



**1.27mm (.050") /
12.00mm (.475") Pitch
LPH™ Low-Profile, Hybrid
Right-Angle Connector**

45984 Receptacle

45985 Plug

High current board-to-board connector enhances system airflow

LPH is a mixed high-current power and signal connector system in a co-planer board-to-board orientation. Designed as a new generation power interconnect, Molex's LPH connector boasts numerous advantages. Low-profile power contacts enhance system airflow with power contacts that are parallel to the PC board, permitting an overall connector height of only 7.50mm (.295"). The receptacle and plug headers have isolated upper and lower power blades in each power bay; 2 through 5 power bays are available. In addition, the receptacle has the flexibility to mate with either an LPH plug header or a 1.57mm (.062") thick card edge. The power blades are rated up to 30.0A per contact, providing up to 120.0A per linear inch of space. Both the plug and receptacle utilize reliable, Molex EBBI™ leaf style signal contacts, available in 12 to 40 circuits.



Features and Benefits

- Hybrid mixed power and signal contact design accommodates DC power requirements
- 7.50mm (.295") connector height off PC board, low-profile design enhances system airflow
- Isolated upper and lower contacts (30.0A per contact, 2 contacts per bay) allows power and return signals in the same bay
- LPH receptacle header mates to either LPH plug or standard 1.57mm (.062") card edge, provides greater flexibility for mating to daughter card
- Available with 4 to 10 power blade configurations to match system power requirements
- Available with self aligning guides and/or PCB pegs for use in blind-mate applications
- Rated for current interruption, matches true hot plugging requirements

SPECIFICATIONS

Reference Information

Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980
Designed In: Millimeters

Electrical

Voltage: 250V max.
Current:
Power Contacts — 30.0A max.
Signal Contacts — 1.0A max.
Contact Resistance:
Power Contacts — 0.75 milliohms max.
Signal Contacts — 15 milliohms max.
Dielectric Withstanding Voltage: 1500V
Insulation Resistance: 5000 Megohms min.
Current Interruption:
Power Contacts — 30.0A at 48V DC
Signal Contacts — 1.0A at 30V

Mechanical

Mating Force (Per Circuit):
Power Contacts — 6.87N (1.54 lb.)
Signal Contacts — 1.08N (0.24 lb.)
Unmating Force (Per Circuit):
Power Contacts — 5.88N (1.32 lb.)
Signal Contacts — 0.02N (0.03 lb.)
Durability: 250 Cycles

Physical

Housing: LCP
Contact:
Power Contacts — Copper (Cu) Alloy
Signal Contacts — Phosphor Bronze
Plating:
Contact Area — Select Gold (Au)
Solder Tail Area — Tin (Sn)
Underplating — Nickel (Ni)
PCB Thickness: Separate part numbers available for 1.57mm (.062"), 2.36mm (.093) and 3.17 (.125") board thicknesses
Operating Temperature: -40 to +105°C

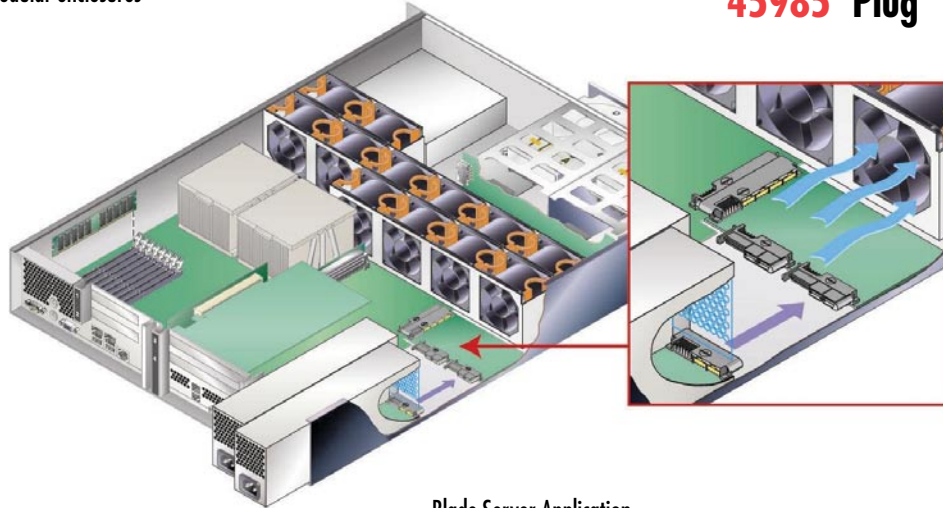
APPLICATIONS



1.27mm (.050") / 12.00mm (.475") Pitch LPH™ Low-Profile, Hybrid Right-Angle Connector

- Power supplies
- Servers, routers, storage and industrial controllers
- Co-planer, board-to-board power applications
- 1 and 2 Rack Unit (RU) modular enclosures
- Chassis-based systems

45984 Receptacle
45985 Plug



Blade Server Application

ORDERING INFORMATION

Right-Angle Receptacle (Series 45984), 4 Power Contacts

No PCB Pegs, No BMI Guides	BMI Guides, No PCB Pegs	PCB Pegs, No BMI Guides	PCB Pegs, BMI Guides	Signal Contacts	PC Tail Length	PCB Thickness
45984-4111	45984-4211	45984-4311	45984-4411	12	4.50mm (.177")	3.18mm (.125")
45984-4121	45984-4221	45984-4321	45984-4421	16		
45984-4131	45984-4231	45984-4331	45984-4431	20		
45984-4141	45984-4241	45984-4341	45984-4441	24		
45984-4151	45984-4251	45984-4351	45984-4451	28		
45984-4161	45984-4261	45984-4361	45984-4461	32		
45984-4171	45984-4271	45984-4371	45984-4471	36		
45984-4181	45984-4281	45984-4381	45984-4481	40		
45984-4112	45984-4212	45984-4312	45984-4412	12	3.60mm (.143")	2.36mm (.093")
45984-4122	45984-4222	45984-4322	45984-4422	16		
45984-4132	45984-4232	45984-4332	45984-4432	20		
45984-4142	45984-4242	45984-4342	45984-4442	24		
45984-4152	45984-4252	45984-4352	45984-4452	28		
45984-4162	45984-4262	45984-4362	45984-4462	32		
45984-4172	45984-4272	45984-4372	45984-4472	36		
45984-4182	45984-4282	45984-4382	45984-4482	40		
45984-4113	45984-4213	45984-4313	45984-4413	12	2.90mm (.114")	1.57mm (.062")
45984-4123	45984-4223	45984-4323	45984-4423	16		
45984-4133	45984-4233	45984-4333	45984-4433	20		
45984-4143	45984-4243	45984-4343	45984-4443	24		
45984-4153	45984-4253	45984-4353	45984-4453	28		
45984-4163	45984-4263	45984-4363	45984-4463	32		
45984-4173	45984-4273	45984-4373	45984-4473	36		
45984-4183	45984-4283	45984-4383	45984-4483	40		



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LPH™ Low-Profile, Hybrid
Right-Angle Connector**

Right-Angle Plug (Series 45985), 4 Power Contacts

No PCB Pegs, No BMI Guides	BMI Guides, No PCB Pegs	PCB Pegs, No BMI Guides	PCB Pegs, BMI Guides	Signal Contacts	PC Tail Length	PCB Thickness
45985-4111	45985-4211	45985-4311	45985-4411	12	4.50mm (.177")	3.18mm (.125")
45985-4121	45985-4221	45985-4321	45985-4421	16		
45985-4131	45985-4231	45985-4331	45985-4431	20		
45985-4141	45985-4241	45985-4341	45985-4441	24		
45985-4151	45985-4251	45985-4351	45985-4451	28		
45985-4161	45985-4261	45985-4361	45985-4461	32		
45985-4171	45985-4271	45985-4371	45985-4471	36		
45985-4181	45985-4281	45985-4381	45985-4481	40		
45985-4112	45985-4212	45985-4312	45985-4412	12	3.60mm (.143")	2.36mm (.093")
45985-4122	45985-4222	45985-4322	45985-4422	16		
45985-4132	45985-4232	45985-4332	45985-4432	20		
45985-4142	45985-4242	45985-4342	45985-4442	24		
45985-4152	45985-4252	45985-4352	45985-4452	28		
45985-4162	45985-4262	45985-4362	45985-4462	32		
45985-4172	45985-4272	45985-4372	45985-4472	36		
45985-4182	45985-4282	45985-4382	45985-4482	40		
45985-4113	45985-4213	45985-4313	45985-4413	12	2.90mm (.114")	1.57mm (.062")
45985-4123	45985-4223	45985-4323	45985-4423	16		
45985-4133	45985-4233	45985-4333	45985-4433	20		
45985-4143	45985-4243	45985-4343	45985-4443	24		
45985-4153	45985-4253	45985-4353	45985-4453	28		
45985-4163	45985-4263	45985-4363	45985-4463	32		
45985-4173	45985-4273	45985-4373	45985-4473	36		
45985-4183	45985-4283	45985-4383	45985-4483	40		

Right-Angle Receptacle (Series 45984), 6 Power Contacts

45984-6111	45984-6211	45984-6311	45984-6411	12	4.50mm (.177")	3.18mm (.125")
45984-6121	45984-6221	45984-6321	45984-6421	16		
45984-6131	45984-6231	45984-6331	45984-6431	20		
45984-6141	45984-6241	45984-6341	45984-6441	24		
45984-6151	45984-6251	45984-6351	45984-6451	28		
45984-6161	45984-6261	45984-6361	45984-6461	32		
45984-6171	45984-6271	45984-6371	45984-6471	36		
45984-6181	45984-6281	45984-6381	45984-6481	40		
45984-6112	45984-6212	45984-6312	45984-6412	12	3.60mm (.143")	2.36mm (.093")
45984-6122	45984-6222	45984-6322	45984-6422	16		
45984-6132	45984-6232	45984-6332	45984-6432	20		
45984-6142	45984-6242	45984-6342	45984-6442	24		
45984-6152	45984-6252	45984-6352	45984-6452	28		
45984-6162	45984-6262	45984-6362	45984-6462	32		
45984-6172	45984-6272	45984-6372	45984-6472	36		
45984-6182	45984-6282	45984-6382	45984-6482	40		
45984-6113	45984-6213	45984-6313	45984-6413	12	2.90mm (.114")	2.90mm (.114")
45984-6123	45984-6223	45984-6323	45984-6423	16		
45984-6133	45984-6233	45984-6333	45984-6433	20		

ORDERING INFORMATION

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Right-Angle Receptacle (Series 45984), 6 Power Contacts (continued)

No PCB Pegs, No BMI Guides	BMI Guides, No PCB Pegs	PCB Pegs, No BMI Guides	PCB Pegs, BMI Guides	Signal Contacts	PC Tail Length	PCB Thickness
45984-6143	45984-6243	45984-6343	45984-6443	24	2.90mm (.114")	2.90mm (.114")
45984-6153	45984-6253	45984-6353	45984-6453	28		
45984-6163	45984-6263	45984-6363	45984-6463	32		
45984-6173	45984-6273	45984-6373	45984-6473	36		
45984-6183	45984-6283	45984-6383	45984-6483	40		

Right-Angle Plug (Series 45985), 6 Power Contacts

45985-6111	45985-6211	45985-6311	45985-6411	12	4.50mm (.177")	3.18mm (.125")
45985-6121	45985-6221	45985-6321	45985-6421	16		
45985-6131	45985-6231	45985-6331	45985-6431	20		
45985-6141	45985-6241	45985-6341	45985-6441	24		
45985-6151	45985-6251	45985-6351	45985-6451	28		
45985-6161	45985-6261	45985-6361	45985-6461	32		
45985-6171	45985-6271	45985-6371	45985-6471	36		
45985-6181	45985-6281	45985-6381	45985-6481	40		
45985-6112	45985-6212	45985-6312	45985-6412	12	3.60mm (.143")	2.36mm (.093")
45985-6122	45985-6222	45985-6322	45985-6422	16		
45985-6132	45985-6232	45985-6332	45985-6432	20		
45985-6142	45985-6242	45985-6342	45985-6442	24		
45985-6152	45985-6252	45985-6352	45985-6452	28		
45985-6162	45985-6262	45985-6362	45985-6462	32		
45984-6172	45985-6272	45985-6372	45985-6472	36		
45984-6182	45985-6282	45985-6382	45985-6482	40		
45985-6113	45985-6213	45985-6313	45985-6413	12	2.90mm (.114")	1.57mm (.062")
45985-6123	45985-6223	45985-6323	45985-6423	16		
45985-6133	45985-6233	45985-6333	45985-6433	20		
45985-6143	45985-6243	45985-6343	45985-6443	24		
45985-6153	45985-6253	45985-6353	45985-6453	28		
45985-6163	45985-6263	45985-6363	45985-6463	32		
45985-6173	45985-6273	45985-6373	45985-6473	36		
45985-6183	45985-6283	45985-6383	45985-6483	40		

Right-Angle Receptacle (Series 45984), 8 Power Contacts

45984-8111	45984-8211	45984-8311	45984-8411	12	4.50mm (.177")	3.18mm (.125")
45984-8121	45984-8221	45984-8321	45984-8421	16		
45984-8131	45984-8231	45984-8331	45984-8431	20		
45984-8141	45984-8241	45984-8341	45984-8441	24		
45984-8151	45984-8251	45984-8351	45984-8451	28		
45984-8161	45984-8261	45984-8361	45984-8461	32		
45984-8171	45984-8271	45984-8371	45984-8471	36		
45984-8181	45984-8281	45984-8381	45984-8481	40		
45984-8112	45984-8212	45984-8312	45984-8412	12	3.60mm (.143")	2.36mm (.093")
45984-8122	45984-8222	45984-8322	45984-8422	16		
45984-8132	45984-8232	45984-8332	45984-8432	20		
45984-8142	45984-8242	45984-8342	45984-8442	24		
45984-8152	45984-8252	45984-8352	45984-8452	28		



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Right-Angle Receptacle (Series 45984), 8 Power Contacts (continued)

No PCB Pegs, No BMI Guides	BMI Guides, No PCB Pegs	PCB Pegs, No BMI Guides	PCB Pegs, BMI Guides	Signal Contacts	PC Tail Length	PCB Thickness
45984-8162	45984-8262	45984-8362	45984-8462	32	3.60mm (.143")	2.36mm (.093")
45984-8172	45984-8272	45984-8372	45984-8472	36		
45984-8182	45984-8282	45984-8382	45984-8482	40		
45984-8113	45984-8213	45984-8313	45984-8413	12	2.90mm (.114")	1.57mm (.062")
45984-8123	45984-8223	45984-8323	45984-8423	16		
45984-8133	45984-8233	45984-8333	45984-8433	20		
45984-8143	45984-8243	45984-8343	45984-8443	24		
45984-8153	45984-8253	45984-8353	45984-8453	28		
45984-8163	45984-8263	45984-8363	45984-8463	32		
45984-8173	45984-8273	45984-8373	45984-8473	36		
45984-8183	45984-8283	45984-8383	45984-8483	40		

Right-Angle Plug (Series 45985), 8 Power Contacts

45985-8111	45985-8211	45985-8311	45985-8411	12	4.50mm (.177")	3.18mm (.125")
45985-8121	45985-8221	45985-8321	45985-8421	16		
45985-8131	45985-8231	45985-8331	45985-8431	20		
45985-8141	45985-8241	45985-8341	45985-8441	24		
45985-8151	45985-8251	45985-8351	45985-8451	28		
45985-8161	45985-8261	45985-8361	45985-8461	32		
45985-8171	45985-8271	45985-8371	45985-8471	36		
45985-8181	45985-8281	45985-8381	45985-8481	40		
45985-8112	45985-8212	45985-8312	45985-8412	12	3.60mm (.143")	2.36mm (.093")
45985-8122	45985-8222	45985-8322	45985-8422	16		
45985-8132	45985-8232	45985-8332	45985-8432	20		
45985-8142	45985-8242	45985-8342	45985-8442	24		
45985-8152	45985-8252	45985-8352	45985-8452	28		
45985-8162	45985-8262	45985-8362	45985-8462	32		
45984-8172	45985-8272	45985-8372	45985-8472	36		
45984-8182	45985-8282	45985-8382	45985-8482	40		
45985-8113	45985-8213	45985-8313	45985-8413	12	2.90mm (.114")	1.57mm (.062")
45985-8123	45985-8223	45985-8323	45985-8423	16		
45985-8133	45985-8233	45985-8333	45985-8433	20		
45985-8143	45985-8243	45985-8343	45985-8443	24		
45985-8153	45985-8253	45985-8353	45985-8453	28		
45985-8163	45985-8263	45985-8363	45985-8463	32		
45985-8173	45985-8273	45985-8373	45985-8473	36		
45985-8183	45985-8283	45985-8383	45985-8483	40		

Right-Angle Receptacle (Series 45984), 10 Power Contacts

45984-1111	45984-1211	45984-1311	45984-1411	12	4.50mm (.177")	3.18mm (.125")
45984-1121	45984-1221	45984-1321	45984-1421	16		
45984-1131	45984-1231	45984-1331	45984-1431	20		
45984-1141	45984-1241	45984-1341	45984-1441	24		
45984-1151	45984-1251	45984-1351	45984-1451	28		
45984-1161	45984-1261	45984-1361	45984-1461	32		
45984-1171	45984-1271	45984-1371	45984-1471	36		
45984-1181	45984-1281	45984-1381	45984-1481	40		



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Right-Angle Connector**

Right-Angle Receptacle (Series 45984), 10 Power Contacts (continued)

No PCB Pegs, No BMI Guides	BMI Guides, No PCB Pegs	PCB Pegs, No BMI Guides	PCB Pegs, BMI Guides	Signal Contacts	PC Tail Length	PCB Thickness
45984-1112	45984-1212	45984-1312	45984-1412	12	3.60mm (.143")	2.36mm (.093")
45984-1122	45984-1222	45984-1322	45984-1422	16		
45984-1132	45984-1232	45984-1332	45984-1432	20		
45984-1142	45984-1242	45984-1342	45984-1442	24		
45984-1152	45984-1252	45984-1352	45984-1452	28		
45984-1162	45984-1262	45984-1362	45984-1462	32		
45984-1172	45984-1272	45984-1372	45984-1472	36		
45984-1182	45984-1282	45984-1382	45984-1482	40		
45984-1113	45984-1213	45984-1313	45984-1413	12	2.90mm (.114")	1.57mm (.062")
45984-1123	45984-1223	45984-1323	45984-1423	16		
45984-1133	45984-1233	45984-1333	45984-1433	20		
45984-1143	45984-1243	45984-1343	45984-1443	24		
45984-1153	45984-1253	45984-1353	45984-1453	28		
45984-1163	45984-1263	45984-1363	45984-1463	32		
45984-1173	45984-1273	45984-1373	45984-1473	36		
45984-1183	45984-1283	45984-1383	45984-1483	40		

Right-Angle Plug (Series 45985), 10 Power Contacts

45985-1111	45985-1211	45985-1311	45985-1411	12	4.50mm (.177")	3.18mm (.125")
45985-1121	45985-1221	45985-1321	45985-1421	16		
45985-1131	45985-1231	45985-1331	45985-1431	20		
45985-1141	45985-1241	45985-1341	45985-1441	24		
45985-1151	45985-1251	45985-1351	45985-1451	28		
45985-1161	45985-1261	45985-1361	45985-1461	32		
45985-1171	45985-1271	45985-1371	45985-1471	36		
45985-1181	45985-1281	45985-1381	45985-1481	40		
45985-1112	45985-1212	45985-1312	45985-1412	12	3.60mm (.143")	2.36mm (.093")
45985-1122	45985-1222	45985-1322	45985-1422	16		
45985-1132	45985-1232	45985-1332	45985-1432	20		
45985-1142	45985-1242	45985-1342	45985-1442	24		
45985-1152	45985-1252	45985-1352	45985-1452	28		
45985-1162	45985-1262	45985-1362	45985-1462	32		
45984-1172	45985-1272	45985-1372	45985-1472	36		
45984-1182	45985-1282	45985-1382	45985-1482	40		
45985-1113	45985-1213	45985-1313	45985-1413	12	2.90mm (.114")	1.57mm (.062")
45985-1123	45985-1223	45985-1323	45985-1423	16		
45985-1133	45985-1233	45985-1333	45985-1433	20		
45985-1143	45985-1243	45985-1343	45985-1443	24		
45985-1153	45985-1253	45985-1353	45985-1453	28		
45985-1163	45985-1263	45985-1363	45985-1463	32		
45985-1173	45985-1273	45985-1373	45985-1473	36		
45985-1183	45985-1283	45985-1383	45985-1483	40		

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