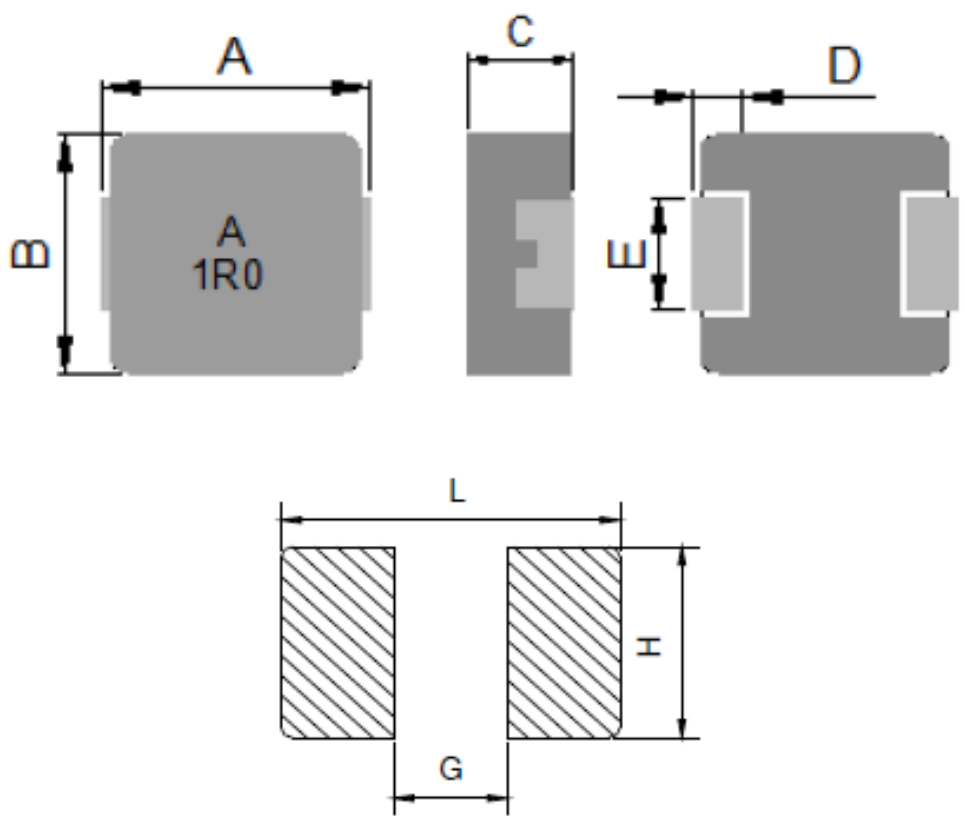
**Inductance Code**  
Please refer to the Electrical Spec Table

**Tolerance**  
M: ±20% \*  
N: ±30% \*

**Packaging**  
T: Tape and Reel  
(1,000pcs / reel)

\*N for L = 0.1 ~ 0.22μH  
\*M for L = 0.33 ~ 22μH

## ➤ OUTLINE DRAWING:



A	B	C	D	E	L	G	H
7.3 ± 0.3	6.6 ± 0.3	2.8 ± 0.2	1.8 ± 0.3	3.0 ± 0.3	8.4 ref.	2.5 ref.	3.5 ref.

# HIGH CURRENT SHIELDED POWER INDUCTOR



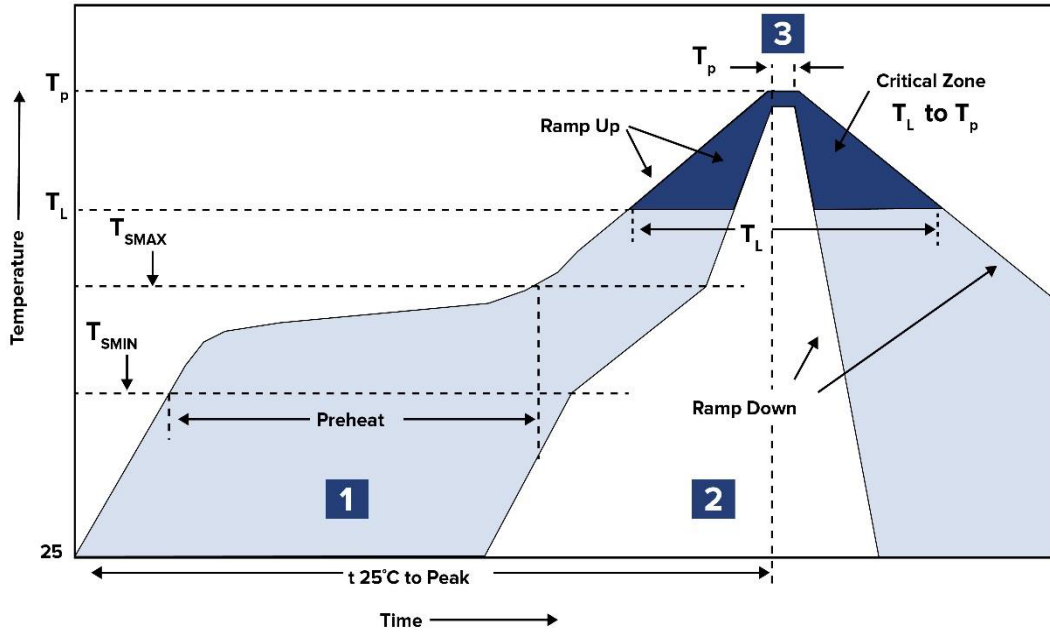
7.3 x 6.8 x 3.0 mm

ASPI-7318



RoHS  
Compliant

## REFLOW PROFILE:



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 180 sec.
2	Reflow	$T_L$ 217°C	60 ~ 150 sec.
3	Peak heat	$T_P$ 260°C±5°C	10 sec. MAX

# HIGH CURRENT SHIELDED POWER INDUCTOR



7.3 x 6.8 x 3.0 mm

ASPI-7318

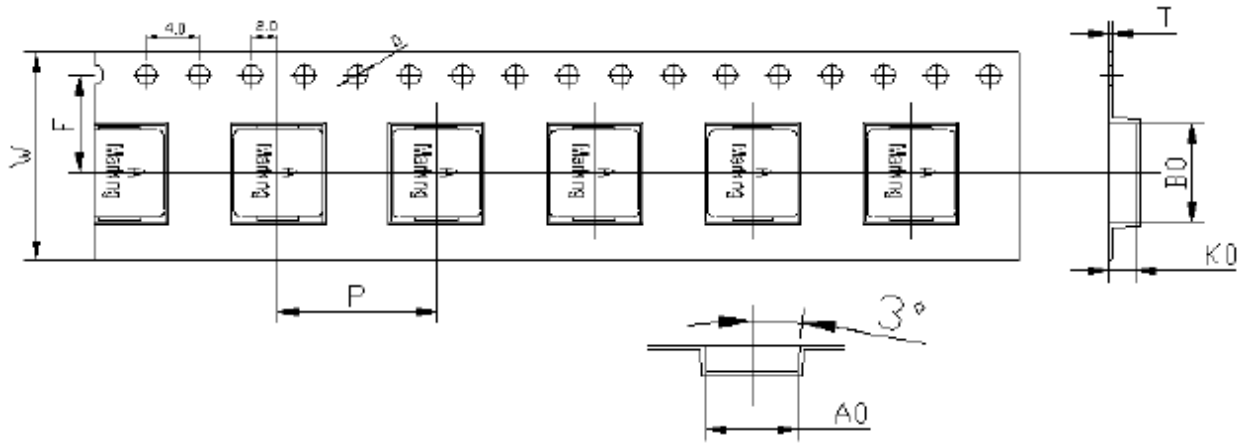


## TAPE AND REEL:

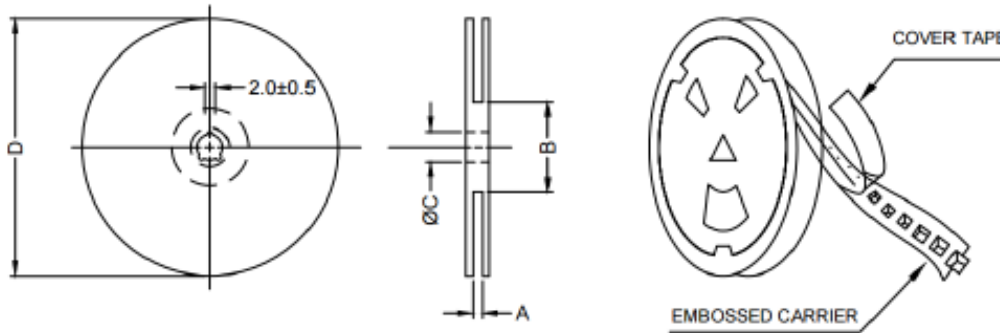
T= tape and reel (1,000pcs/reel)

Inner Box: 2,000 pcs

Carton: 8,000 pcs



A <sub>0</sub>	B <sub>0</sub>	K <sub>0</sub>	F	W	P	t	D
7.0±0.1	7.7±0.1	3.3±0.1	7.5±0.1	16±0.3	12±0.1	0.35±0.05	1.5±0.1



Type	A	B	C	D
13" x 16mm	16.4+2/-0	100±2	13+0.5/-0.2	330

Dimension: mm

**ATTENTION:** Abracon LLC's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependent Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon LLC is required. Please contact Abracon LLC for more information.



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REVISED: 03-30-20

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