

ECN/PCN No.: M1214

For Manufacturer			
<b>Product Description:</b> <span style="color: blue;">Power Line Inductor</span>	<b>Abracon Part Number / Part Series:</b> <span style="color: blue;">AIRD-06 Series</span>	<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	Q min	DCR (Max)	Saturation Current (Max)	Temperature Rise Current (Max)	Inductance Code
Units	μH	%		Ω	A	A	
Symbol	L	K, M		DCR	Isat	Irms	
AIRD-06-1R0	1.0	M	15	0.003	108	11.4	1R0M
AIRD-06-1R2	1.2	M	15	0.003	108	11.4	1R0M
AIRD-06-1R5	1.5	M	15	0.003	83	11.4	1R5M
AIRD-06-1R8	1.8	M	15	0.003	68	11.4	1R8M
AIRD-06-2R2	2.2	M	15	0.004	68	11.4	2R2M
AIRD-06-2R7	2.7	M	15	0.005	58	11.4	2R7M
AIRD-06-3R3	3.3	M	15	0.005	58	11.4	3R3M
AIRD-06-3R9	3.9	M	15	0.005	50	11.4	3R9M
AIRD-06-4R7	4.7	M	15	0.005	50	11.4	4R7M
AIRD-06-5R6	5.6	M	15	0.006	44	11.4	5R6M
AIRD-06-6R8	6.8	M	15	0.007	39	11.4	6R8M
AIRD-06-8R2	8.2	M	15	0.007	36	11.4	8R2M
AIRD-06-100	10	K	15	0.009	30	11.4	100K
AIRD-06-120	12	K	15	0.009	27	11.4	120K
AIRD-06-150	15	K	15	0.013	25	9.0	150K
AIRD-06-180	18	K	15	0.018	22	7.2	180K
AIRD-06-220	22	K	15	0.019	21	7.2	220K
AIRD-06-270	27	K	15	0.026	20.5	5.5	270K
AIRD-06-330	33	K	15	0.029	18.6	5.5	330K
AIRD-06-390	39	K	15	0.030	17.0	5.5	390K
AIRD-06-470	47	K	15	0.035	15.1	5.5	470K
AIRD-06-560	56	K	15	0.039	13.6	5.5	560K
AIRD-06-680	68	K	15	0.053	12.7	4.8	680K
AIRD-06-820	82	K	15	0.060	11.3	4.8	820K
AIRD-06-101	100	K	15	0.080	10.4	4.0	101K
AIRD-06-121	120	K	15	0.090	9.4	4.0	121K
AIRD-06-151	150	K	15	0.098	8.6	4.0	151K
AIRD-06-181	180	K	15	0.110	7.8	4.0	181K
AIRD-06-221	220	K	15	0.150	7.0	2.8	221K
AIRD-06-271	270	K	15	0.213	6.3	2.0	271K
AIRD-06-331	330	K	15	0.305	5.2	1.6	331K
AIRD-06-391	390	K	15	0.320	4.9	1.6	391K
AIRD-06-471	470	K	15	0.355	4.5	1.6	471K
AIRD-06-561	560	K	15	0.388	4.1	1.6	561K
AIRD-06-681	680	K	15	0.430	3.7	1.6	681K
AIRD-06-821	820	K	15	0.590	3.4	1.3	821K
AIRD-06-102	1000	K	15	0.818	3.1	1.0	102K
AIRD-06-122	1200	K	15	1.140	2.7	0.8	122K

AIRD-06-152	1500	K	15	1.260	2.4	0.8	152K
AIRD-06-182	1800	K	15	1.390	2.2	0.8	182K
AIRD-06-222	2200	K	15	1.540	2.0	0.8	222K

### 2.1 Test Conditions and equipments

L test frequency: 1kHz, 0.1Vrms

Q test frequency: 50kHz, 0.1Vrms

DCR: QuadTech Milliohmmeter

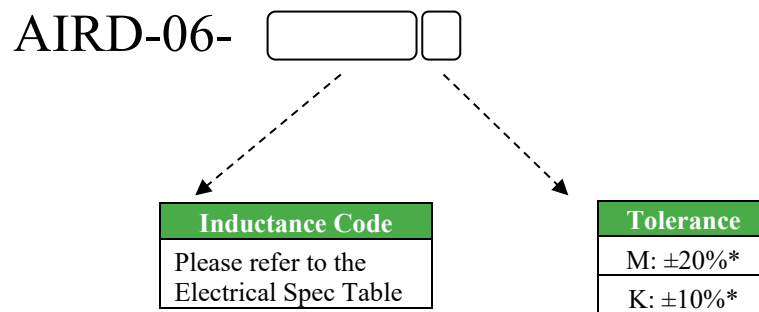
Isat: 10% inductance drops from initial value

Irms: ΔT of 40°C temperature rise max

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

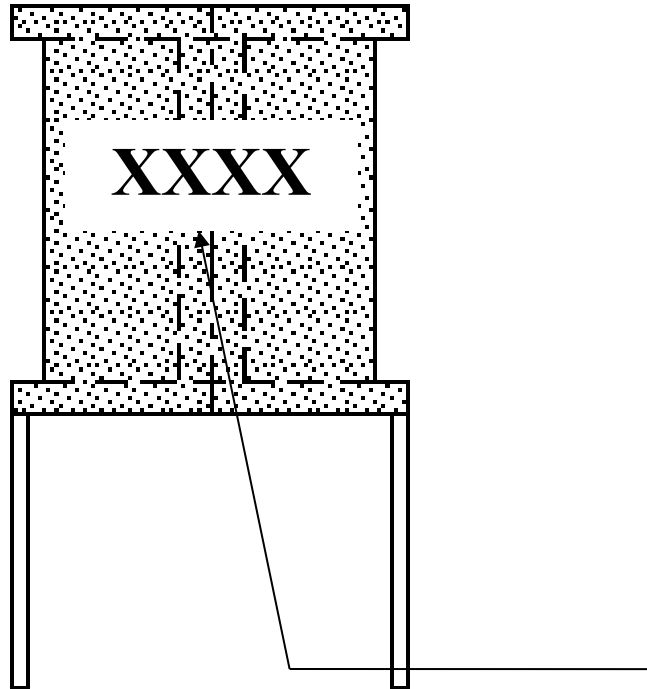
### 2.3 Storage Temperature: -25°C ~ +125°C

### 3.0 Part Number Identification



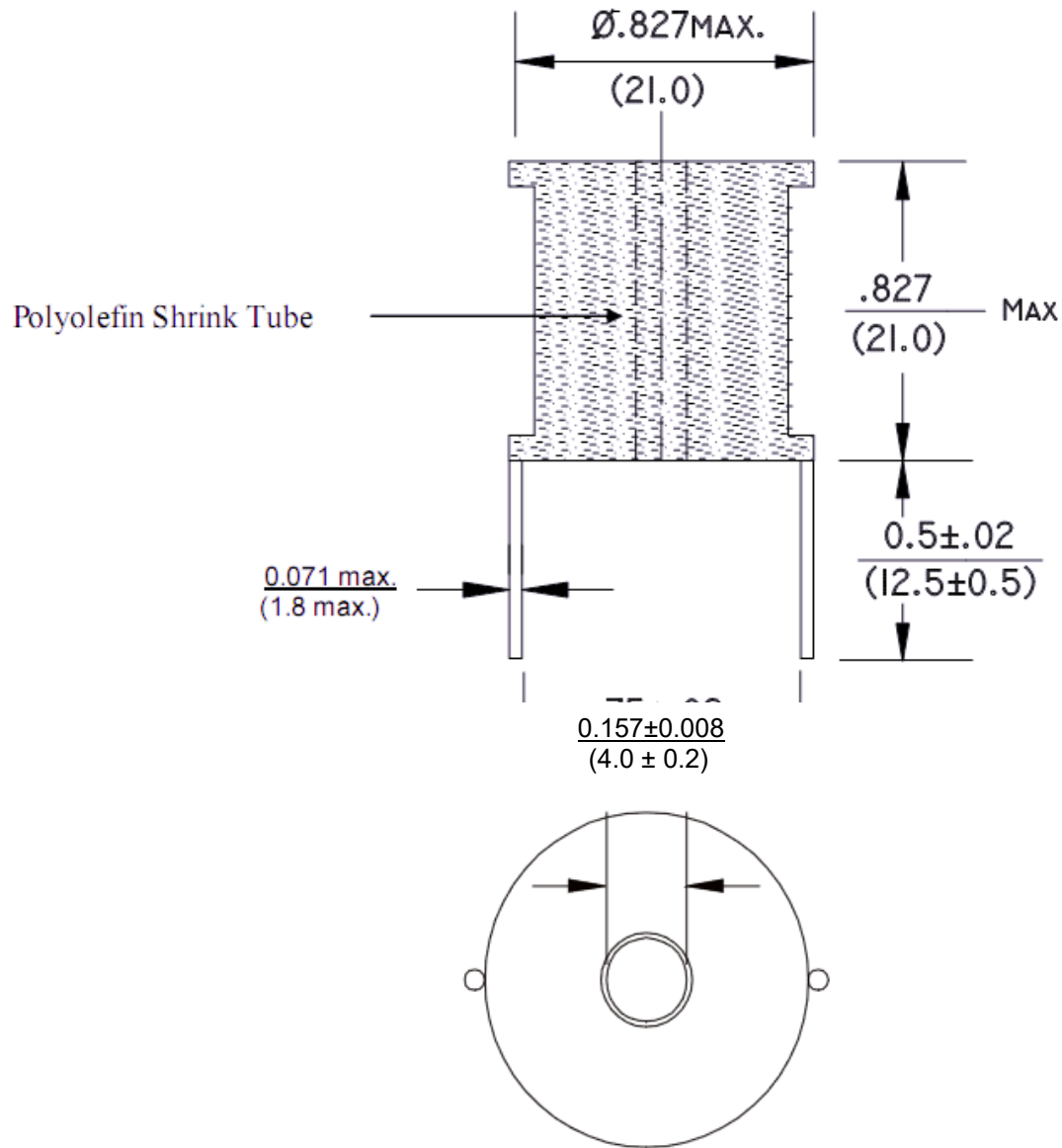
\*1.0 ~ 8.2μH: M only  
10 ~ 2,200μH: K only

**4.0 Marking**



Inductance Code  
e.g. 1R0M  
8R2M  
681K

**5.0 Mechanical Dimensions**



**Dimension: inch/mm**

**5.1 Marking Method = Ink Marking**

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

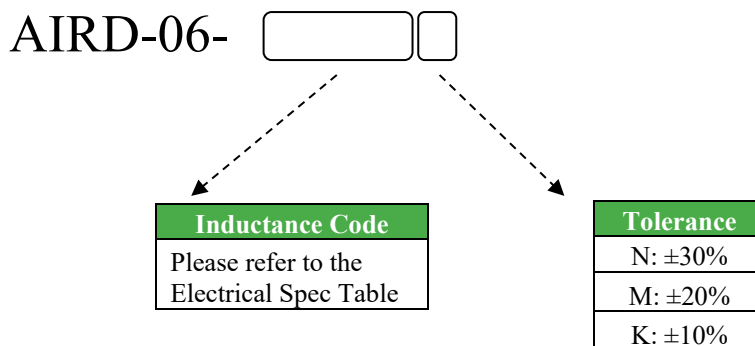
Part Number	Inductance	Tolerance	DCR (Max)	Temperature Rise Current (Max)	Inductance Code
Units	μH	%	Ω	A	
Symbol	L	K, M, N	DCR	Irms	
AIRD-06-1R0	1.0	N	0.003	11.4	1R0N
AIRD-06-1R2	1.2	N	0.003	11.4	1R2N
AIRD-06-1R5	1.5	N	0.003	11.4	1R5N
AIRD-06-1R8	1.8	N	0.003	11.4	1R8N
AIRD-06-2R2	2.2	N	0.004	11.4	2R2N
AIRD-06-2R7	2.7	N	0.005	11.4	2R7N
AIRD-06-3R3	3.3	M	0.005	11.4	3R3M
AIRD-06-3R9	3.9	M	0.005	11.4	3R9M
AIRD-06-4R7	4.7	M	0.005	11.4	4R7M
AIRD-06-5R6	5.6	M	0.006	11.4	5R6M
AIRD-06-6R8	6.8	M	0.007	11.4	6R8M
AIRD-06-8R2	8.2	M	0.007	11.4	8R2M
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AIRD-06-222	2200	K	1.540	0.8	222K

**5.2 Test Conditions**  
 Test frequency: 1KHz, 0.25Vrms  
 IRMS:  $\Delta T$  of 40°C temperature rise max

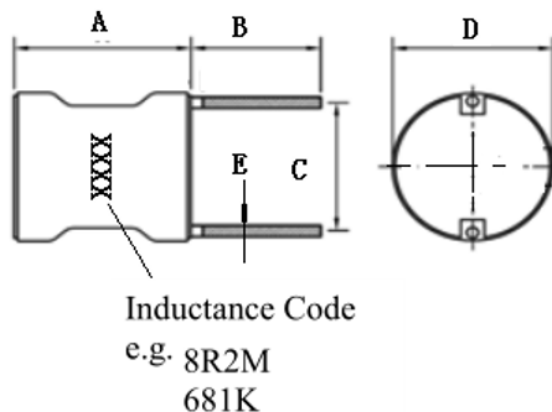
**5.3 Operating Temperature:** -40°C ~ +125°C (Including Self-heating)

**5.4 Storage Temperature:** -40°C ~ +125°C

**6.0 Part Number Identification**



**7.0 Mechanical Dimensions**



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

**Dimension: inch (mm)**

**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-06-1R0

AIRD-06-1R2

AIRD-06-1R5

AIRD-06-1R8

AIRD-06-2R2

AIRD-06-2R7

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

AIRD-06-3R3

AIRD-06-3R9

AIRD-06-4R7

AIRD-06-5R6

AIRD-06-6R8

AIRD-06-8R2

**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:**