tyco Electronics

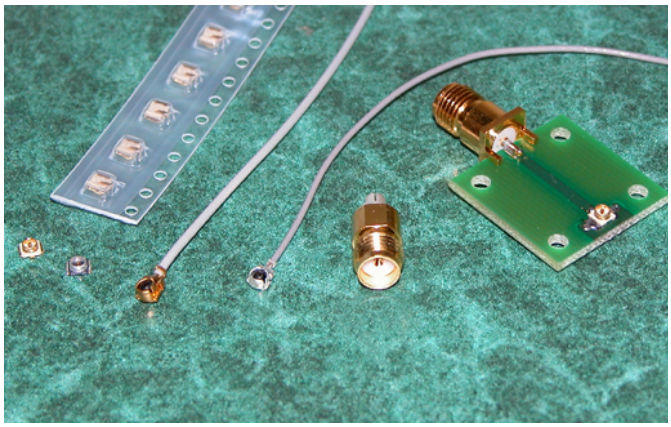
RoHS Ready

UMCC – Ultraminiature Coax Connector & Cable Assembly Series

DESCRIPTION

Ultra-Miniature Coax Connector & Cable Assembly Series

- Extremely low profile
- Surface mount technology
- 360 degree mated rotation
- Excellent price-to-performance ratio



APPLICATIONS

- Wireless LAN, Mini PCI
- Mobile Antenna/GPS/Radio Systems
- PDA / PCS / Cellular Handset applications
- Wireless Communications systems (LAN, GSM, PCS, WCDMA, UMTS)
- Remote measuring equipment

KEY FEATURES

- Ultra low profile (2.0mm or 2.5mm maximum mated height)
- Easy snap on/off mating
- Small footprint on PCB (3mm x 3mm)
- Excellent performance to 6 GHz
- Surface mount and reflow solderable
- Available on 0.80mm and 1.37mm dia single shield, and 1.32mm dia double shield cable
- Style A receptacles mates with HIROSE U.FL/U.FL(v) Series connectors
- Style B receptacles mates with MURATA GSC Series connectors

All part numbers are RoHS compliant

SPECIFICATIONS

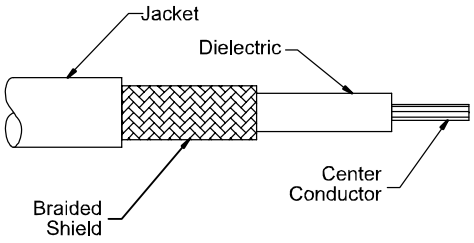
REQUIREMENTS	DETAIL
ELECTRICAL	
Characteristic Impedance:	50 Ohms
Frequency Range:	DC to 6 GHz
VSWR (mated pair):	1.30 max DC to 3 GHz
	1.40 max 3 to 6 GHz (cable dependent)
Insertion Loss (connectors only):	0.24 dB max DC to 6 GHz
Rated voltage:	60 VAC (rms) – standard recept (Styles A, B)
Dielectric Withstanding Voltage:	200 VAC, 50 Hz for 1 min (at sea level)
Insulation Resistance:	500 Megohms min
Contact Resistance (connectors only):	20 milliohms max (Center)
	10 milliohms max (Outer, Plug)
	10 milliohms max (Outer, Receptacle)
MECHANICAL / ENVIRONMENTAL	
Durability:	30 cycles
Disengagement Force:	2N min perpendicular
	4N min orthogonal
Center Contact Retention force:	0.15N min
Tape/Reel Packaging (receptacle):	12mm carrier per EIA-481
Operating Temperature:	- 40°C to + 90°C

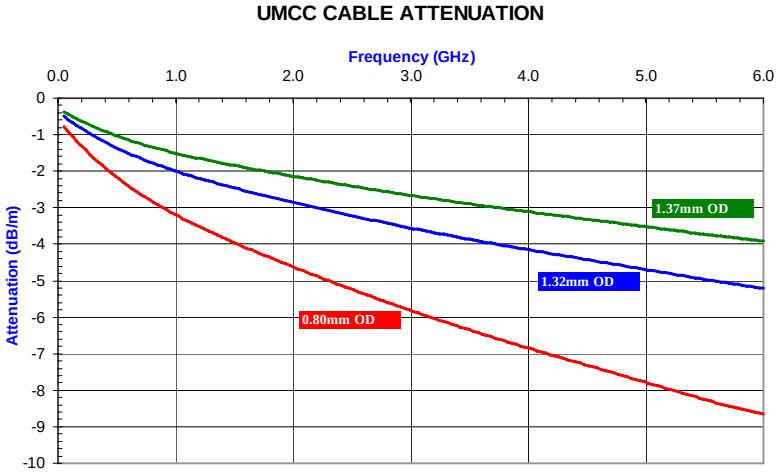
MATERIALS

Part Description	Material	Finish
Shell	Phosphor Bronze	Gold or Silver Plating
Male Center Contact	Brass or Phos Bronze	Gold Plating
Female Center Contact	Brass or Phos Bronze	Gold Plating
Insulator (Plug)	PBT (15% G.F.)	Black, UL94V-0
Insulator (Receptacle)	LCP	Beige or Black, UL94V-0

SPECIFICATIONS

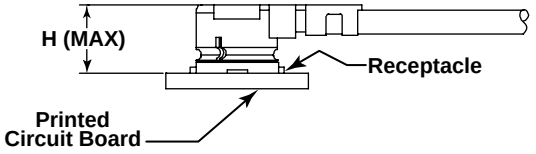
CABLE INFORMATION			
MATERIALS:	**0.80 mm Diameter**	**1.32mm Diameter**	**1.37mm Diameter**
Center Conductor	Silver Plated Copper	Silver Plated Copper	Silver Plated Copper
Size	Stranded 7/0.05 mm	Stranded 7/0.08 mm	Stranded 7/0.10 mm
Dielectric	FEP or PFA	FEP	FEP
Size	0.40 mm OD	0.66 mm OD	0.83 mm OD
Shield	Silver Plated Copper Braid	Double SPL Braid	Silver Plated Copper Braid
Coverage	> 90%	> 90% (Each Braid Layer)	> 90%
Jacket	FEP or PFA	FEP	FEP
Size	0.80 mm OD	1.32 mm OD	1.37 mm OD
MECHANICAL:			
Minimum Bend Radius	5 mm Single Bend 30 mm Continuous Flexing	5 mm Single Bend 30 mm Continuous Flexing	5 mm Single Bend 30 mm Continuous Flexing
ELECTRICAL:			
Impedance (Ohms)	50±2	50±2	50±2
Velocity of Propagation	70%	70%	70%
CC Resistance (Ohms/KM)	1450	560	354
Voltage Rating	60 VAC	60 VAC	60 VAC
Attenuation	See Chart	See Chart	See Chart

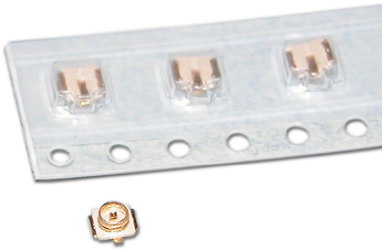




Dimensions are millimeters [inches] unless otherwise specified

PCB Receptacles – Style A

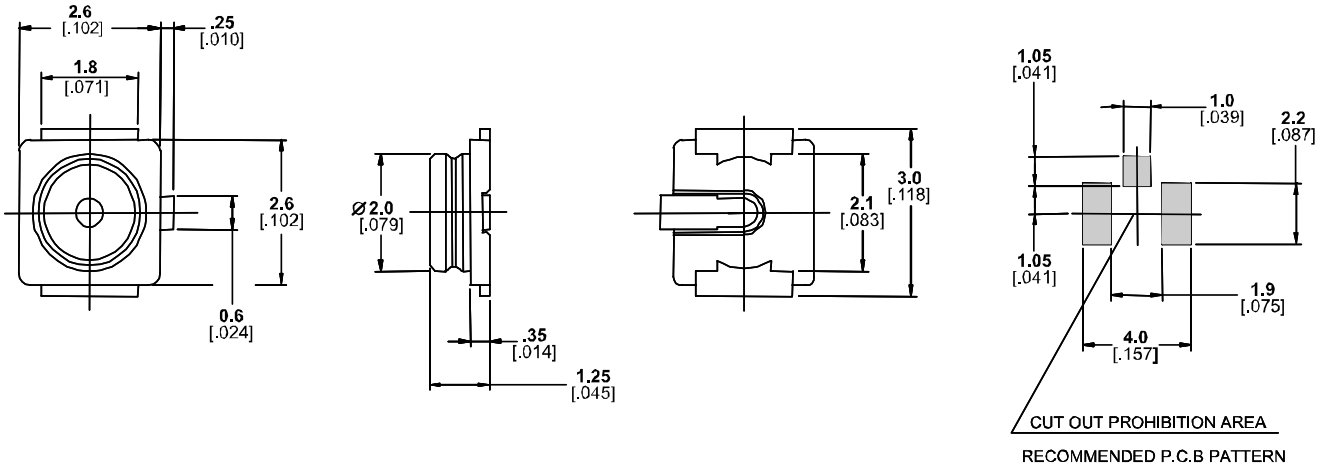




Part Number	Description	Style	Mates with UMCC Cable	Conn Type	Mated Height (H)	Packaging
1566230-1	UMCC PCB Receptacle	A	II / III		2.0mm / 2.5mm	Tape (2500 pieces/reel)
1566230-2	UMCC PCB Receptacle	A	II / III		2.0mm / 2.5mm	Bulk (500 pieces/bag)

Note: All part numbers are RoHS compliant

UMCC PCB Receptacle – Style A



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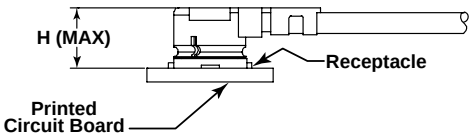
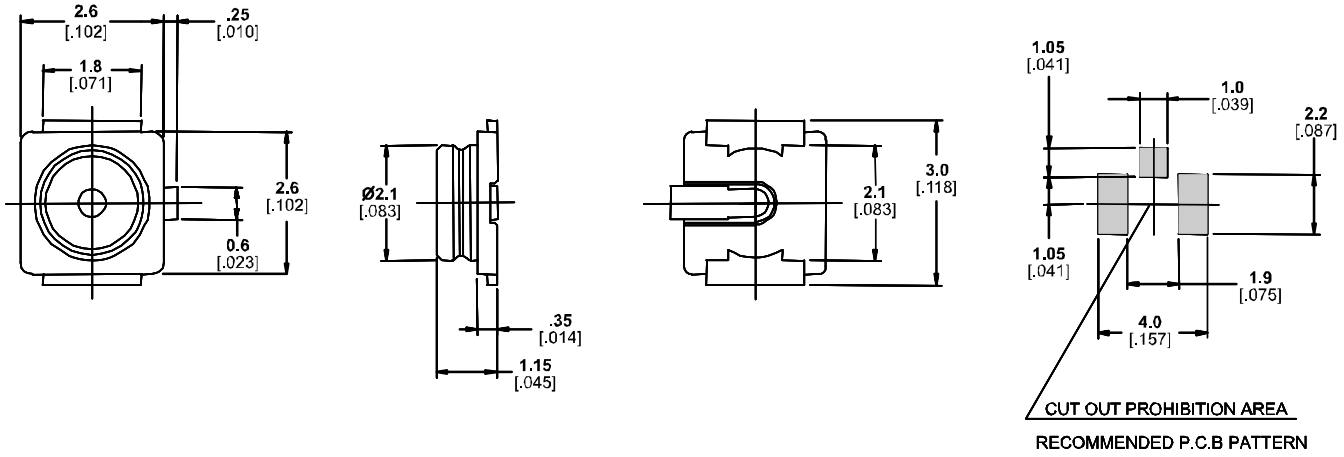
PCB Receptacles – Style B



Part Number	Description	Style	Mates with UMCC Cable Conn Type	Mated Height (H)	Packaging
1775146-1	UMCC PCB Receptacle	B	I	2.0mm	Tape (2500 pieces/reel)
1775146-2	UMCC PCB Receptacle	B	I	2.0mm	Bulk (500 pieces/bag)

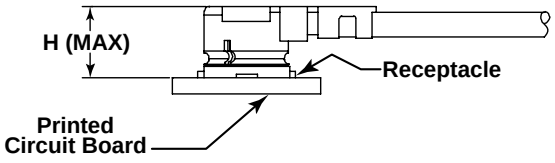
Note: All part numbers are RoHS compliant

UMCC PCB Receptacle – Style B



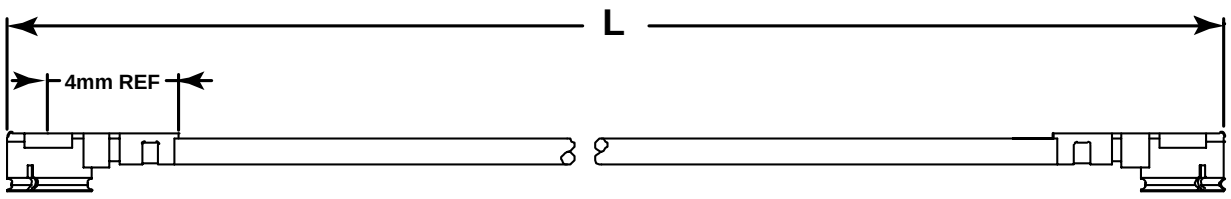
Dimensions are millimeters [inches] unless otherwise specified

Standard Double Ended Cable Assemblies



Part Number	Cable Dia	Length L	UMCC Cable Conn Type	Mates with PCB Receptacle	Mated Height (H)
1750109-1	0.80mm	100mm	I	Style B	2.0mm
1750109-2	0.80mm	200mm	I	Style B	2.0mm
1750108-1	0.80mm	100mm	II	Style A	2.0mm
1750108-2	0.80mm	200mm	II	Style A	2.0mm
1750107-1	0.80mm	100mm	III	Style A	2.5mm
1750107-2	0.80mm	200mm	III	Style A	2.5mm
1750107-3	1.32mm	100mm	III	Style A	2.5mm
1750107-4	1.32mm	200mm	III	Style A	2.5mm
1750107-5	1.37mm	100mm	III	Style A	2.5mm
1750107-6	1.37mm	200mm	III	Style A	2.5mm

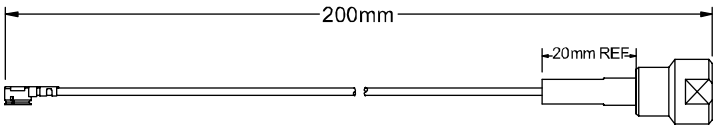
Note: All part numbers are RoHS compliant



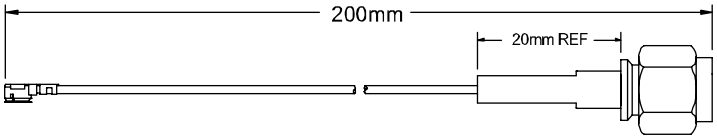
Interseries Cable Assemblies

Part Number	Description	Cable Dia	Length	UMCC Conn Type	Mated Height (H)
1750110-2	UMCC Plug to FME Plug	1.37mm	200mm	III	2.5mm
1750110-4	UMCC Plug to SMA Plug	1.37mm	200mm	III	2.5mm
1750110-6	UMCC Plug to SMA Blkhd Jack	1.37mm	200mm	III	2.5mm
1750110-7	UMCC Plug to MCX R/A Plug	0.80mm	200mm	II	2.0mm
1750110-8	UMCC Plug to MCX R/A Plug	1.37mm	200mm	III	2.5mm
1750110-9	UMCC Plug to MMCX R/A Plug	0.80mm	200mm	II	2.0mm
1-1750110-0	UMCC Plug to MMCX R/A Plug	1.37mm	200mm	III	2.5mm

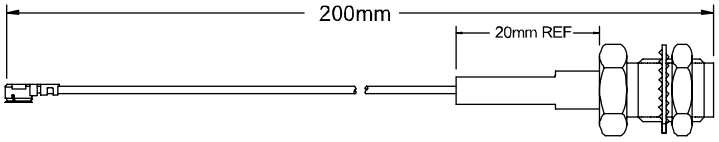
Note: All part numbers are RoHS compliant



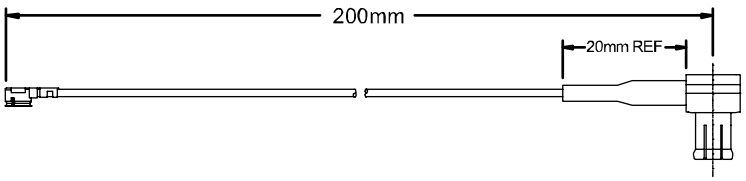
UMCC to FME Plug



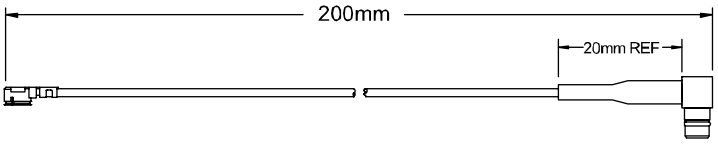
UMCC to SMA Plug



UMCC to SMA Bulkhead Jack



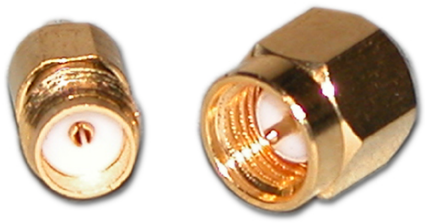
UMCC to MCX R/A Plug



UMCC to MMCX R/A Plug

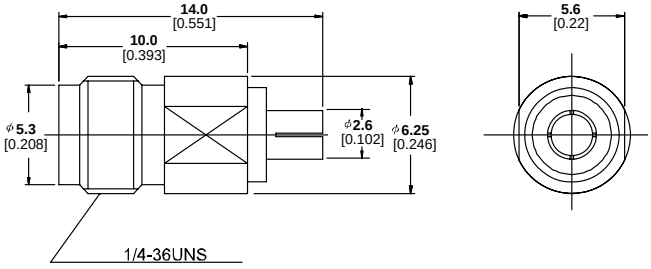
Dimensions are millimeters [inches] unless otherwise specified

Adapters

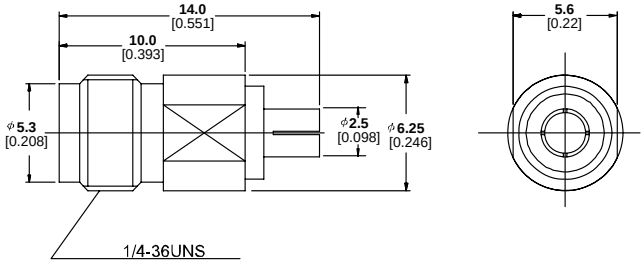


Part Number	Description	UMCC Conn Type
1775229-1	UMCC Plug to SMA Jack	I
1775230-1	UMCC Plug to SMA Jack	II / III
1775228-1	UMCC Jack Receptacle to SMA Plug	I
1775227-1	UMCC Jack Receptacle to SMA Plug	II / III

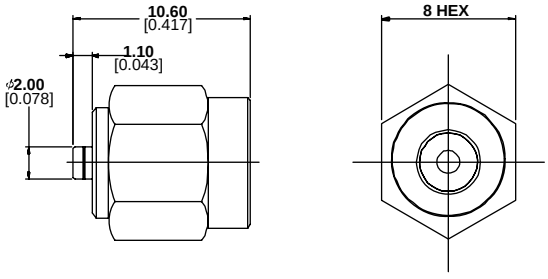
Note: All part numbers are RoHS compliant



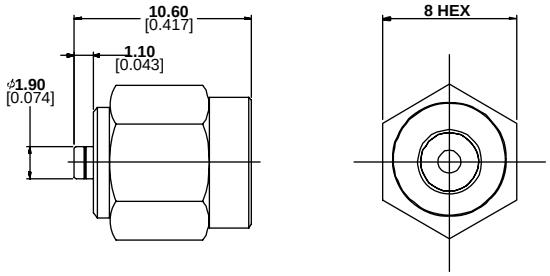
Part Number 1775229



Part Number 1775230



Part Number 1775228

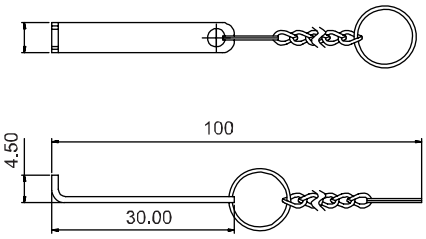


Part Number 1775227

Dimensions are millimeters [inches] unless otherwise specified

Extraction Tool

Part Number 1775231-1



Dimensions are millimeters unless otherwise specified

FOR MORE INFORMATION

Internet
http://tycoelectronics.com/products/rfcoax

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E-mail: monty@tycoelectronics.com

Europe Product Manager – Alex van Zandvoort
Phone: +31-73-624-6192
E-mail: AZandvoort@tycoelectronics.com

Product Specification/Design Objectives: 108-2231
UMCC Sample Kit: 1-1773441-6

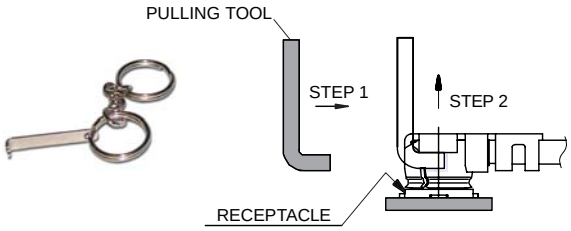
Application Notes

Mating/Unmating – Cable Plugs

Mating/Unmating

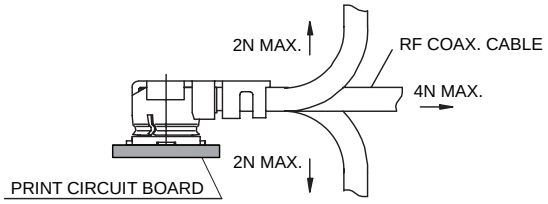
1) To mate the connectors, insert the cable plug into the SMT receptacle, making sure the cable plug is as vertical as possible and the mating axis of both connectors are aligned. Do not insert on an extreme angle.

2) To unmate the connectors, insert the end portion of the extraction tool under the SMT receptacle connector flanges and pull off vertically in the direction of the mating axis.



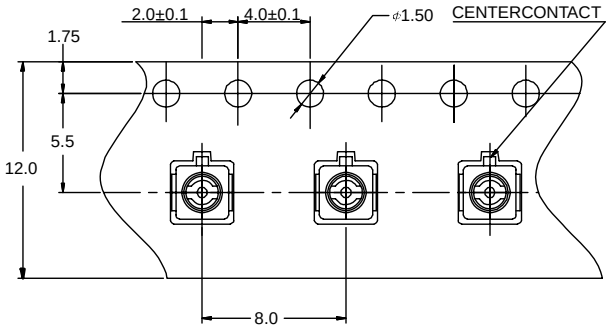
Permissible Load

Do not apply excessive load to the cable after the connectors are mated. Please refer to the permissible loads indicated in the figure to the right.

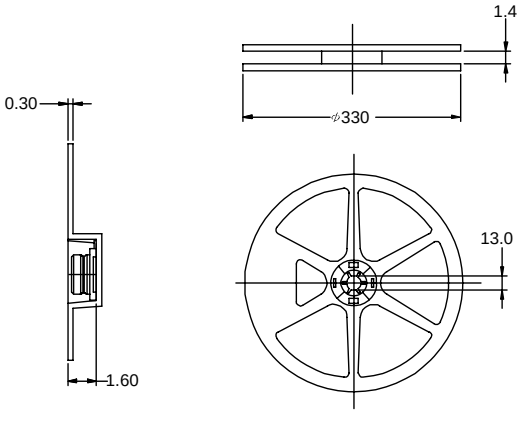


Tape and Reel Packaging Specifications

Standard Receptacles



DIMENSIONS OF TAPING



DIMENSIONS REEL (2500 PIECES/REEL)

Application Notes

Soldering Profile - SMT Receptacle

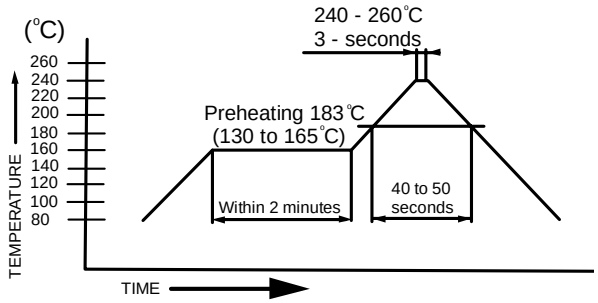
Recommended Temperature Profile (Reference)

1) The preferred technique for mounting the SMT Receptacle package is to reflow solder the device onto a PCB (Printed Circuit Board).

2) The maximum temperature for the lead of PCB surface should not exceed 260º C.

3) The reflow soldering profile shown is for reference and will change under individual conditions.

Typical Temperature Profile (Reference)



Hand Soldering (Reference only)

1) Soldering iron: The maximum temperature is 260° C .

2) Soldering period: less than 5 seconds.

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