

ECN/PCN No.: M1177

For Manufacturer			
<b>Product Description:</b> <b>RJ45 10/100 Base-T / 1 X USB</b> <b>Combo, w/ LEDs, Ext Temp</b>	<b>Abrakon Part Number / Part Series:</b>  <b>ARJ-169</b>	<input type="checkbox"/> Documentation only <input checked="" type="checkbox"/> ECN <input type="checkbox"/> EOL	<input type="checkbox"/> Series <input checked="" type="checkbox"/> Part Number(s)
<b>Affected Revision:</b> <b>B</b>	<b>New Revision:</b> <b>C</b>	<b>Application:</b>	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Non-Safety

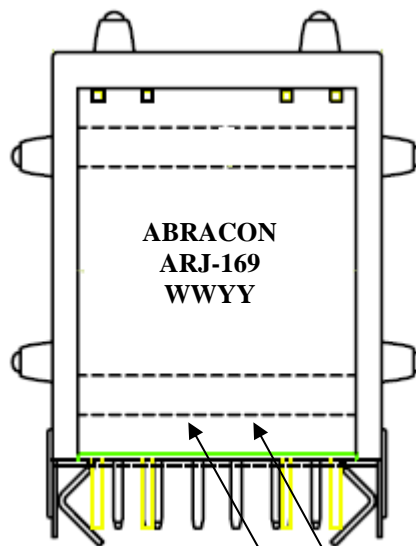
**Prior to Change:**

## 1.0 Standard Electrical Specifications

Parameters	Minimum	Typical	Maximum	Units	Notes
Operating Temperature	-40		+85	°C	
Storage Temperature	-40		+85	°C	
Turn Ratio (± 3%)	1CT:1CT				Tx
	1CT:1CT				Rx
Inductance (OCL)	350			μH	100KHz/0.1V@8mA
Insertion Loss			-1.0	dB	1-100MHz
Return Loss	-18			dB	1-10MHz
	-16				10-30MHz
	-14				30-60MHz
	-12				60-80MHz
	-10				80-100MHz
Cross Talk	-35			dB	1-100MHz
CMR	-35			dB	1-100MHz
Hi-Pot	1500Vrms/1mA/1Sec				Pri to Sec

[illegible]

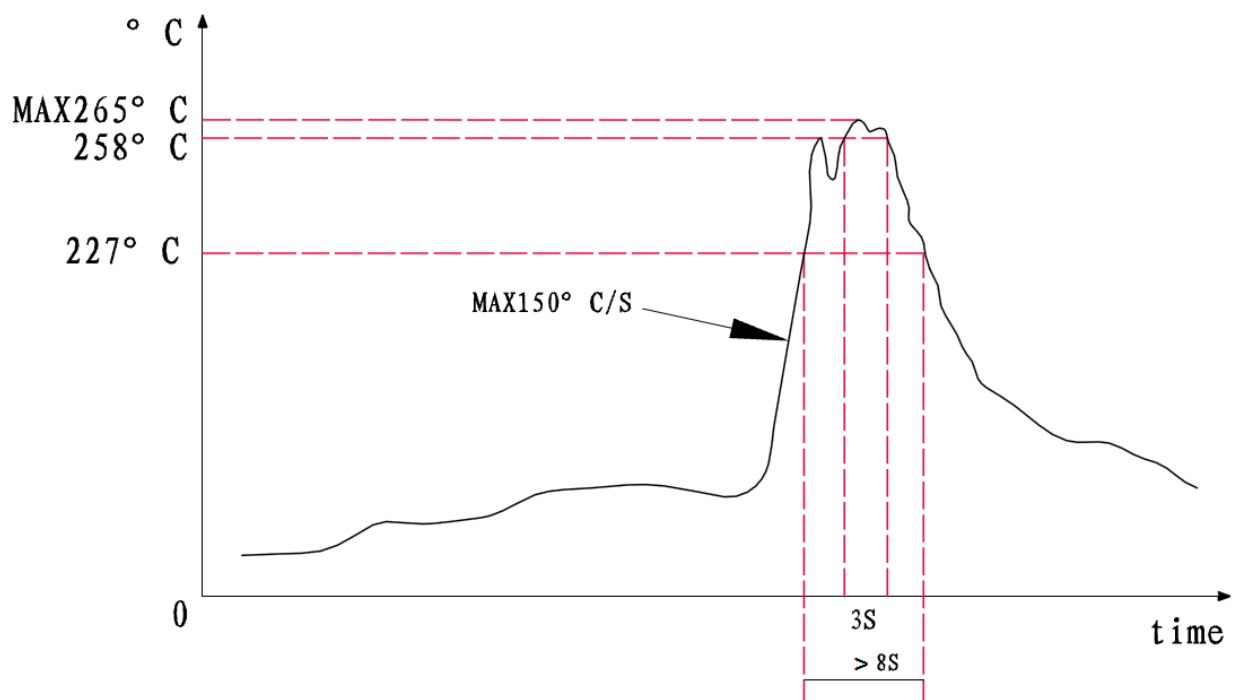
## 6.0 Marking



YY: Year: E.g. 15 for 2015

WW: Week: E.g. 15 for the 15<sup>th</sup> week of the year.

## 7.1 DIP Wave Soldering Profile

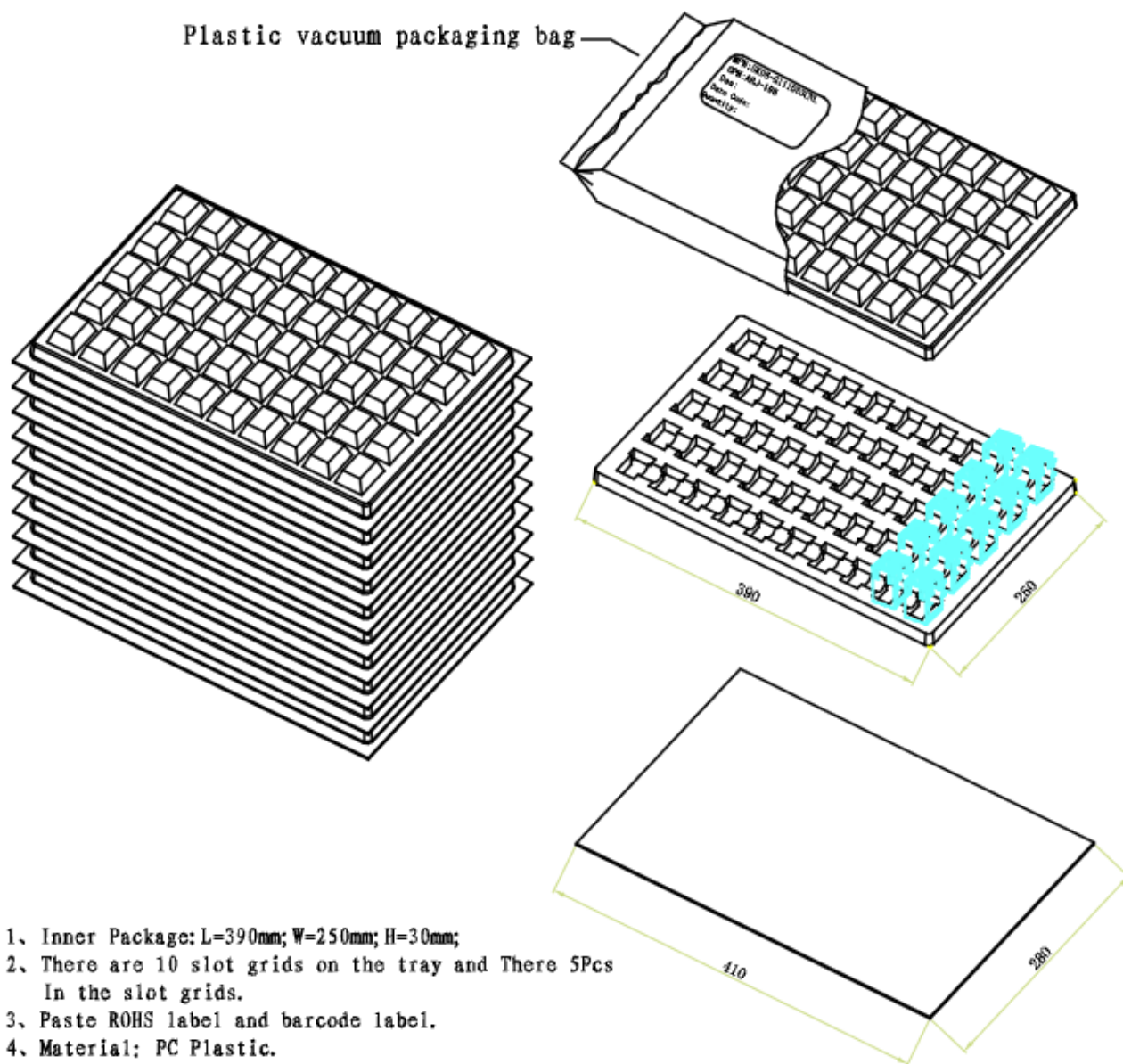


Peak temperature(Tp) : 265°C

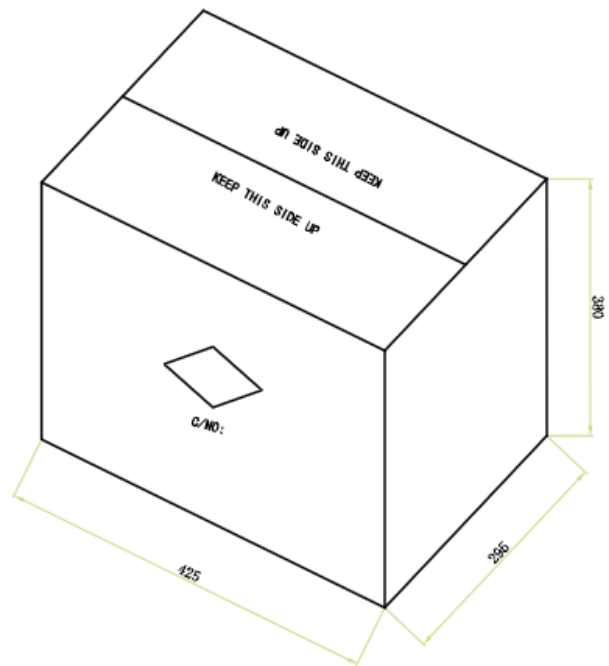
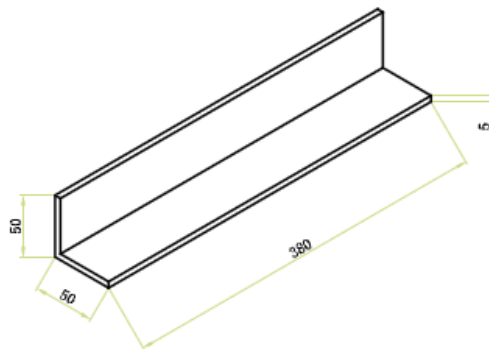
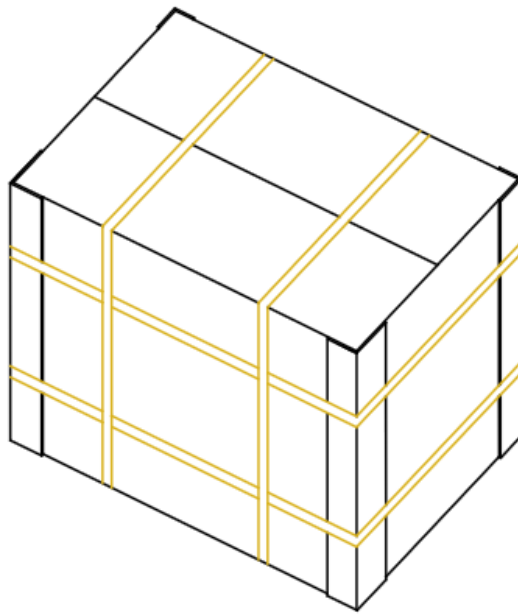
Peak temperature(Tp) time : 3sec max

**8.0 Packing: 50pcs/tray**  
**Weight: 12.1 grams / pcs**

**Packing Material: PC Plastic**



Outer carton unit (optional): 500 pcs/10 trays/box

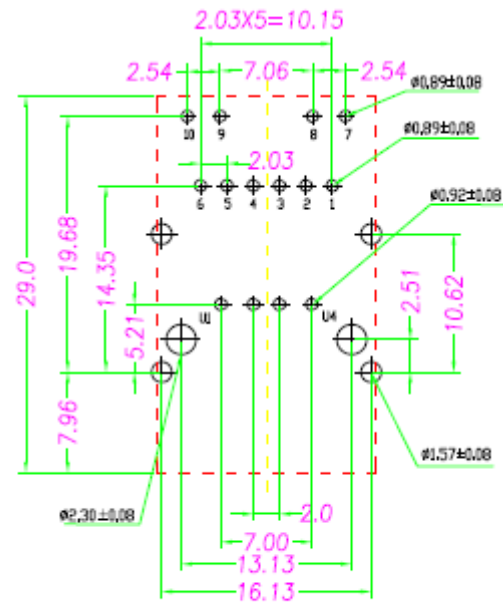
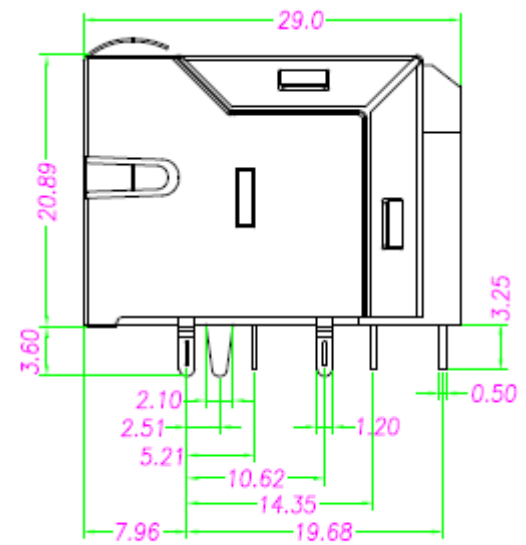
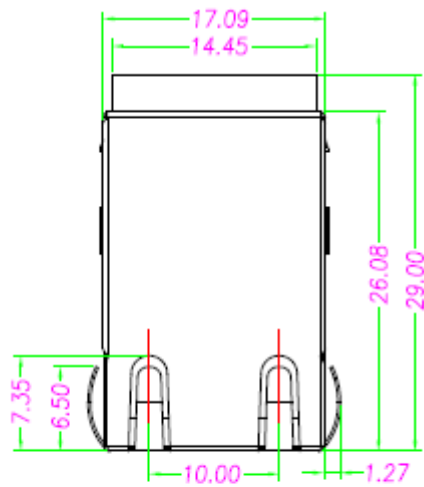
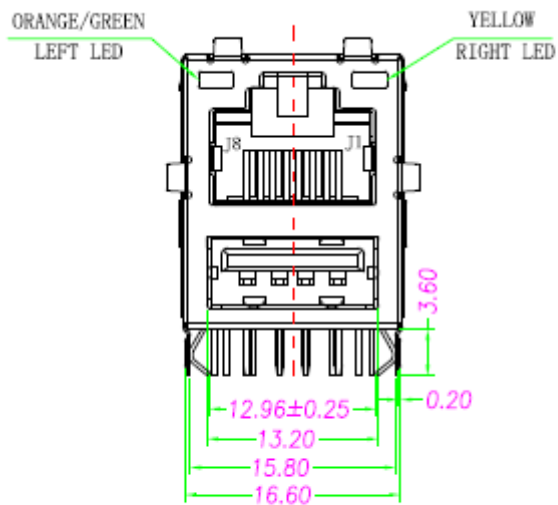


1. Package Box : L=425mm; W=295mm; H=380mm;
2. Package Box contain 10 PCS inner package Trays.
3. Material: US CARD+kraft papers.
4. There are 500 PCS products in the Package Box.

**After Change:**
**1.0 Standard Electrical Specifications**

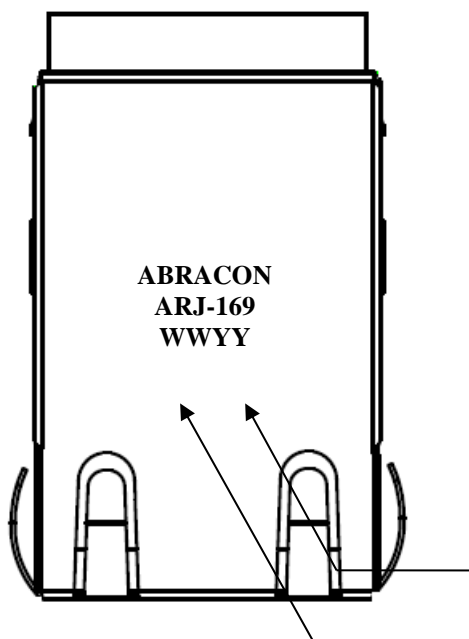
Parameters	Minimum	Typical	Maximum	Units	Notes
Operating Temperature	-40		+85	°C	
Storage Temperature	-40		+85	°C	
Turn Ratio (± 3%)	1CT:1CT				Tx
	1CT:1CT				Rx
Inductance (OCL)	350			μH	100KHz/0.1V@8mA
Insertion Loss			-1.0	dB	1-100MHz
Return Loss	-18			dB	1-30MHz
	-16				30-60MHz
	-12				60-80MHz
	-10				80-100MHz
Cross Talk	-35			dB	1-100MHz
CMR	-35			dB	1-100MHz
Hi-Pot	1500Vrms/0.5mA/60Sec				Pri to Sec

## 4.0 Mechanical Dimensions



### Suggested PCB Layout (Top View)

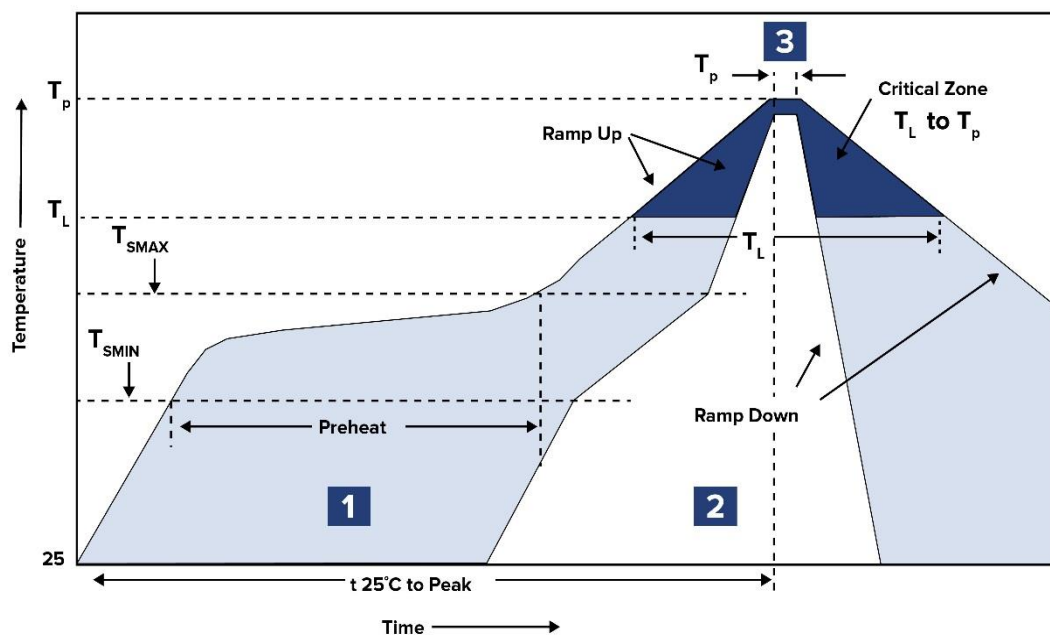
**Dimensions: mm (Unless otherwise specified, all tolerances are  $\pm 0.25$ )**

**7.0 Marking (changes to cosmetics and part marking location may occur)**

YY: Year: E.g. 15 for 2015  
15<sup>th</sup> week of the year.



## 7.1 Wave Soldering Profile

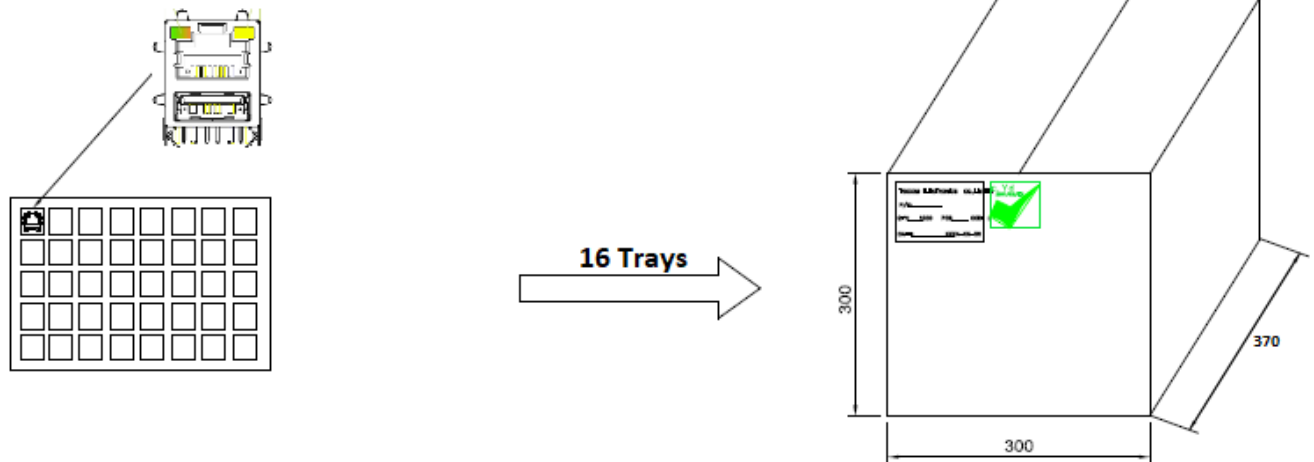


Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 180°C	60 ~ 120 sec.
2	Reflow	$T_L$ 227°C	8 sec.
3	Peak heat	$T_P$ 265°C	3 sec. MAX

## 8.0 Packaging

**Bulk/Tray (40pcs/tray, 16 trays/carton)**

**Carton Size : 370 X 300 X 300 mm, weight is 9.5Kg**



**Dimensions: mm**

**Cause/Reason for Change:**

Adding additional production line. Updating graphics for datasheets.

**Change Plan****Effective Date:**

7/15/2020

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

No changes described in this document impact the products form, fit or function.

**Issued Date:**

7/15/2020

**Issued By:**

Gerald Capwell

**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:**

# RJ45 10/100 Base-T / 1 X USB Combo, w/ LEDs, Ext Temp

ARJ-169

RoHS/RoHS II Compliant



## FEATURES:

- Compliant with IEEE802.3ab standard
- Tab up RJ45 Jack + 1USB Combo
- High performance for maximum EMI suppression
- 350 $\mu$ H minimum OCL with 8mA bias current
- RoHS peak wave solder temperature 260°C

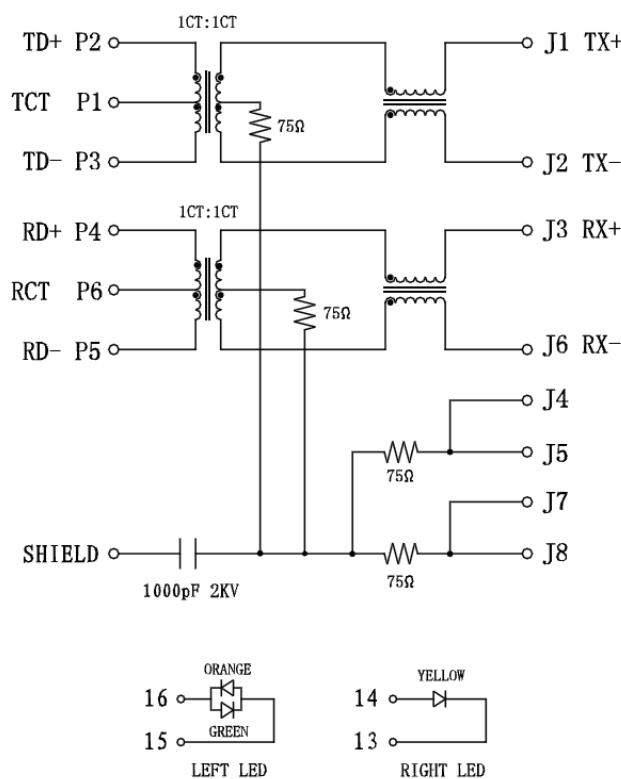
## APPLICATIONS:

- Support 10/100 Base-T AutoMDIX application with Bi-Color LEDs
- Extended Temperature (-40°C~85°C)
- Network Interface Cards(NIC), LAN-on-Motherboard(LOM) and PC
- Suitable CAT 3, 5e & 6 cable and UTP
- Provides signal conditioning, EMI suppression and signal isolation

## STANDARD SPECIFICATIONS

Parameters	Minimum	Typical	Maximum	Units	Notes
Operating Temperature	-40		+85	°C	
Storage Temperature	-40		+85	°C	
Turn Ratio ( $\pm 3\%$ )	1CT:1CT				Tx
	1CT:1CT				Rx
Inductance (OCL)	350			$\mu$ H	100KHz/0.1V@8mA
Insertion Loss			-1.0	dB	1-100MHz
Return Loss	-18			dB	1-30MHz
	-16				30-60MHz
	-12				60-80MHz
	-10				80-100MHz
Cross Talk	-35			dB	1-100MHz
CMR	-35			dB	1-100MHz
Hi-Pot	1500Vrms/0.5mA/60Sec				Pri to Sec

## SCHEMATICS

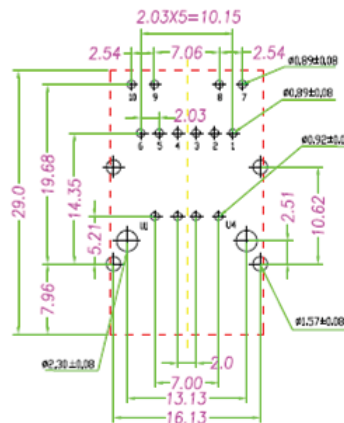
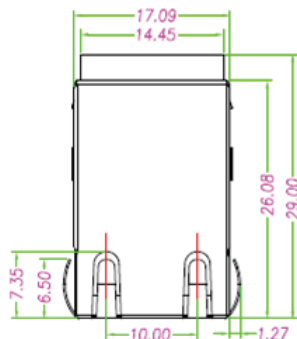
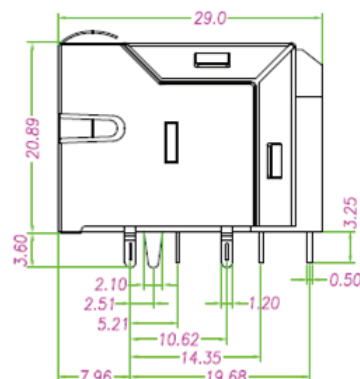


# ARJ-169

16.80 x 21.10 x 28.35mm

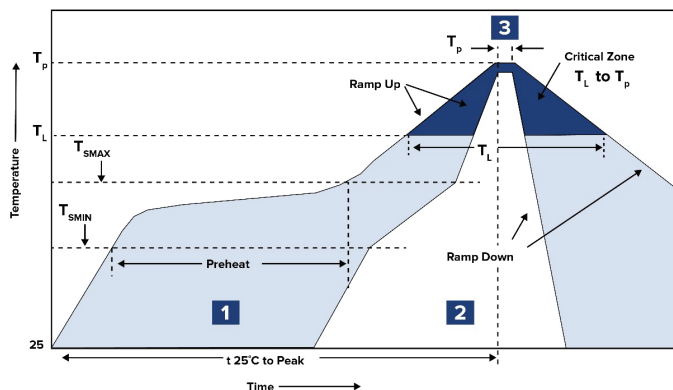
Technical drawing of the LED package showing dimensions and pin configurations. The package is rectangular with a central cavity containing two LED chips. The top of the package has two pins labeled "ORANGE/GREEN LEFT LED" and "YELLOW RIGHT LED". The bottom of the package has a series of pins. Dimensions are indicated by green lines and text:

- Overall width: 12.96 ± 0.25
- Width of the central cavity: 13.20
- Width of the bottom pin array: 15.80
- Overall height: 16.60
- Height of the central cavity: 3.60
- Height of the bottom pin array: 0.20



### Suggested PCB Layout (Top View)

**Dimensions: mm (Unless otherwise specified, all tolerances are  $\pm 0.25$ )**



Zone	Description	Temperature	Time
1	Preheat	$T_{\text{SMIN}} \sim T_{\text{SMAX}}$ 150°C ~ 180°C	60 ~ 120 sec.
2	Reflow	$T_{\text{L}}$ 227°C	8 sec.
3	Peak heat	$T_{\text{P}}$ 265°C	3 sec. MAX

# RJ45 10/100 Base-T / 1 X USB Combo, w/ LEDs, Ext Temp

**ARJ-169**

**RoHS/RoHS II Compliant**

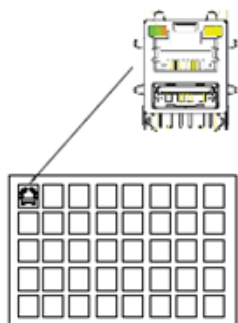


16.80 x 21.10 x 28.35mm

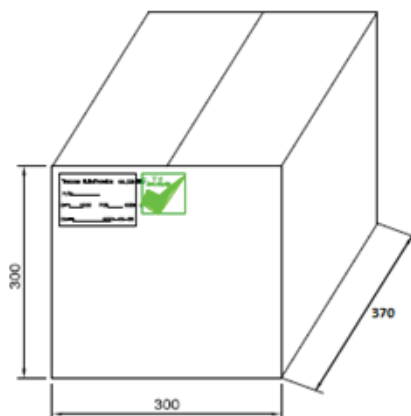
## PACKING:

**Bulk/Tray: 40pcs/tray, 16 trays/carton**

**Carton Size: 370 x 300 x 300 mm, weight is 9.5Kg**



**16 Trays**



**Dimensions: 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.