

ECN/PCN No.: M1213

For Manufacturer			
<b>Product Description:</b> Radial Drum Core Power Choke	<b>Abracon Part Number / Part Series:</b> AIRD-02 Series	<input type="checkbox"/> Documentation only <input checked="" type="checkbox"/> ECN <input type="checkbox"/> EOL	<input checked="" type="checkbox"/> Series <input type="checkbox"/> Part Number(s)
<b>Affected Revision:</b> B	<b>New Revision:</b> C	<b>Application:</b>	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Non-Safety

Prior to Change:

### 1.0 Key Electrical Specifications

Part Number	Inductance	Tolerance	DCR (Max)	Saturation Current (Max)	Temperature Rise Current (Max)	Inductance Code
Units	$\mu\text{H}$	%	$\Omega$	A	A	
Symbol	L	K, M	DCR	Isat*	Irms*	
AIRD-02-1R0	1.0	K, M	0.003	108	11.4	1R0K/1R0M
AIRD-02-1R2	1.2	K, M	0.003	108	11.4	1R2K/1R0M
AIRD-02-1R5	1.5	K, M	0.003	83	11.4	1R5K/1R5M
AIRD-02-1R8	1.8	K, M	0.003	68	11.4	1R8K/1R8M
AIRD-02-2R2	2.2	K, M	0.004	68	11.4	2R2K/2R2M
AIRD-02-2R7	2.7	K, M	0.005	58	11.4	2R7K/2R7M
AIRD-02-3R3	3.3	K, M	0.005	58	11.4	3R3K/3R3M
AIRD-02-3R9	3.9	K, M	0.005	50	11.4	3R9K/3R9M
AIRD-02-4R7	4.7	K, M	0.005	50	11.4	4R7K/4R7M
AIRD-02-5R6	5.6	K, M	0.006	44	11.4	5R6K/5R6M
AIRD-02-6R8	6.8	K, M	0.007	39	11.4	6R8K/6R8M
AIRD-02-8R2	8.2	K, M	0.007	36	11.4	8R2K/8R2M
AIRD-02-100	10	K	0.009	30	11.4	100K
AIRD-02-120	12	K	0.009	27	11.4	120K
AIRD-02-150	15	K	0.013	25	9.0	150K
AIRD-02-180	18	K	0.018	22	7.2	180K
AIRD-02-220	22	K	0.019	21	7.2	220K
AIRD-02-270	27	K	0.026	20	5.5	270K
AIRD-02-330	33	K	0.029	18	5.5	330K
AIRD-02-390	39	K	0.030	17	5.5	390K
AIRD-02-470	47	K	0.035	15	5.5	470K
AIRD-02-560	56	K	0.039	13	5.5	560K
AIRD-02-680	68	K	0.053	12	4.8	680K
AIRD-02-820	82	K	0.060	11	4.8	820K
AIRD-02-101	100	K	0.080	10	4.0	101K
AIRD-02-121	120	K	0.090	9.4	4.0	121K
AIRD-02-151	150	K	0.098	8.6	4.0	151K
AIRD-02-181	180	K	0.110	7.8	4.0	181K
AIRD-02-221	220	K	0.150	7.0	2.8	221K
AIRD-02-271	270	K	0.213	6.3	2.0	271K
AIRD-02-331	330	K	0.305	5.2	1.6	331K
AIRD-02-391	390	K	0.320	4.9	1.6	391K
AIRD-02-471	470	K	0.355	4.5	1.6	471K
AIRD-02-561	560	K	0.388	4.1	1.6	561K
AIRD-02-681	680	K	0.430	3.7	1.6	681K
AIRD-02-821	820	K	0.590	3.4	1.3	821K
AIRD-02-102	1000	K	0.818	3.1	1.0	102K
AIRD-02-122	1200	K	1.140	2.7	0.8	122K

AIRD-02-152	1500	K	1.260	2.4	0.8	152K
AIRD-02-182	1800	K	1.390	2.2	0.8	182K
AIRD-02-222	2200	K	1.540	2.0	0.8	222K

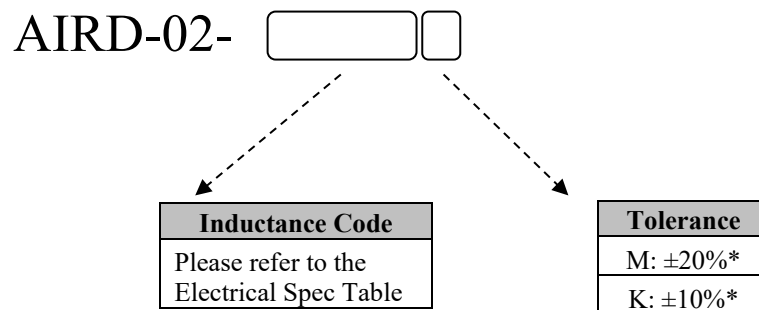
### 2.1 Test Conditions and equipments

Test frequency: 1KHz, 0.1Vrms  
 DCR: QuadTech Milliohmmeter  
 Isat: 10% inductance drops from initial value  
 IRMS: ΔT of 40°C temperature rise max

### 2.2 Operating Temperature: -25°C ~ +85°C

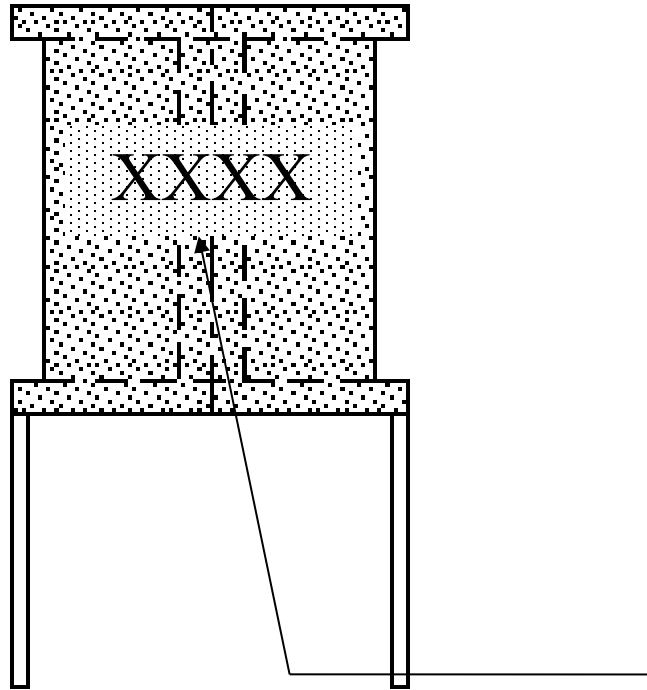
### 2.3 Storage Temperature: -25°C ~ +125°C

### 3.0 Part Number Identification



\*1.0 ~ 8.2μH: K and M  
 10 ~ 2200μH: K only

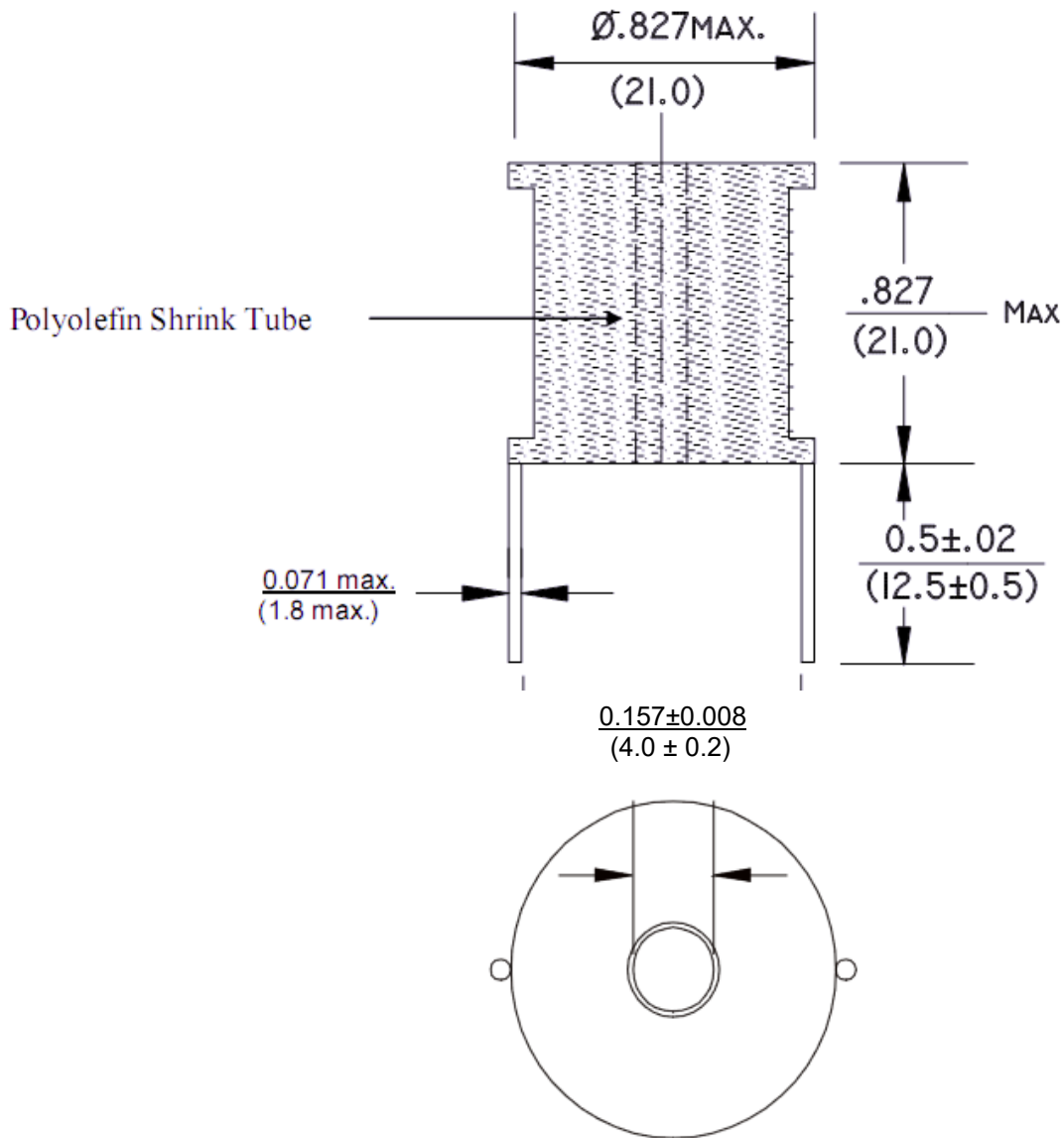
**4.0 Marking**



Inductance Code  
e.g. 1R0K  
8R2M  
681K

**4.1 Marking Method = Ink Marking**

**5.0 Mechanical Dimensions**



**Dimension: inch (mm)**

**After Change:**
**2.0 Key Electrical Specifications**

Part Number	Inductance	Tolerance	DCR (Max)	Temperature Rise Current (Max)	Inductance Code
Units	$\mu\text{H}$	%	$\Omega$	A	
Symbol	L	K, M, N	DCR	Irms	
AIRD-02-1R0	1.0	N	0.003	11.4	1R0N
AIRD-02-1R2	1.2	N	0.003	11.4	1R2N
AIRD-02-1R5	1.5	N	0.003	11.4	1R5N
AIRD-02-1R8	1.8	N	0.003	11.4	1R8N
AIRD-02-2R2	2.2	N	0.004	11.4	2R2N
AIRD-02-2R7	2.7	N	0.005	11.4	2R7N
AIRD-02-3R3	3.3	M	0.005	11.4	3R3M
AIRD-02-3R9	3.9	M	0.005	11.4	3R9M
AIRD-02-4R7	4.7	M	0.005	11.4	4R7M
AIRD-02-5R6	5.6	M	0.006	11.4	5R6M
AIRD-02-6R8	6.8	M	0.007	11.4	6R8M
AIRD-02-8R2	8.2	M	0.007	11.4	8R2M
AIRD-02-100	10	K	0.009	11.4	100K
AIRD-02-120	12	K	0.009	11.4	120K
AIRD-02-150	15	K	0.013	9.0	150K
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AIRD-02-330	33	K	0.029	5.5	330K
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AIRD-02-182	1800	K	1.390	0.8	182K
AIRD-02-222	2200	K	1.540	0.8	222K

**5.1 Test Conditions**

Test frequency: 1KHz, 0.25Vrms

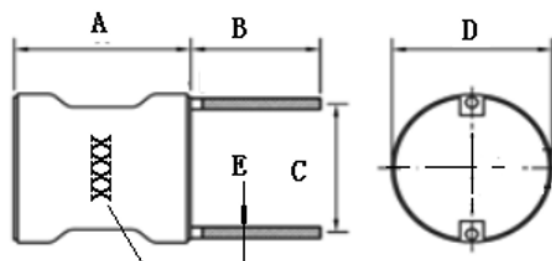
 IRMS:  $\Delta T$  of 40°C temperature rise max

**5.2 Operating Temperature: -40°C ~ +125°C (Including Self-heating)**
**Storage Temperature: -40°C ~ +125°C**
**2.0 Part Number Identification**

 AIRD-02-  

Inductance Code
Please refer to the Electrical Spec Table

Tolerance
N: ±30%
M: ±20%
K: ±10%

**6.0 Mechanical Dimensions**

 Inductance Code  
 e.g. 8R2M  
 681K

A	B	C	D	E
21.0 (max)	12.5±1	19.0±1	21.0 (max)	1.8 (max)

**Cause/Reason for Change:**

Moving the series to a new production line, relaxed tolerance on some parts, change in operating temperature range, testing conditions, dimensions graphics.

### Change Plan

**Effective Date:**

2/8/2021

**Additional Remarks:**
**Change Declaration:**

The change does not affect form fit or function of the series. Wider operating temperature, update to the testing conditions.

Tolerance on following parts relaxed to 30%:

AIRD-02-1R0

AIRD-02-1R2

AIRD-02-1R5

AIRD-02-1R8

AIRD-02-2R2

AIRD-02-2R7

Tolerance on parts from 3.3uH to 8.2uH relaxed to 20% :

AIRD-02-3R3

AIRD-02-3R9

AIRD-02-4R7

AIRD-02-5R6

AIRD-02-6R8

AIRD-02-8R2

**Issued Date:**

2/8/2021

**Issued By:**
*Ahmed Alamin*
**Issued Department:**

Engineering

**Approval:**
*Syed Raza*  
Engineering VP

**Approval:**
*Reuben Quintanilla*  
Quality Director

**Approval:**
*Ying Huang*  
Purchasing Director

### For Abracon EOL only

**Last Time Buy (if applicable):**
**Alternate Part Number / Part Series:**
**Additional Approval:**
**Additional Approval:**
**Additional Approval:**

### 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.*

**Customer Part Number:**
**Customer Project:**
**Company Name:**
**Company Representative:**
**Representative Signature:**
**Customer Remarks:**