# **Molex** 716612030 **PDF**



深圳创唯电子有限公司 http://www.molex-

connect.com





#### TABLE OF CONTENTS

- 1.0 SCOPE
- 2.0 PRODUCT DESCRIPTION
- 3.0 RECOGNIZED AGENCY APPROVAL
- 4.0 RATINGS
- 5.0 ELECTRICAL PERFORMANCE
- 6.0 MECHANICAL PERFORMANCE
- 7.0 ENVIRONMENTAL PERFORMANCE
- 8.0 TEST SEQUENCE
- 9.0 TEST SETUP
- 10.0 PROCESSING GUIDELINES

		REVISE ON PC	ONLY	TITLE <b>P</b> I	RODUCI		<b>ICATION FOR E</b>	EBBI			
		ADDED SDA-71661-15** RWHIPPLE 8/26/2014 UCP2015-0606			50D PLUG AND RECEPTACLE CONNECTORS						
				-	THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO						
	REV	DESCRIF	PTION	MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION							
	DESI	GN CONTROL	STATUS	REVISED BY:	CHECKED BY:	APPROVED BY:	DATE: YR / MO / DAY				
		UCP	RELEASED	RWHIPPLE	BBARKER	SMILLER	2014/08/26				
C	OCUM	ENT NO.	•		•		FILE NAME	SHT N	0.		
PS –71660							PS71660	1 OF <sup>-</sup>	12		
	BO	RDER TEMPLAT	E: ES-40000	-3996 REV.	A SHEET 3	95/MAR/10	EC U5-0926 DCBRD0	3.LWP			





#### 1.0 SCOPE

This specification covers the Molex EBBI 50D family of plug and receptacle connectors. This is an Economical Board to Board Interface system specific to the requirements set forth by Molex, Inc.

#### 2.0 **PRODUCT DESCRIPTION**

#### 2.1 CONNECTORS COVERED IN THIS SPECIFICATION

Description	Sales Drawing
Receptacle Connector, Vertical	SDA-71660-1***, -9***
Plug Connector, Vertical	SDA-71661-1***, -9***, SDA-71661 -15**
Plug Connector, Right Angle	SDA-71661-2***
Plug Connector, SMT	SD-74139-001, -002, -003, -004, -005, -006
Receptacle Connector, Blind Mate	SDA-71660-7***
Plug Connector, Blind Mate	SDA-71661-7***
Receptacle Connector, Vertical IDT	SDA-71660-3***

#### 2.2 GENERAL DESCRIPTION

The Molex EBBI 50D interface is a cost effective, high density system. The connectors have a 0.050" (1.27 mm) contact centerline and use a "D" shaped mating face for polarization. Polarization on the blind mate connectors is achieved by two different size guiding posts. The products outlined here utilize a leaf system contact design that is duplex plated. This provides a gold plated interface for long-term reliability. The plug contact is fixed while the receptacle contact is compliant, allowing for variable mating depth.

#### 2.3 PRODUCT FAMILY

	F	REVISE ON PC ONLY	TITLE	PROF	DUCT SP	FCIF		<b>ΓΙΟΝ F</b>	OR	
	I	SEE SHEET 1			EBBI 50 EPTACL	D PL	UG /	AND		
				THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION						
	REV	DESCRIPTION	WOLEN ING. AND SHOOLD NOT BE USED WITHOUT WRITTEN FERMISSION							
DOC		ю.					FILE	E NAME	SHEE	T
PS - 71660							PS	71660	2	
BORDER TEMPLATE: ES-40000-3996			REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP	





ENGLISH

The EBBI 50D connector family consists of a vertical plug and receptacle, a right angle plug, a vertical SMT plug, and a vertical blind mate plug. These are available in select circuit sizes from 30 to 130. The receptacle connector can also serve as a card edge connector. All are designed to be wave soldered on a standard .062" thick printed circuit board (PCB) using conventional industry methods.

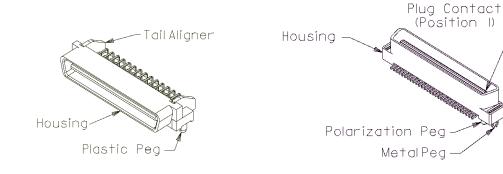
#### 2.4 **RIBBON CONNECTOR**

The vertical IDT receptacle connector mates with the Molex plug connector series 71661. The applicable wire range for this connector is stated below.

#30 AWG solid copper: Conductor O.D. to be  $0.010^{"}$ Insulation O.D. to be  $.024^{"}\pm .002$  (PVC or TPR insulation)

#30 AWG stranded (7/38) tinned copper: Conductor O.D. to be 0.012". Insulation O.D. to be .024"  $\pm .002$  (PVC or TPR insulation)

# 2.5 NOMENCLATURE

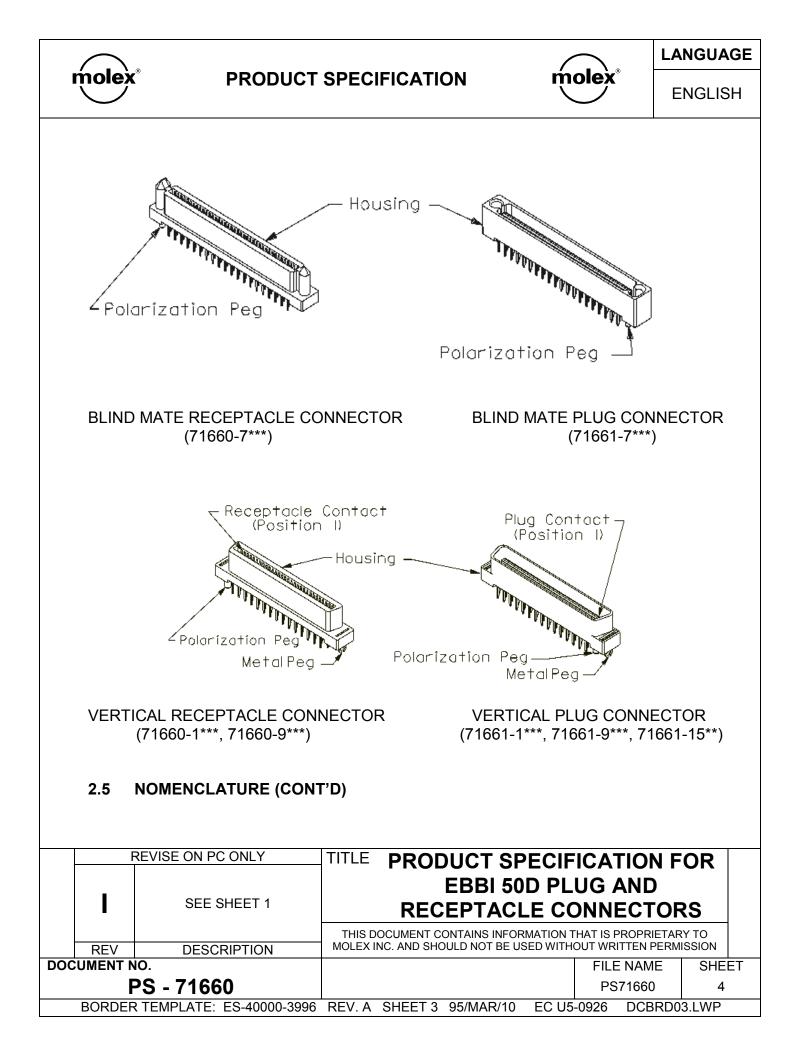


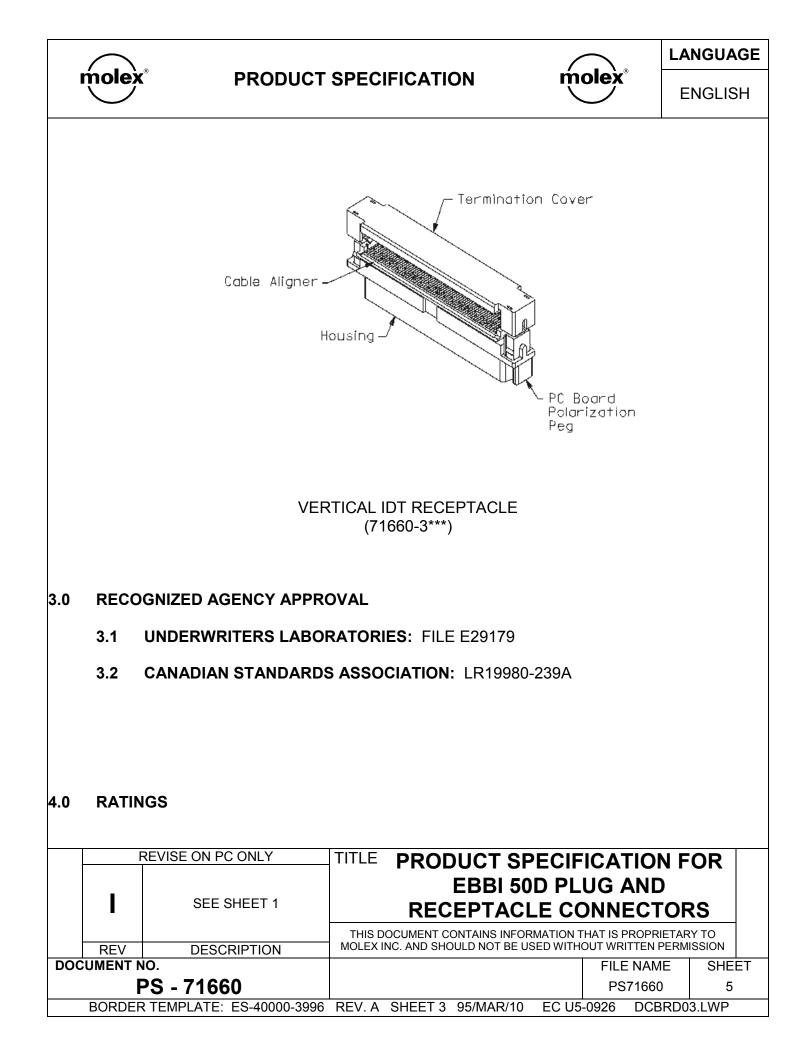
#### RIGHT ANGLE PLUG CONNECTOR (71661-2\*\*\*)

VERTICAL SMT PLUG CONNECTOR (74139-00\*\*, 74139 -5\*\*\*)

## 2.5 NOMENCLATURE (CONT'D)

		REVISE ON PC ONLY	TITLE PRODUCT SPECIFICATION FOR							
		SEE SHEET 1			EBBI 50 EPTACL	D PL	UG /	AND		
		DECODIDITION	THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION							
	REV	DESCRIPTION	Well AND CHOCED NOT BE COED WITHOUT WITH ETWICOTON							
DOC		10.					FILE	ENAME	SHE	ET
PS - 71660							PS	71660	3	
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP	









ENGLISH

- 4.1 VOLTAGE: 30 VAC Maximum
- 4.2 **CURRENT:** 1.0 AMPS at 20°C maximum temperature rise
- **4.3 AMBIENT TEMPERATURE RANGE:** -40°C to 105°C

#### 5.0 ELECTRICAL PERFORMANCE

TEST	PROCEDURE	CRITERIA	<u>COMMENTS</u>
Contact Interface Resistance		10 m $\Omega$ delta	Mate connectors, measure by dry circuit, 20 mV max., 10 mA
Dielectric Strength	MIL-STD-202, Method 302, Condition B	No breakdown	Mate connectors, apply 500 VRMS for 1 minute between adjacent terminals of ground
Insulation Resistance	MIL-STD-202, Method 302, Condition B	100 mΩ, min.	Mate connectors, apply 500 VDC for 1 minute between adjacent terminals or ground
Current Cycling		20 °C maximum rise	45 minutes on, 15 minutes off for 240 hours
Temperature Rise, Steady State		20 °C maximum rise	DC current for 96 hours

#### 6.0 MECHANICAL PERFORMANCE

	ŀ	REVISE ON PC ONLY	TITLE	PRO	DUCT SP	<b>ECIF</b>	ICA.	TION F	OR	
	I	SEE SHEET 1			EBBI 50 EPTACL	D PL	UG	AND		
	REV	DESCRIPTION	THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION							
DOC							FILE	ENAME	SHEET	
	F	PS - 71660					PS	71660	6	
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP	





ENGLISH

TEST	CRITERIA	<u>COMMENTS</u>
Connector Mating and Unmating Forces	Mating forces: 90 gf x N max. (N=number of circuits) Unmating forces: 15 gf x N min. (N=number of circuits)	Mate and unmate connectors at a rate of 1.0 ± .12" (25 ± 3 mm) per minute
Terminal Retention Force	1.00 lbs (0.45 kg) minimum	Apply axial pullout force at a rate of 1.0 ± .12" (25 ± 3 mm) per minute
Cable Bend Strain Test (Vertical IDT only)	No breakage of core wires	Bend cable 45° from center in each direction while applying a 1 kg load to free end

## 7.0 ENVIRONMENTAL PERFORMANCE

		REVISE ON PC ONLY	TITLE	PRO	D	UCT SF	PECI	FICA	TION F	OR	
		SEE SHEET 1				EBBI 50 EPTACI	DP	LUG	AND		
	REV	DESCRIPTION	-			ONTAINS INFOR					
DOC	DOCUMENT NO.							FILI	E NAME	SHE	ET
PS - 71660								PS	671660	7	
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET	3	95/MAR/10	EC L	J5-0926	DCBRD0	3.LWP	





LANGUAGE

ENGLISH

TEST	PROCEDURE	<u>CRITERIA</u>	<u>COMMENTS</u>
Mate/Unmate Cycling	2000 Mate/Unmate cycles followed by thermal shock, thermal aging, and cyclic humidity	Mate/Unmate forces and Contact Resistance measured initially; measurements taken at 250 cycle intervals: $10 \text{ m}\Omega$ change from initial	Mate/unmate connectors for 2000 cycles at a rate of 10 cycles per minute
Thermal Aging	MIL-STD-202, Method 108A, Condition A	Appearance: No physical damage. Contact resistance: 10 mΩ change from initial.	Mated connectors subjected to 105 °C for 96 hours.
Vibration	MIL-STD-202, Method 201A	Appearance: No physical damage. Contact resistance: 10 mΩ change from initial Discontinuity: 1 msecond maximum.	Mated connectors to be soldered to a PCB with a simple harmonic motion along the X, Y and Z axes, having an amplitude of .059" (1.5 mm) P-P. Each axis shall be subjected to the entire range of 10-55- 10 Hz, traversed in one minute, Duration: 2 hours for each axis.
Mechanical Shock	MIL-STD-202 Method 213B, Condition A	Appearance:No physicaldamage.Contact resistance:10 mΩ change from initial.Discontinuity:1 msecondmaximum	Mated connectors to be soldered to a PCB with 50 grams of acceleration. 3 shocks along the X, Y and Z axes.
Thermal Shock		Appearance: No physical damage. Contact resistance: 10 mΩ change from initial	Mated connectors subjected to 105 °C to -40 °C with 30 minute dwell, 10 cycles
Steady State Humidity	MIL-STD-202 Method 103B, Condition B	Appearance: No physical damage. Contact resistance: 10 m $\Omega$ change from initial Insulation Resistance: 100 m $\Omega$ min. Must pass dielectric strength	Mated connectors subjected to 60± 2 °C at 90-95% RH for 96 hours.

# 7.0 ENVIRONMENTAL PERFORMANCE (CONTINUED)

		REVISE ON PC ONLY	TITLE	PRO	DUCT SP	FCIF	ICA.	TION F	OR	
		SEE SHEET 1			EBBI 50	D PL	UG /	AND		
	REV	DESCRIPTION	-				ATION THAT IS PROPRIETARY TO D WITHOUT WRITTEN PERMISSION			
DOC		Ю.					FILE	E NAME	SHEET	
PS - 71660							PS	571660	8	
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP	





LANGUAGE

ENGLISH

<u>TEST</u>	PROCEDURE	CRITERIA	<u>COMMENTS</u>
Cyclic Humidity	MIL-STD-202 Method 106D	Appearance: No physical damage. Contact resistance: 10 m $\Omega$ change from initial Insulation Resistance: 100 m $\Omega$ min. Must pass dielectric strength	Mated connectors subjected to 25°C - 65 °C at 90-95% RH for 240 hours
Mixed Flowing Gas Test	Battelle Class II	Appearance: No physical damage Contact resistance: 10 mΩ change from initial	Subject mated connector to a mixed gas for 10 days at 30° C. Linear flow rate to be 305 mm/second.
Solderability		95% of immersed area must show no voids or pin holes.	Test Parameters: Soldering time to be 3 ± 0.5 seconds. Solder temperature to be 230 ± 5 °C

#### 8.0 TEST SEQUENCE

	l	REVISE ON PC ONLY	TITLE	PRO	DUCT SF	<b>ECIF</b>	ICA	TION F	OR
		SEE SHEET 1			EBBI 50 EPTACI	D PL	UG /	AND	
	REV	DESCRIPTION	THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION						
DOC		ю.					FILE	ENAME	SHEET
PS - 71660							PS	71660	9
BORDER TEMPLATE: ES-40000-3996			REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP





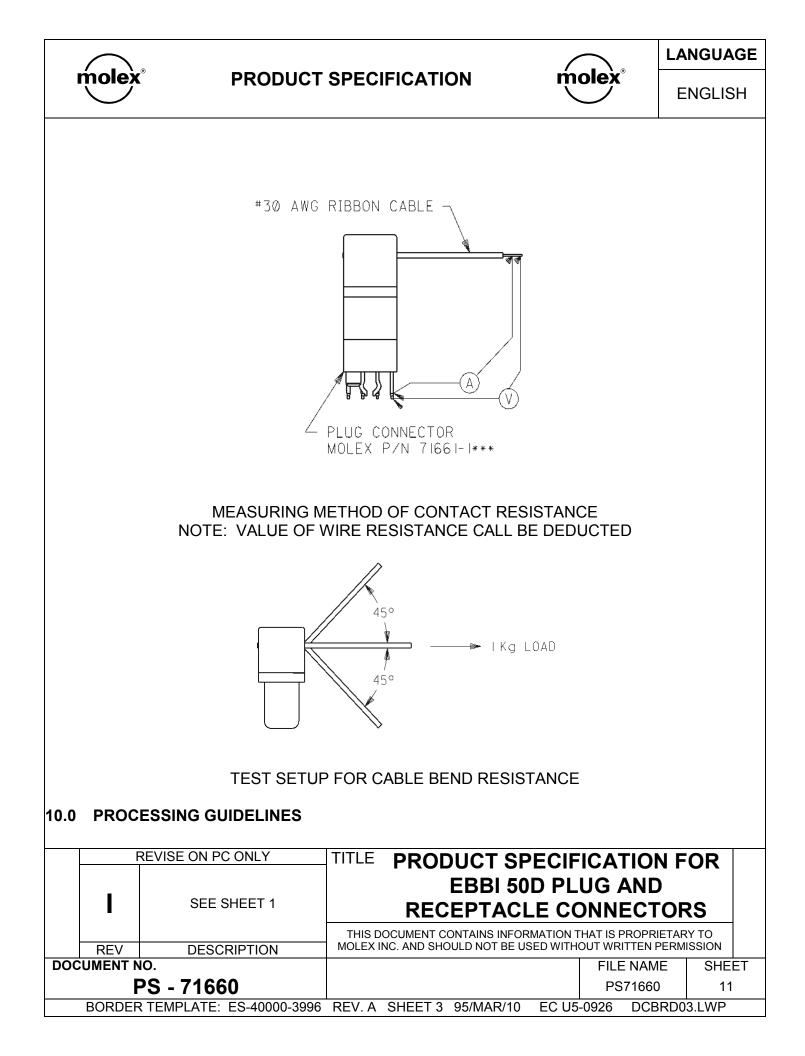
ENGLISH

TEST OR	TEST SEQUENCE											
EXAMINATION	1	2	3	4	5	6	7	8*				
EXAMINATION OF PRODUCT	1	1	1	1	1	1	1	1				
MEASURE CONTACT RESISTANCE	2,4,6,8	2,4,6,8,10	2,4,6,8	2,4,6,8,10			2,4,6	2,4,6,8				
MEASURE TEMPERATURE					2,4,6,8,10	2,4,6,8,10,12						
THERMAL SHOCK	3	5										
MATE/UNMATE CYCLING		3		3		3						
THERMAL AGING	5	7										
CYCLIC HUMIDITY	7	9										
STEADY STATE HUMIDITY			3	5	3	5						
MIXED FLOWING GAS							3	3				
VIBRATION			7	9				7				
MECHANICAL SHOCK			5	7								
CURRENT CYCLING					7	9						
TEMPERATURE RISE- STEADY STATE					5,9	7,11						
MATE/UNMATE CYCLING							5					
CABLE BEND (VERTICAL IDT ONLY)								5				

\*Vertical IDT receptacle connector only

## 9.0 TEST SETUP – VERTICAL IDT RECEPTACLE CONNECTOR

	ŀ	REVISE ON PC ONLY	TITLE	PRO	DUCT SP	<b>ECIE</b>	ICA.	TION F	OR
	I	SEE SHEET 1			EBBI 50 EPTACI	D PL	UG	AND	
					ONTAINS INFOR				
	REV	DESCRIPTION	MOLEXI	NC. AND SHO	DULD NOT BE US	SED WITH	OUTWR	II IEN PERM	SSION
DOC		ю.					FILE	E NAME	SHEET
	F	PS - 71660					PS	571660	10
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP







<u>STEP</u>		RECOMMENDA	<u>ATION</u>	<u>COMMENTS</u>
Picking and Placing		Acceleration L	imits (in ft/sec <sup>2</sup> )	These limits prevent the
SMT Plug	Circuit Size	Vertical Move	Horizontal Move	Connector from moving in
Connectors using the Pick and Place	30	39.5	49.7	relationship to the vacuum cap/clip during the transfer from
Caps/Clips	40	32.4	40.8	the connector packaging to the
	50	27.5	34.6	printed circuit board.
	60	24.0	30.2	
	68	21.6	27.1	
	80	18.9	23.7	
	100	15.7	19.7	
Resistance to Soldering Heat		0	265 degrees C. f peak temperature to	Appearance: No physical damage.
		r @100°C prior to p	71661-7*** must be rocessing at	
REVISE O	N PC ONLY	TITLE P	PRODUCT SP	ECIFICATION FOR
	<u>N PC ONLY</u> EE SHEET 1	TITLE P	EBBI 50	ECIFICATION FOR D PLUG AND E CONNECTORS
l s		THIS DOCL	EBBI 50 RECEPTACL	D PLUG AND





#### TABLE OF CONTENTS

- 1.0 SCOPE
- 2.0 PRODUCT DESCRIPTION
- 3.0 RECOGNIZED AGENCY APPROVAL
- 4.0 RATINGS
- 5.0 ELECTRICAL PERFORMANCE
- 6.0 MECHANICAL PERFORMANCE
- 7.0 ENVIRONMENTAL PERFORMANCE
- 8.0 TEST SEQUENCE
- 9.0 TEST SETUP
- 10.0 PROCESSING GUIDELINES

		REVISE ON PC	ONLY	TITLE PRODUCT SPECIFICATION FOR EBBI						
		ADDED SDA-710 RWHIPPLE 8/26 UCP2015-0606		50D PLUG AND RECEPTACLE CONNECTORS						
				-	THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					
	REV	DESCRIF	PTION	MOLEX I	NC. AND SHOUL	D NOT BE USED V	VITHOUT WRITTEN PERMISS	ION		
	DESI	GN CONTROL	STATUS	REVISED BY:	CHECKED BY:	APPROVED BY:	DATE: YR / MO / D	۹Y		
		UCP	RELEASED	RWHIPPLE	BBARKER	SMILLER	2014/08/26			
C	OCUM	ENT NO.	•		•		FILE NAME	SHT N	0.	
		PS –7166	0	PS71660 1 OF 12						
	BO	RDER TEMPLAT	E: ES-40000	-3996 REV.	A SHEET 3	95/MAR/10	EC U5-0926 DCBRD0	3.LWP		





#### 1.0 SCOPE

This specification covers the Molex EBBI 50D family of plug and receptacle connectors. This is an Economical Board to Board Interface system specific to the requirements set forth by Molex, Inc.

#### 2.0 **PRODUCT DESCRIPTION**

#### 2.1 CONNECTORS COVERED IN THIS SPECIFICATION

Description	Sales Drawing
Receptacle Connector, Vertical	SDA-71660-1***, -9***
Plug Connector, Vertical	SDA-71661-1***, -9***, SDA-71661 -15**
Plug Connector, Right Angle	SDA-71661-2***
Plug Connector, SMT	SD-74139-001, -002, -003, -004, -005, -006
Receptacle Connector, Blind Mate	SDA-71660-7***
Plug Connector, Blind Mate	SDA-71661-7***
Receptacle Connector, Vertical IDT	SDA-71660-3***

#### 2.2 GENERAL DESCRIPTION

The Molex EBBI 50D interface is a cost effective, high density system. The connectors have a 0.050" (1.27 mm) contact centerline and use a "D" shaped mating face for polarization. Polarization on the blind mate connectors is achieved by two different size guiding posts. The products outlined here utilize a leaf system contact design that is duplex plated. This provides a gold plated interface for long-term reliability. The plug contact is fixed while the receptacle contact is compliant, allowing for variable mating depth.

#### 2.3 PRODUCT FAMILY

	F	REVISE ON PC ONLY	TITLE	PROF	DUCT SP	FCIF		<b>ΓΙΟΝ F</b>	OR	
	I	SEE SHEET 1	EBBI 50D PLUG AND RECEPTACLE CONNECTO		AND					
		DECODIDITION	-		ONTAINS INFOR				-	
	REV	DESCRIPTION	WOLLXI	NO. AND ON						
DOC		ю.					FILE	E NAME	SHEE	T
	F	PS - 71660					PS	71660	2	
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP	





ENGLISH

The EBBI 50D connector family consists of a vertical plug and receptacle, a right angle plug, a vertical SMT plug, and a vertical blind mate plug. These are available in select circuit sizes from 30 to 130. The receptacle connector can also serve as a card edge connector. All are designed to be wave soldered on a standard .062" thick printed circuit board (PCB) using conventional industry methods.

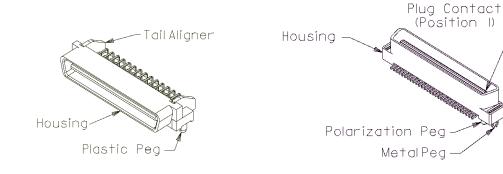
#### 2.4 **RIBBON CONNECTOR**

The vertical IDT receptacle connector mates with the Molex plug connector series 71661. The applicable wire range for this connector is stated below.

#30 AWG solid copper: Conductor O.D. to be  $0.010^{"}$ Insulation O.D. to be  $.024^{"}\pm .002$  (PVC or TPR insulation)

#30 AWG stranded (7/38) tinned copper: Conductor O.D. to be 0.012". Insulation O.D. to be .024"  $\pm .002$  (PVC or TPR insulation)

# 2.5 NOMENCLATURE

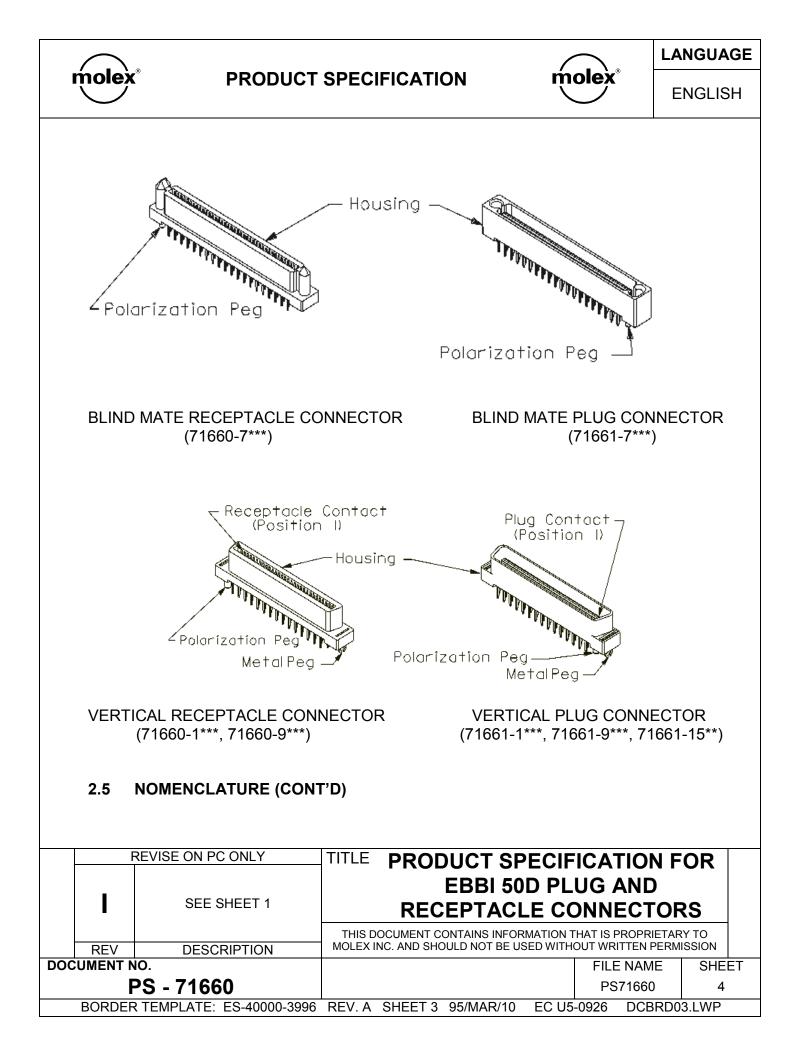


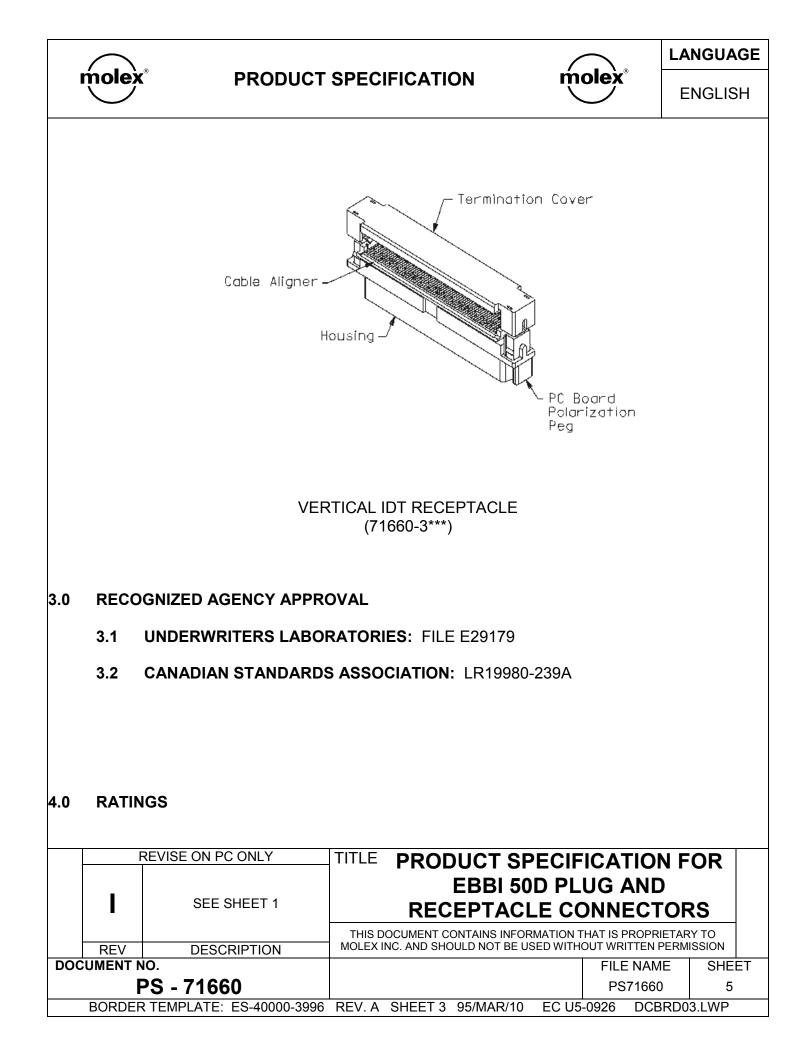
#### RIGHT ANGLE PLUG CONNECTOR (71661-2\*\*\*)

VERTICAL SMT PLUG CONNECTOR (74139-00\*\*, 74139 -5\*\*\*)

## 2.5 NOMENCLATURE (CONT'D)

		REVISE ON PC ONLY	TITLE	PROF	DUCT SF	<b>ECIF</b>		<b>FION F</b>	OR	
		SEE SHEET 1	EBBI 50D PLUG AND RECEPTACLE CONNECTOR							
		DECODIDITION			ONTAINS INFOR					
	REV	DESCRIPTION	MOLEXI		JOED NOT DE O					
DOC		10.					FILE	ENAME	SHE	ET
	F	PS - 71660					PS	71660	3	
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP	









ENGLISH

- 4.1 VOLTAGE: 30 VAC Maximum
- 4.2 **CURRENT:** 1.0 AMPS at 20°C maximum temperature rise
- **4.3 AMBIENT TEMPERATURE RANGE:** -40°C to 105°C

#### 5.0 ELECTRICAL PERFORMANCE

TEST	PROCEDURE	CRITERIA	<u>COMMENTS</u>
Contact Interface Resistance		10 m $\Omega$ delta	Mate connectors, measure by dry circuit, 20 mV max., 10 mA
Dielectric Strength	MIL-STD-202, Method 302, Condition B	No breakdown	Mate connectors, apply 500 VRMS for 1 minute between adjacent terminals of ground
Insulation Resistance	MIL-STD-202, Method 302, Condition B	100 mΩ, min.	Mate connectors, apply 500 VDC for 1 minute between adjacent terminals or ground
Current Cycling		20 °C maximum rise	45 minutes on, 15 minutes off for 240 hours
Temperature Rise, Steady State		20 °C maximum rise	DC current for 96 hours

#### 6.0 MECHANICAL PERFORMANCE

	ŀ	REVISE ON PC ONLY	TITLE	PRO	DUCT SP	<b>ECIF</b>	ICA.	TION F	OR
	I	SEE SHEET 1			EBBI 50 EPTACL	D PL	UG	AND	
	REV	DESCRIPTION	-		ONTAINS INFOR				-
DOC							FILE	ENAME	SHEET
	F	PS - 71660					PS	71660	6
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP





ENGLISH

TEST	CRITERIA	<u>COMMENTS</u>		
Connector Mating and Unmating Forces	Mating forces: 90 gf x N max. (N=number of circuits) Unmating forces: 15 gf x N min. (N=number of circuits)	Mate and unmate connectors at a rate of 1.0 ± .12" (25 ± 3 mm) per minute		
Terminal Retention Force	1.00 lbs (0.45 kg) minimum	Apply axial pullout force at a rat of 1.0 ± .12" (25 ± 3 mm) per minute		
Cable Bend Strain Test (Vertical IDT only)	No breakage of core wires	Bend cable 45° from center in each direction while applying a 1 kg load to free end		

## 7.0 ENVIRONMENTAL PERFORMANCE

		REVISE ON PC ONLY	TITLE	PRO	D	UCT SF	PECI	FICA	TION F	OR	
		SEE SHEET 1				EBBI 50 EPTACI	DP	LUG	AND		
	REV	DESCRIPTION	-			ONTAINS INFOR					
DOC		Ю.						FILI	E NAME	SHE	ET
	F	PS - 71660						PS	671660	7	
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET	3	95/MAR/10	EC L	J5-0926	DCBRD0	3.LWP	





LANGUAGE

ENGLISH

TEST	PROCEDURE	<u>CRITERIA</u>	<u>COMMENTS</u>		
Mate/Unmate Cycling	2000 Mate/Unmate cycles followed by thermal shock, thermal aging, and cyclic humidity	Mate/Unmate forces and Contact Resistance measured initially; measurements taken at 250 cycle intervals: $10 \text{ m}\Omega$ change from initial	Mate/unmate connectors for 2000 cycles at a rate of 10 cycles per minute		
Thermal Aging	Method 108A, damage. Contact resistance:		Mated connectors subjected to 105 °C for 96 hours.		
Vibration MIL-STD-202, Method 201A		Appearance: No physical damage. Contact resistance: 10 mΩ change from initial Discontinuity: 1 msecond maximum.	Mated connectors to be soldered to a PCB with a simple harmonic motion along the X, Y and Z axes, having an amplitude of .059" (1.5 mm) P-P. Each axis shall be subjected to the entire range of 10-55- 10 Hz, traversed in one minute, Duration: 2 hours		
Mechanical Shock	MIL-STD-202 Method 213B, Condition A	Appearance:No physicaldamage.Contact resistance:10 mΩ change from initial.Discontinuity:1 msecondmaximum	for each axis. Mated connectors to be soldered to a PCB with 50 grams of acceleration. 3 shocks along the X, Y and Z axes.		
Thermal Shock		Appearance: No physical damage. Contact resistance: 10 mΩ change from initial	Mated connectors subjected to 105 °C to -40 °C with 30 minute dwell, 10 cycles		
Steady State Humidity	MIL-STD-202 Method 103B, Condition B	Appearance: No physical damage. Contact resistance: 10 m $\Omega$ change from initial Insulation Resistance: 100 m $\Omega$ min. Must pass dielectric strength	Mated connectors subjected to 60± 2 °C at 90-95% RH for 96 hours.		

# 7.0 ENVIRONMENTAL PERFORMANCE (CONTINUED)

		REVISE ON PC ONLY	TITLE	PRO	DUCT SP	FCIF	ICA.	TION F	OR
		SEE SHEET 1			EBBI 50	D PL	UG /	AND	
	REV	DESCRIPTION	-		ONTAINS INFOR				-
DOC		Ю.					FILE	E NAME	SHEET
	F	PS - 71660					PS	571660	8
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP





LANGUAGE

ENGLISH

<u>TEST</u>	PROCEDURE	CRITERIA	<u>COMMENTS</u>
Cyclic Humidity	MIL-STD-202 Method 106D	Appearance: No physical damage. Contact resistance: 10 m $\Omega$ change from initial Insulation Resistance: 100 m $\Omega$ min. Must pass dielectric strength	Mated connectors subjected to 25°C - 65 °C at 90-95% RH for 240 hours
Mixed Flowing Gas Test	Battelle Class II	Appearance: No physical damage Contact resistance: 10 mΩ change from initial	Subject mated connector to a mixed gas for 10 days at 30° C. Linear flow rate to be 305 mm/second.
Solderability		95% of immersed area must show no voids or pin holes.	Test Parameters: Soldering time to be 3 ± 0.5 seconds. Solder temperature to be 230 ± 5 °C

#### 8.0 TEST SEQUENCE

	l	REVISE ON PC ONLY	TITLE	PRO	DUCT SF	<b>ECIF</b>	ICA	TION F	OR
		SEE SHEET 1			EBBI 50 EPTACI	D PL	UG /	AND	
	REV	DESCRIPTION	_		ONTAINS INFOR				-
DOC		Ю.					FILE	ENAME	SHEET
	F	PS - 71660					PS	71660	9
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP





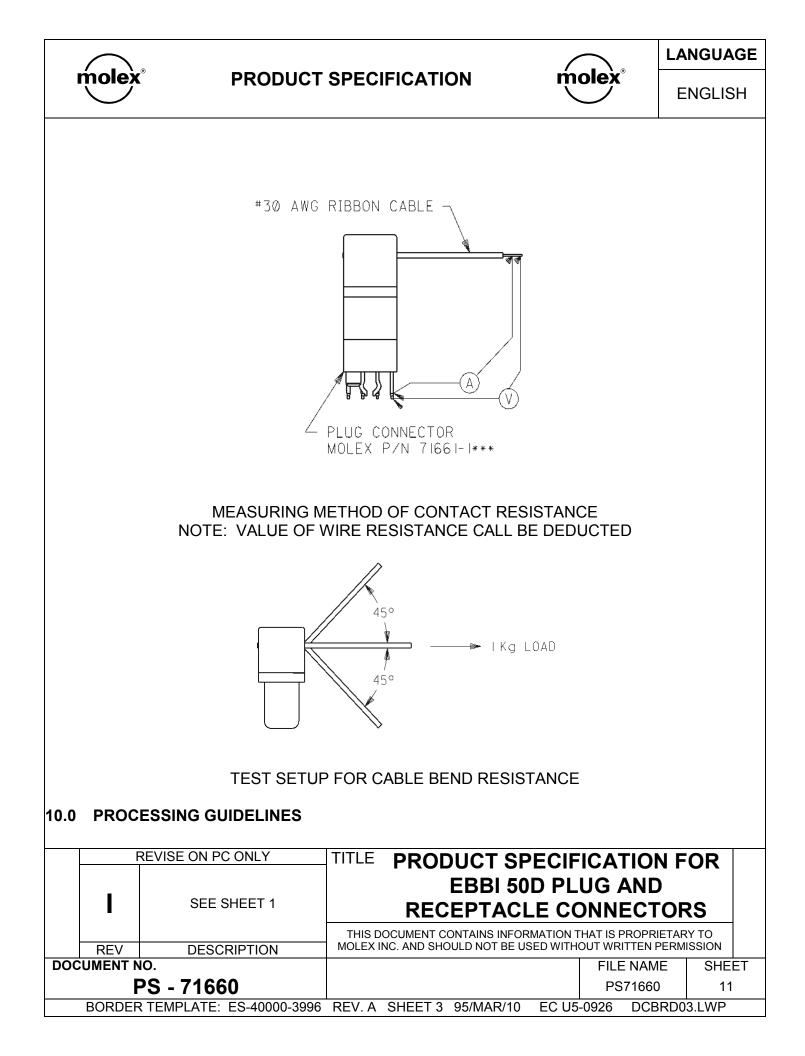
ENGLISH

TEST OR				TEST S	EQUENCE			
EXAMINATION	1	2	3	4	5	6	7	8*
EXAMINATION OF PRODUCT	1	1	1	1	1	1	1	1
MEASURE CONTACT RESISTANCE	2,4,6,8	2,4,6,8,10	2,4,6,8	2,4,6,8,10			2,4,6	2,4,6,8
MEASURE TEMPERATURE					2,4,6,8,10	2,4,6,8,10,12		
THERMAL SHOCK	3	5						
MATE/UNMATE CYCLING		3		3		3		
THERMAL AGING	5	7						
CYCLIC HUMIDITY	7	9						
STEADY STATE HUMIDITY			3	5	3	5		
MIXED FLOWING GAS							3	3
VIBRATION			7	9				7
MECHANICAL SHOCK			5	7				
CURRENT CYCLING					7	9		
TEMPERATURE RISE- STEADY STATE					5,9	7,11		
MATE/UNMATE CYCLING							5	
CABLE BEND (VERTICAL IDT ONLY)								5

\*Vertical IDT receptacle connector only

## 9.0 TEST SETUP – VERTICAL IDT RECEPTACLE CONNECTOR

	ŀ	REVISE ON PC ONLY	TITLE	PRO	DUCT SP	<b>ECIE</b>	ICA.	TION F	OR	
	I	SEE SHEET 1			EBBI 50	D PL	UG	AND		
					ONTAINS INFOR					
	REV	DESCRIPTION	MOLEX	INC. AND SH	OULD NOT BE US	SED WITH	OUTWR	IIIEN PERM	ISSION	
DOC		10.					FILE	E NAME	SHEET	-
	F	PS - 71660					PS	571660	10	
	BORDEF	R TEMPLATE: ES-40000-3996	REV. A	SHEET 3	95/MAR/10	EC U5	-0926	DCBRD0	3.LWP	







PROCESSING STEP		RECOMMENDA	ATION	<u>COMMENTS</u>
Picking and Placing		Acceleration L	imits (in ft/sec <sup>2</sup> )	These limits prevent the
SMT Plug	Circuit Size	Vertical Move	Horizontal Move	Connector from moving in
Connectors using	30	39.5	49.7	relationship to the vacuum
the Pick and Place Caps/Clips	40	32.4	40.8	cap/clip during the transfer from the connector packaging to the
0403/01103	50	27.5	34.6	printed circuit board.
	60	24.0	30.2	······
	68	21.6	27.1	
	80	18.9	23.7	
	100	15.7	19.7	
	100	13.7	17.7	
Resistance to Soldering Heat		5	265 degrees C. f peak temperature to	Appearance: No physical damage.
		r @100°C prior to p	71661-7*** must be rocessing at	
	dried for 1 hou	r @100°C prior to p		
REVISE O	dried for 1 hou	r @100°C prior to p over 245°C.	rocessing at	ECIFICATION FOR
	dried for 1 hou temperatures o	r @100°C prior to p over 245°C.	PRODUCT SP	ECIFICATION FOR D PLUG AND .E CONNECTORS
s s	dried for 1 hou temperatures o	r @100°C prior to p over 245°C.	PRODUCT SP EBBI 50 RECEPTACL	D PLUG AND