



SPECIFICATION

PART NO. 020180M90R4M401ZA

DESCRIPTION. RJ45+STACK USB W/LED & TRANSFORMER

CUSTOMER. _____

REV. : P0

REV. DATE : 2006 / Sep / 8

	APPROVED	CHECKED	PREPARED
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1 P/N SPECIFICATION

SUYIN P/N: **020180M** **9** **0R** **4** **M4** **01** **ZA**
A B C D E

A. Transformer Speed: **10/100 Base-T**
LED Polarity: **Normal**

B. Schematic: Refers to section 6.1

C. LED Color Code:

w/o LED: 0		RIGHT LED					
		YELLOW	GREEN	ORANGE	G/O	G/Y	O/G
LEFT LED	YELLOW	1	7	D	K	N	R
	GREEN	2	8	E	L	P	S
	ORANGE	3	9	F	M	Q	T
	G/O	4	A	G			
	G/Y	5	B	H			
	O/G	6	C	J			

D. RJ Contact Plating:

M2: Gold Flash selected Gold plating over 50 u" min. Nickel
M3: 10u" selected Gold plating over 50 u" min. Nickel
M4: 15u" selected Gold plating over 50 u" min. Nickel
M5: 30u" selected Gold plating over 50 u" min. Nickel
M6: 50u" selected Gold plating over 50 u" min. Nickel.

E. Mechanical Series: Refers to section 2.1~2.2

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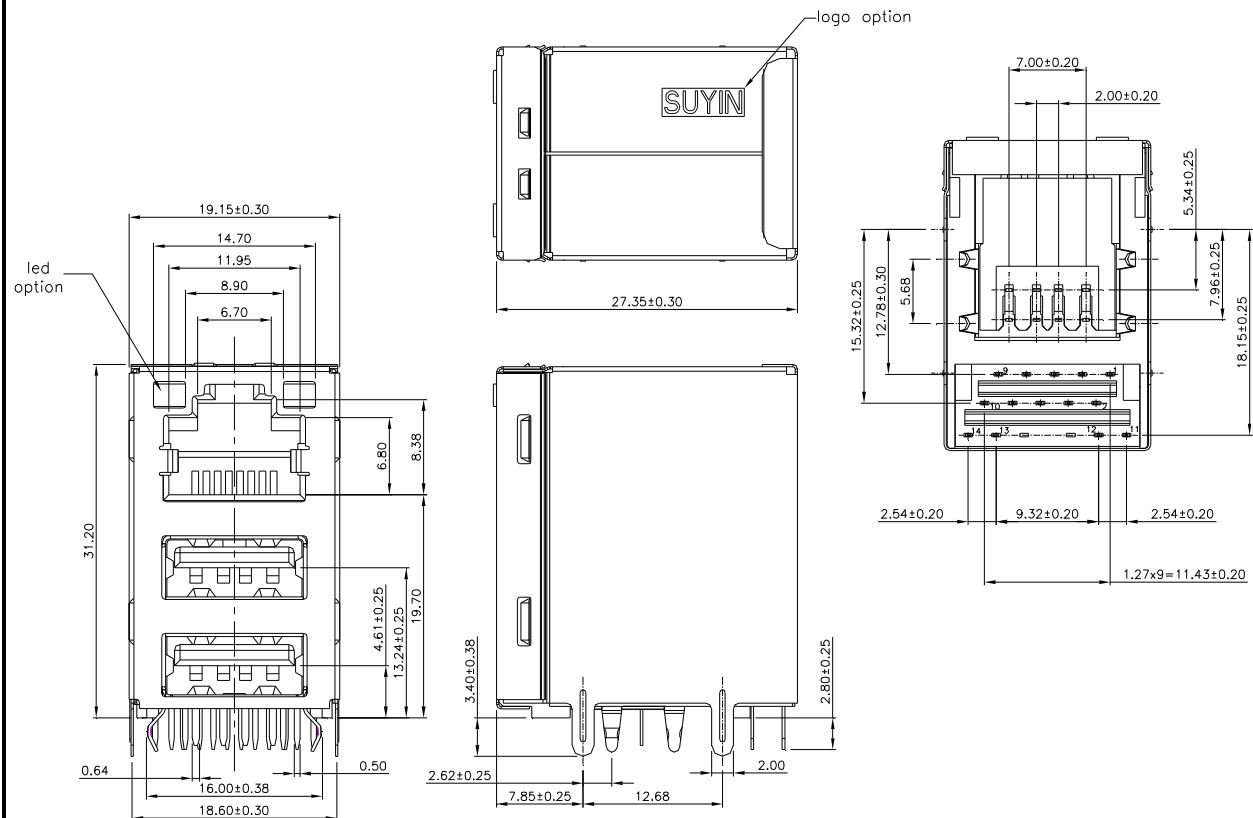
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2 MECHANICAL DIMENSIONS

2-1 Dimensions



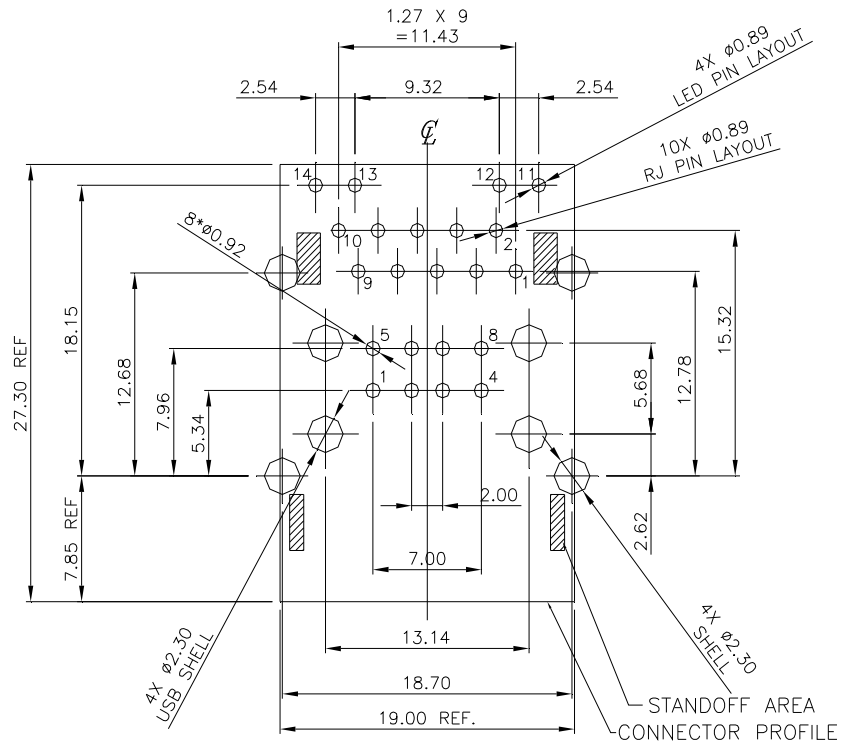
General Tolerance : 0~10mm: ± 0.10
 10~30mm: ± 0.20
 30~ mm : ± 0.30

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2-2 PCB Layout



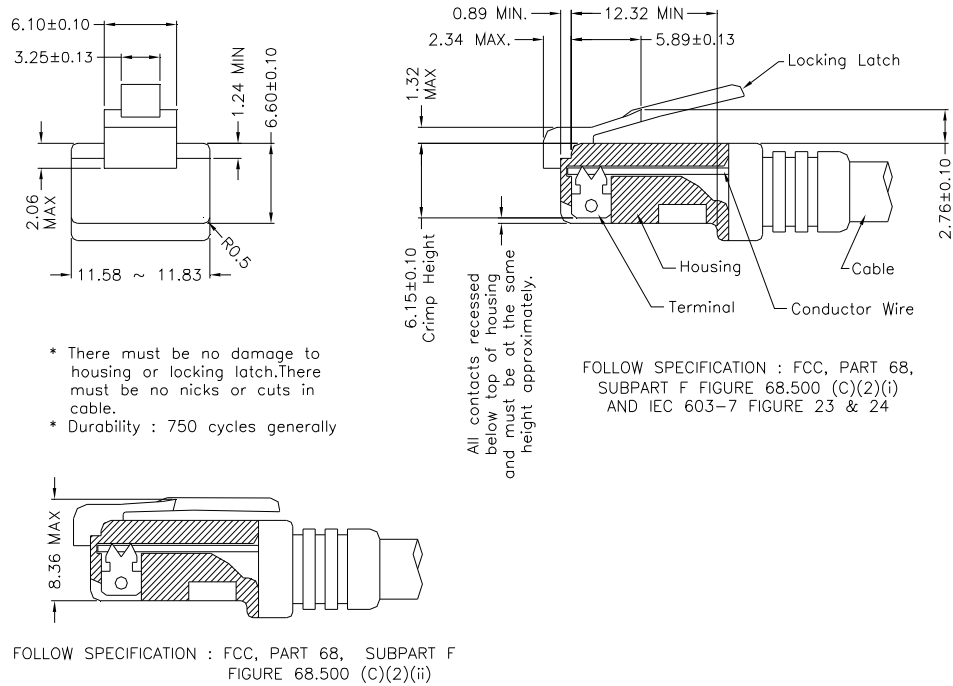
RECOMMENDED PCB LAYOUT
 COMPONENT SIDE PCB THICKNESS : 1.60mm
 ALL DIMENSION TOLERANCE ARE ± 0.05 UNLESS OTHERWISE SPECIFIED

SUYIN CORPORATION

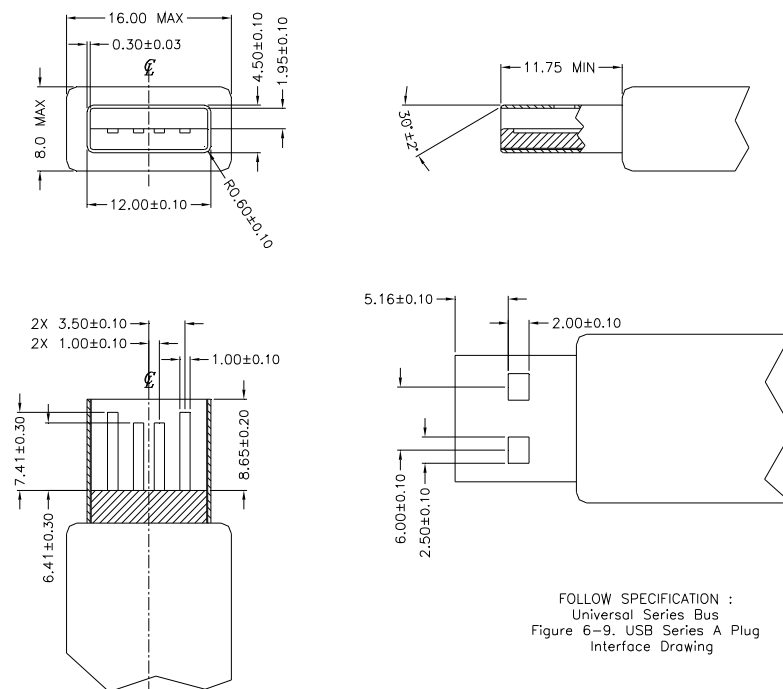
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3 RECOMMEND RJ PLUG SPECIFICATION



4 RECOMMEND USB PLUG SPECIFICATION



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5 MATERIAL SPECIFICATION

5-1 RoHS Compliance per EU Directive 2002/95/EC

5-2 Plastic Housings:

- A. RJ Housing: PBT, UL 94V-0, Black
- B. USB Housing: PBT, UL94V-0, Black
- C. Spacer: PBT, UL94V-0, Black
- D. Transformer Housing: Phenolic, UL94V-0, Black

5-3 Terminals:

- A. RJ Contacts: Phosphor Bronze
- B. RJ Solder Pins: Brass
- C. LED Solder Pins: Brass
- D. USB Contacts & Solder Pins: Phosphor Bronze

5-4 Shields:

- A. Front and Back Shield: Stainless Steel
- B. USB Shield: Brass

5-5 Plating:

- A. RJ Contacts: As P/N specified
- B. RJ Solder Pins: 100u" min. Matte Tin over 50u" Nickel under-plating
- C. LED Solder Pins: 100u" min. Matte Tin over 50u" Nickel under-plating
- D. USB Contact & Solder Pins: Selected GF/ Matte Tin plating over 50u" Nickel under-plating
- E. Shield Grounding Legs: Pre-soldering, Sn/ Ag/ Cu (96.5/ 3/ 0.5)
- F. USB Shield: 100u" min. Tin over 50u" Nickel under-plating

5-6 PCB: FR-4, Two Layer PCB

5-7 Internal Solder Joints: Sn/ Ag/ Cu (96.5/ 3/ 0.5)

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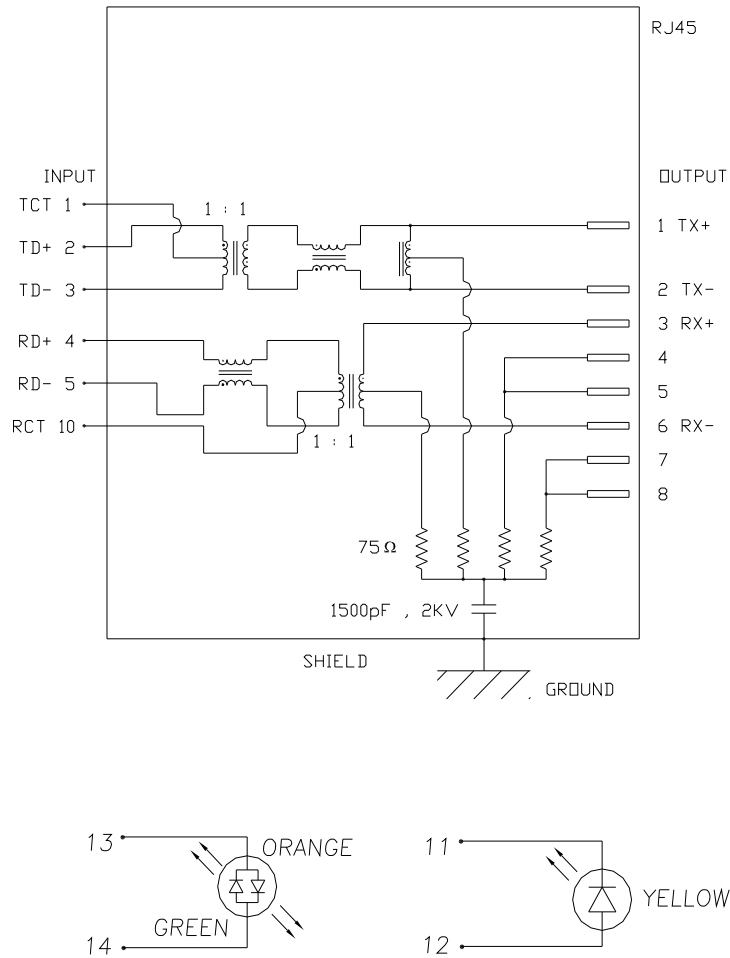
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6 ELECTRICAL CHARACTERISTICS

6-1 Schematic



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6-2 Transmitter & Receiver Filter:

Insertion Loss (dB MAX)	Return Loss at 100Ω (dB MIN)		
1~100MHz	1~30MHz	30~60MHz	60~80MHz
-1.0	-18	-16	-12

6-3 Common Mode Rejection @ 1~100 MHz: -30dB MIN

6-4 Cross Talk @ 1~100 MHz: -35dB MIN

6-5 Inductance @ 100KHz/ 0.1V, 8mA DC BIAS: 350μH MIN

6-6 HiPot Test: 1500Vrms, 60sec

6-7 LED:

Forward Voltage (V) @ 20mA	
Typical	MAX
2.2	2.6

7 OPERATING & TEST REQUIRMENTS

Product is designed to meet electrical, mechanical and environmental performance requirements specified below. All tests are performed at ambient environmental conditions per MIL-STD-1344A and EIA-364 unless otherwise specified

7-1 Operating Temperature Range: 0°C TO +70°C

7-2 Storage Temperature: -40°C to 85°C

7-3 USB module complies with USB 2.0 standards

7-4 USB Ratings

1. Insulation Resistance: 1000 M Ohm(MIN)
2. Contact Resistance : 25 m Ohm(MAX)
2. Dielectric Withstanding Voltage: 750 VAC

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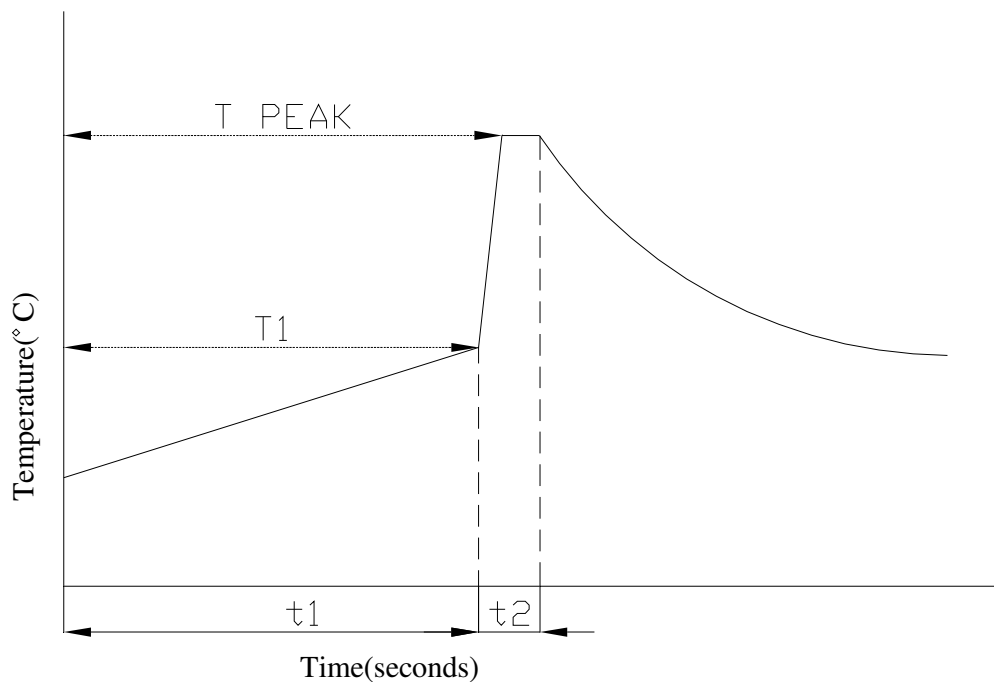
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8 STORAGE REQUIRMENTS

All products shall be packaged against any physical damage and corrosion during shipment or in storage.

9 RECOMMEND WAVE SOLDERING PROFILE



PARAMETER	REFERENCE	LEAD FREE SPECIFICATION
PREHEAT TEMPERATURE GRADIENT		+1~4°C/sec
PREHEAT TIME	t1	2~3 MIN
PREHEAT TEMPERATURE	T1	>100°C
SOLDER POT TEMPERATURE	T PEAK	260°C±5°C
DWELL TIME	t2	3.5 SEC
PEAK BOARD TOP TEMPERATURE		190°C
COOLING TEMPERATURE GRADIENT		-6°C/SEC MAX.