

**Connector Systems for
GPS Tracking, Positioning and
Portable Navigation
Devices (PND)**





Connector Systems for GPS Tracking, Positioning and Portable Navigation Devices (PND)

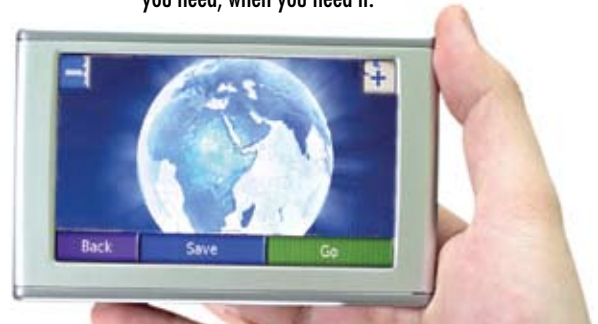
Molex offers a broad range of compact, high-density connectors that can be used for navigation, tracking and positioning. Each connector is packed with features designed for tracking, positioning and Portable Navigation Devices (PND) ranging from wire-to-board, board-to-board and FFC/FPC.

The Molex PND, tracking and positioning connector line-up includes ultra fine pitch 0.25mm (.010") low profile FPC connectors, 0.40mm (.016") pitch board-to-board connectors, micro IDT coaxial systems for twist and turn applications, memory card connectors, battery connectors and a range of I/O connectors, docking and charging assemblies.

With over 100 offices and over 50 manufacturing plants on six continents, Molex has the ability to quickly respond to the needs of customers around the corner and around the world. Whether you require one product or an array of design solutions, you can be confident that our design engineers, sales associates and authorized distributors are poised to deliver what you need, when you need it.

Applications:

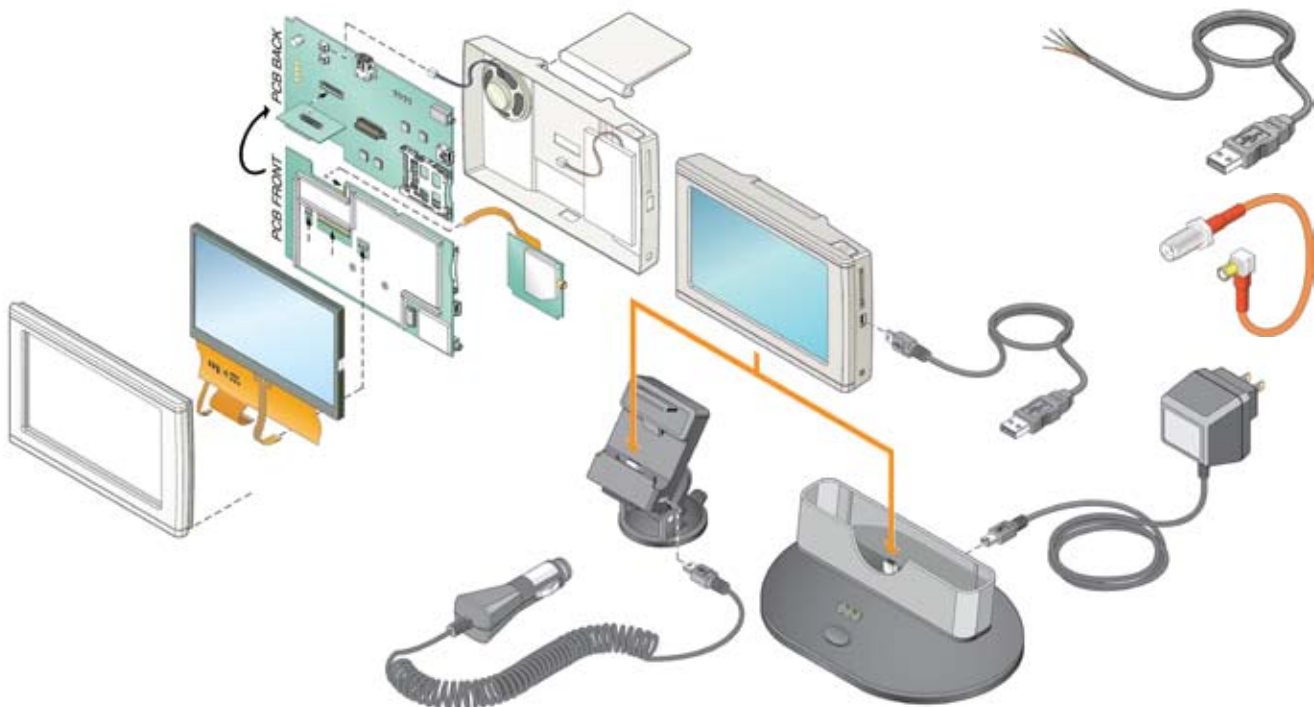
- Flash unit
- Speaker
- LCD screen
- A/V out
- Battery
- Charger/docking
- Memory card
- Navigation switches
- I/O
- RF antenna




INNOVATIONS FOR PND APPLICATIONS









CAR AND PORTABLE NAVIGATION DEVICES CONNECTOR SOLUTIONS






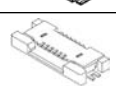






0.25mm (.010") Pitch SMT ZIF and Non-ZIF Connectors

	Series	Circuits	Mounting	Actuator Type	Contact Type	Contact Plating	Current	Voltage	Width mm	Height mm	FPC Thickness mm
	502078	17, 21, 39, 51	Right angle	Front flip	Bottom	Gold	0.2A	50V	2.75	1.00	0.20









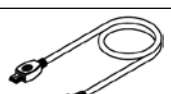


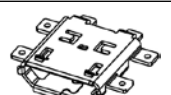

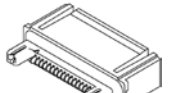
0.30mm (.012") Pitch SMT ZIF and Non-ZIF Connectors

	Series	Circuits	Mounting	Actuator Type	Contact Type	Contact Plating	Current	Voltage	Width mm	Height mm	FPC Thickness mm		
	501628	21, 27, 35, 37, 39, 45, 51	Right angle	Front flip	Bottom	Gold	0.2A	50V	3.10	0.90	0.20		
	500797	11, 15, 17, 23, 25, 27, 31, 33, 35, 39, 41, 51,							3.85	1.05			
	501616-XX75 with Short actuator	19, 25, 27, 29		Back flip	Top				3.75	1.10			
	501616-XX85 with Long actuator	35, 39, 41, 45					4.25						
	49063-5167	51							0.35A			3.80	1.20
	501912	15, 21, 23, 25, 33, 35, 39, 45		Front flip	Bottom				0.2A			3.85	1.80
	54809	11 TO 51							0.35A			4.20	1.30

0.50mm (.020") Pitch SMT ZIF and Non-ZIF Connectors


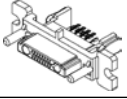
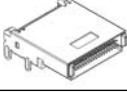

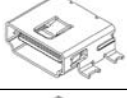


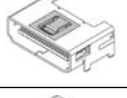


	Series	Circuits	Mounting	Actuator Type	Contact Type	Contact Plating	Current	Voltage	Width mm	Height mm	FPC Thickness mm
	501461	4, 5, 6, 8	Right angle	Back flip	Bottom	Gold	0.3A	50V	3.20	0.80	0.12
	502118-5090	50			Dual						
	51441	6 to 24		Front flip	Bottom	Tin-Bismuth, gold	0.5A		3.10	1.10	0.30
	54550	5 to 26		Pull type	Top				3.40	1.20	0.30, 0.28
	54548				Bottom						
	51281			None, Non-ZIF	Dual				Gold	3.75	
	51296	8, 12, 14, 18, 34, 40, 45, 50, 54, 60		Front flip	Bottom		1.30		1.30	0.30	
	47349	24, 26, 34, 40, 50		Pull type					5.00		1.99
	47350	24,26,34, 40, 50			Top	Tin-Bismuth, gold	5.00				
	52892/52893	8 to 30		Front flip	Bottom		4.90		2.00		
	54104	30 to 50		Pull type	Top		5.00				

I/O Connectors, Docking/Charging Assemblies, Connectors and Cable Assemblies



	Description	Series	Pitch mm	Circuits	Length* mm	Width mm	Height mm	
	USB Mini-B, right angle receptacle, SMT top mount	47153	0.80	5	9.90	9.00	3.80	
	USB Mini-B, right angle receptacle, SMT offset mount	48242			11.45	11.80	3.90	
	USB Mini-B, right angle receptacle, SMT bottom mount	47270			10.60	10.50	3.70	
	USB Mini-B, right angle receptacle, short body type, SMT normal mount	51387			7.70	6.70	3.95	
	USB OTG Mini-B, right angle receptacle, SMT normal mount	67503			9.90	9.00		4.00
	USB OTG Mini-AB, right angle receptacle, SMT normal mount	67803			11.45	11.80	3.90	
	USB OTG Mini-A, right angle receptacle, SMT normal mount	48190			9.90	9.00	3.95	
	USB OTG Mini-B, right angle receptacle, SMT/DIP normal mount	54819			7.70			
	USB A to Mini-B, USB 2.0 cable assembly	88732-8000			4, 5	Available in white or black cable assembly lengths from 0.80 to 5.0m		
	DC Jack, right angle, SMT normal mount	67663-0100			5.35	3	8.62	6.70
	Micro-USB B, right angle receptacle, SMT bottom mount	47346	0.65	5	7.80	5.00	2.94	
	Micro-USB B, right angle receptacle, SMT mid-mount	47491			9.13	11.00		
	HandyLink® to HandyLink cable assembly with right angle overmolds	36697	0.80	16	Lengths available from 1.0 to 3.0m			
	HandyLink plug, vertical, through hole	45593		2 to 16, voided pinouts available	14.10	22.20	6.40	

* Length includes solder tabs where applicable

I/O Connectors, Docking/Charging Assemblies, Connectors and Cable Assemblies


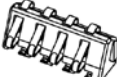

	Description	Series	Pitch mm	Circuits	Length* mm	Width mm	Height mm
	Mobi-Mate™ receptacle, dual row, leaf-style contact, DC Charger, Unswitched RF	91190	1.00	16	11.50	26.50	5.30
	Mobi-Mate plug, SMT	90852			8.45	40.20	11.50
	CradleCon™ PCB receptacle, SMT, right angle, through hole shell tabs	54944	0.50	20, 26	12.50	7.15	3.50
	CradleCon PCB plug, SMT, right angle, through hole shell tabs	501014		14, 20	8.45	6.80	3.85
	CradleCon PCB plug, SMT, right angle, SMT shell tabs	501054		14, 26		9.80	
	CradleCon PCB receptacle, SMT, right angle, through hole shell tabs and beveled shell lead-in	500825		26	12.50	9.10	3.50
	CradleCon PCB plug, SMT, right angle, through hole shell tabs	501091		14	8.45	6.80	3.85
	CradleCon PCB plug, SMT, right angle, short through hole shell tabs and pick and place tape	501231		36		12.30	
	CradleCon PCB plug, SMT, right angle, shutter and SMT shell tabs	500882		14		9.80	
	CradleCon PCB plug, SMT, right angle, shutter and SMT shell tabs	500687		26		12.80	

Camera Sockets*







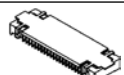




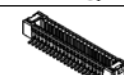




	Description	Height mm (in)	Width mm (in)	Series	Circuits
	Male	4.00 (.157")	8.20 ² (.323 ²)	47217	20
	Female	3.80 (.250")	8.00 ² (.315 ²)	47356	

*More series available on molex.com





Battery Connectors

	Description	Series	Pitch mm	Circuits	Length mm	Width mm	Height mm
	4 circuit battery connector, compression contact	47274	2.50	3	10.00	6.00	8.60
	3 circuit battery connector, compression contact	67732		4	12.08	5.85	5.00
	3 circuit battery connector, right angle, double-compression contact	94345	3.00	3	10.20	6.70	6.80




0.40mm (.016") Pitch SMT Board-to-Board Connectors

Receptacle	Plug	Circuits	Current	Voltage	Mated Width mm	Mated Height mm
501591 J-Lead 	501594 	20, 22, 24, 26, 30, 40, 50, 54, 70	0.3A	50V	3.40	0.90
87820 	87819 	14, 24, 30, 40, 50, 60	0.1A		4.69	0.95
500463 Single row for FPC-to-board only 	500464 Single row for FPC-to-board only 	7, 16, 22			3.60	
501527 J-Lead 	501531 	30, 32, 34, 40, 50, 90	0.3A		3.40	1.30
51338 J-Lead 	55909 	12, 20, 22, 24, 26, 30, 34, 40, 50, 60, 70, 80, 90, 100				1.50
501635 J-Lead 	501639 	40, 60				1.70
500913 	55909 	24, 30, 40, 50, 60, 70, 80, 90, 100				3.90
54552 Right angle 	55394 Right angle 	30, 90	30V	4.25	3.20	

Panel Detachable Connectors



	Description	Series	Pitch mm	Circuits	Length mm	Width mm	Height mm
	Panel detachable receptacle, SMT	87791	2.00	16	Varies upon circuit size		
	Panel detachable header, SMT	87792					
	Panel detachable receptacle, through hole	87868	1.60	10, 14, 16			
	Panel detachable header, SMT	87869					

PanelMate™ 1.25mm (.049") Pitch Connectors



	Description	Series	Circuits	Wire Gauge	Current	Voltage	Contact Plating	Lock Type	Mated Width mm	Mated Height mm
	Terminal	50641/50753	2 to 30	28 to 32 AWG	1.0A	125V	Gold	Friction	7.30	1.90
	Right angle header, SMT	53780								
	Crimp housing receptacle	51146								

Wire-to-Board Connectors

















0.80mm (.031") Pitch

	Description	Series	Circuits	Wire Gauge	Current	Voltage	Mated Width mm	Mated Height mm
	IDT plug with friction lock, right angle	49360	2	32	0.5A	30V	4.00	1.57
	IDT Wafer with friction lock, right angle	49361						



Micro Discrete 0.50mm (.020") Wire-to-Board Connectors

Drawing	Description	Series	Circuits	Wire Gauge	Current	Voltage	Contact Plating	Lock Type	Mated Width mm	Mated Height mm
	Right angle header	500678	10, 20, 30	Contact Molex	0.4A	30V	Gold	Friction	Varies upon circuit size	
	Custom jumper	59205-9401 59205-9402		36 AWG					Standard length 115mm, other lengths available	



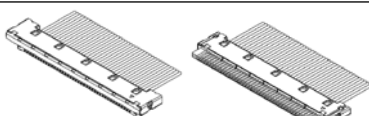
PicoClasp™ 1.00mm (.038") Pitch

	Description	Series	Circuits	Wire Gauge	Current	Voltage	Contact Plating	Lock Type	Mated Width mm	Mated Height mm						
	Single-row housing	501330	2 to 5	28 to 32 AWG	1.0A	50V	Tin	Friction								
			6 to 15					Inner Positive								
	Single-row header vertical	501331	2 to 5				Tin	Friction	3.00	6.30						
			6 to 15					Inner Positive	4.80	6.80						
	Single-row header right angle	501568	2 to 5				Tin	Inner friction	6.24	3.19						
			6 to 15					Inner positive	6.74	5.00						
	Single-row housing	501939	3 to 5				28 to 32 AWG	1.0A	50V	Tin	Outer positive					
	Single-row header vertical	501940										4.56	7.30			
	Single-row header	501953										7.24	4.74			
	Right angle dual-row housing	501189	20, 30, 40, 50							28 to 32 AWG	1.0A	50V	Gold	Inner positive		
	Dual-row housing (with side friction lock)	501189													7.62	6.80
	Dual-row header (vertical w/vacuum tape)	501190													7.29	8.96
	Dual-row header vertical	501190														
	Dual-row header right angle	501571														
	Crimp terminal (for single row)	501334	Contact Molex	Tin												
	Crimp terminal (for dual row)	501193		Gold												

MX150™ Wire-to-Board Connectors

	Description	Series	Pitch mm	Circuits
	3.5mm Pitch MX150 PCB header, unshrouded, breakaway	75757	3.50	4 to 20
	3.5mm Pitch MX150 right angle, dual row header assembly	75900		



0.40mm (.016") Pitch Micro IDT Coaxial Wire-to-Board Connectors

	Description	Series Number	Circuit Sizes	Wire Gauge	Current	Voltage	Mated Width mm	Mated Height mm
	PCB receptacle, SMT, top entry	501083	30, 40, 50	42 AWG	0.2A	30V	3.94	2.40
	PCB receptacle, SMT, side entry	501044					5.50	1.15
	Cable Assemblies custom configurations include: side entry-to-side entry top-entry-to-side-entry top entry-to-top-entry	501800						















Connector Systems for GPS Tracking, Positioning and Portable Navigation Devices (PND)

RF Connectors

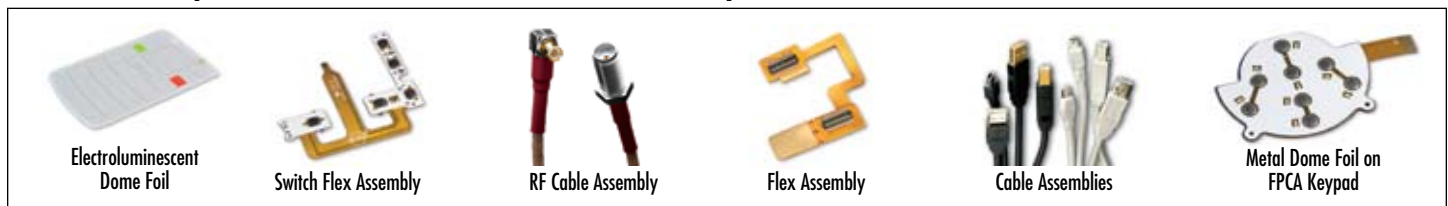
Drawing	Series	Impedance	Frequency Range	Coupling Method	Design Configuration
	MCX	75 Ohms	DC-6 GHz	Snap-on	PCB, cable, custom
	SMB	50 Ohms	DC-4 GHz		PCB, cable, panel mount, custom, reverse polarity

Miniature Memory Card Connectors

	Type	Order Number	Description	Length mm	Width mm	Height mm
	SDIO	67913-8008	Non push-push, reverse mount, standoff height 1.20mm	30.60	29.25	2.75
	SD	67781-8001	Non push-push, normal mount	27.00	28.10	3.00
	SDIO	67955-8002	2.50mm push-push, reverse mount, standoff height 2.00mm	30.60	29.25	4.70
		67993-8001	2.50mm push-push, normal mount	30.50	27.90	2.85
	SD	500999-0900	2.50mm push-push, normal mount	30.05		
	microSD* (Transflash)	501588-0804	1.10mm push-push type, with detect switch	16.00	14.00	1.80
		500873-0806	1.10mm normal mount SMT	15.20		1.88
		49225-0821	1.10mm reverse type, with detect switch, push-push, black color housing	16.60	16.10	1.95
		500901-0801	1.10mm hinge type, round corner top	14.50	14.60	1.93
	SIM Card	91228	SIM card reader, 6 circuits, SMT, with ejector, with pegs, use with card holder 91236	3.00	31.00	25.00
	SD Panel Detachable	47295	microSD, without detect switch, lead free	4.62	13.58	5.54
		47309	microSD, detect switch, lead free	5.50	11.40	2.65 3.75

*Transflash is a trademark of ScanDisk Corporation

Switch Foil Array, Flexible Printed Circuit Assemblies, FPC Jumpers, Standard Wire Harnesses and RF Cable Assemblies



Please contact Molex or email PND@molex.com for ordering information, additional applications, custom connector designs.

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