

280



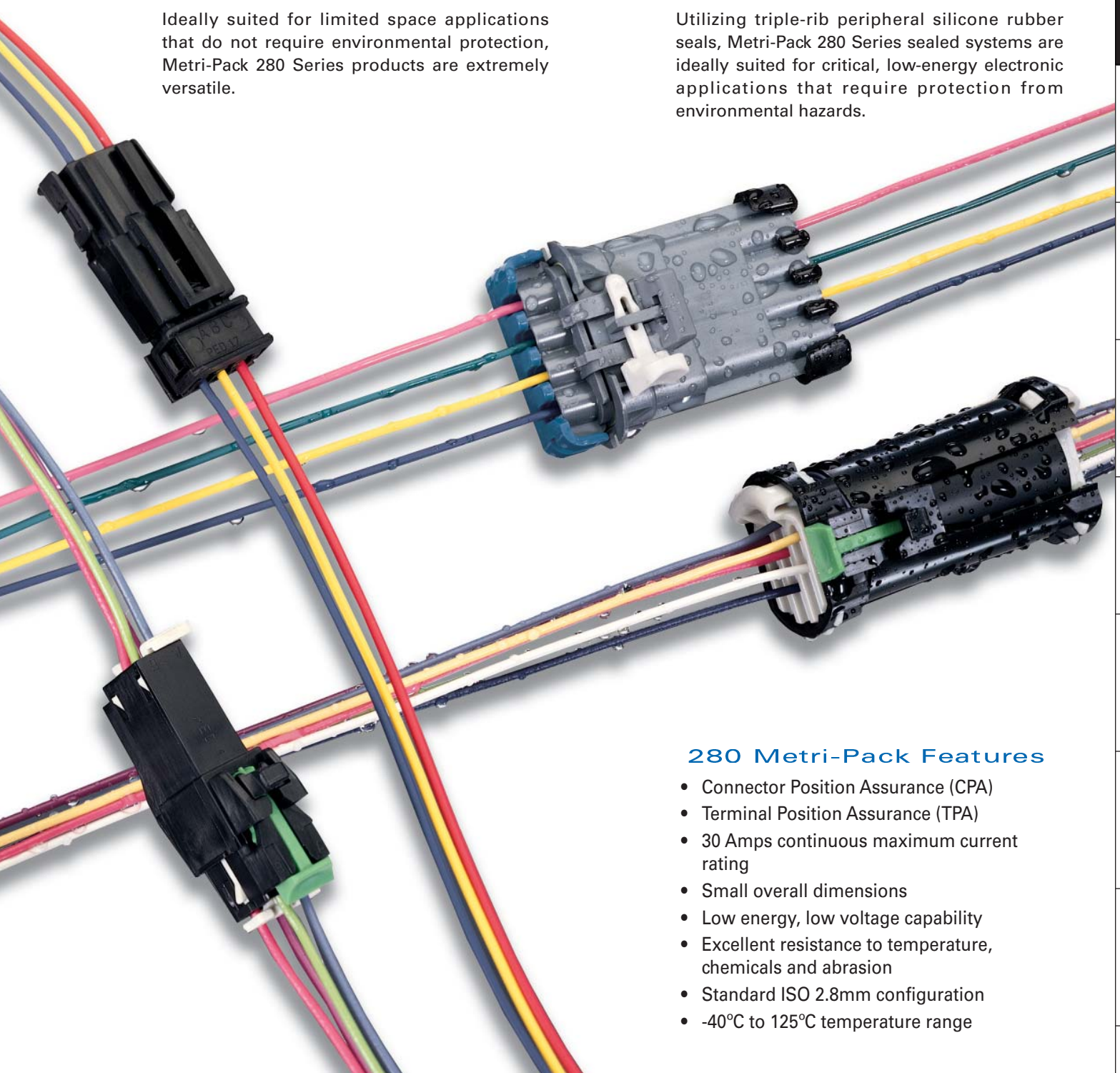
Available in device and in-line connections for vehicle applications, Metri-Pack 280 Series connectors can meet or exceed the requirements for most marine, appliance, and industrial control applications.

Ideally suited for limited space applications that do not require environmental protection, Metri-Pack 280 Series products are extremely versatile.



Available in device and in-line connections for underhood vehicle applications, Metri-Pack 280 Series sealed connectors can meet or exceed the requirements for most marine, appliance, and industrial control applications.

Utilizing triple-rib peripheral silicone rubber seals, Metri-Pack 280 Series sealed systems are ideally suited for critical, low-energy electronic applications that require protection from environmental hazards.



280 Metri-Pack Features

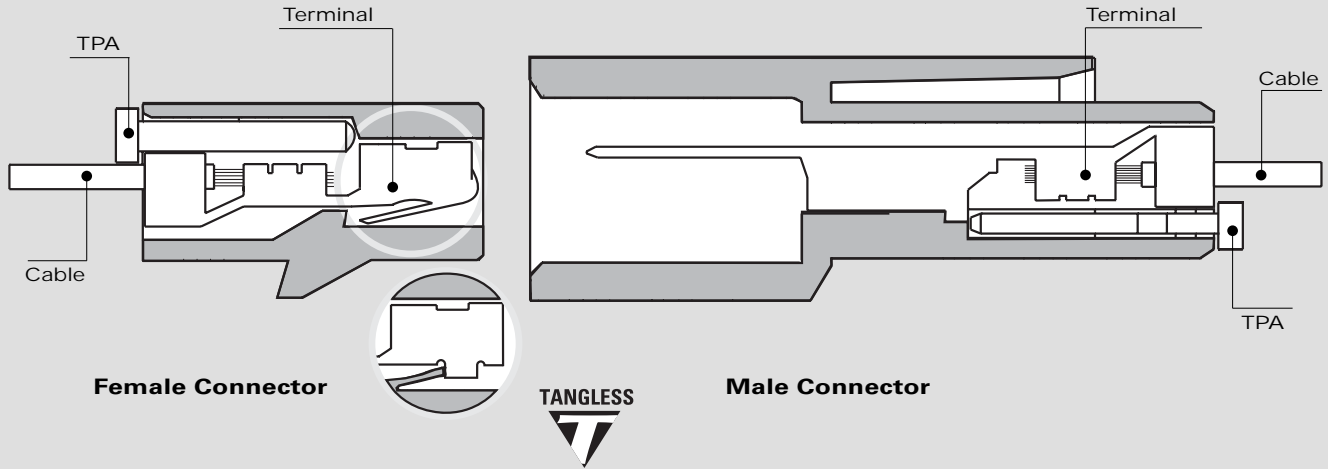
- Connector Position Assurance (CPA)
- Terminal Position Assurance (TPA)
- 30 Amps continuous maximum current rating
- Small overall dimensions
- Low energy, low voltage capability
- Excellent resistance to temperature, chemicals and abrasion
- Standard ISO 2.8mm configuration
- -40°C to 125°C temperature range



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Metri-Pack Series

Cross Sectional View



280 Tangless Female Terminals Unsealed

Part #	Cable Range (mm ²)	Material	Plating
12129425	5.0-3.0	Tin Brass	Tin
12129663	3.0	Tin Brass	Tin
12129424	2.0-1.0	Tin Brass	Tin
12110842*	3.0-2.0	Tin Brass	Tin
12110844*	1.0-0.80	Tin Brass	Tin
12110843*	0.50-0.35	Tin Brass	Tin
12129061*	2.0-0.35	Tin Brass	Tin

*Thin Stock—Electrical current restrictions apply.



280 Female Terminals Unsealed

Part #	Cable Range (mm ²)	Material	Plating
12015858	5.0-3.0	Tin Brass	Tin
12129494	3.0-2.0	Tin Brass	Tin
12066214	2.0-1.0	Tin Brass	Tin
12034046	0.80-0.50	Tin Brass	Tin
12052217	0.50-0.35	Tin Brass	Tin
12162597*	3.0-2.0	Tin Brass	Tin
12162595*	1.0-0.80	Tin Brass	Tin
12162596*	0.50-0.35	Tin Brass	Tin

*Thin Stock—Electrical current restrictions apply.

CPA
(Connector Position Assurance)



Female Connector



280 Flexlock Female Connectors Unsealed

# Cavities	Connector	Color	Material	TPA
2	12129081	Black	PA66 HS IM	12129083
3	12129489	Black	PA66 HS IM	12129491
4	12129136	Black	PA66 HS IM	12129138

280 Female Connectors Unsealed

# Cavities	Connector	Color	Material	TPA
6	12064752	Black	PA66 HS IM	12064753
8	12064998	Black	PA66 HS IM	12064999

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.

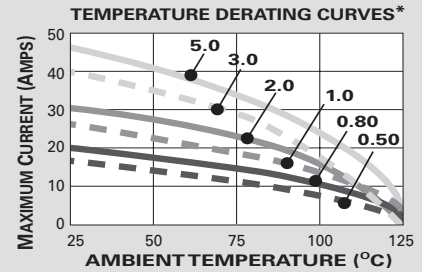
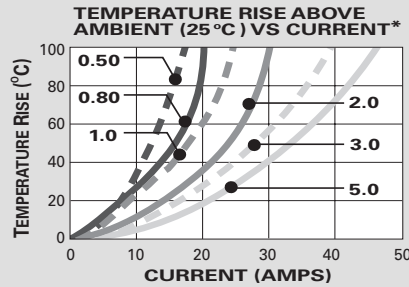


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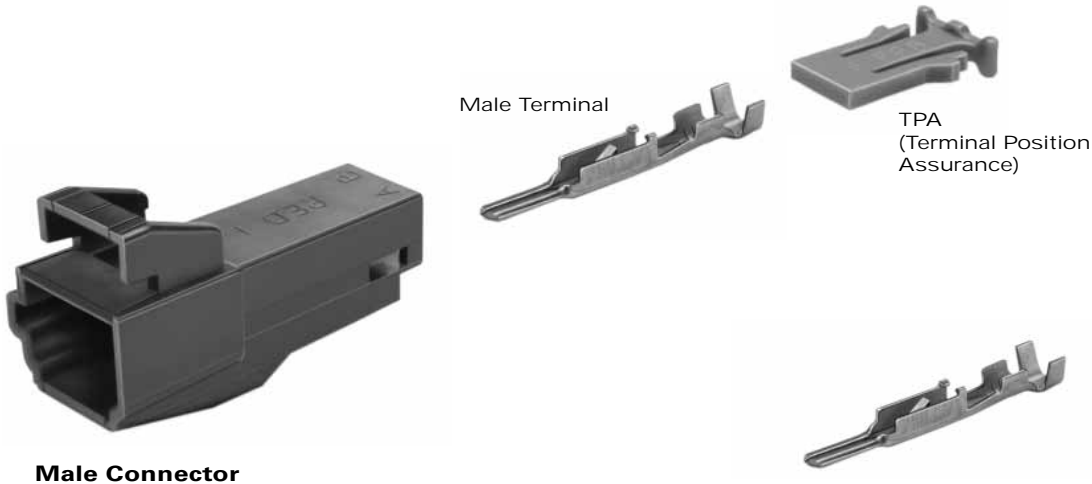
Unsealed System Application Information

280 Series Terminals – Tin Plated

CABLE RANGE (mm²): 0.35-5.0
 CURRENT RANGE (AMPS): 0-30
 TEMP RANGE °C: -40 to 125
 RESISTANCE: <10mΩ@20mV
 VOLTAGE DROP: <3.0mV/amp
 CENTERLINE SPACING (mm): 5.0
 BLADE WIDTH (mm): 2.8



*The test data are based on single circuits in free space and were generated using a "Lumped Resistance" model. This model does not account for all of the variables that would be present in an actual application. For actual product performance, contact your regional support representative.



Male Connector

Male Terminal

TPA
(Terminal Position Assurance)

280 Male Connectors Unsealed

# Cavities	Connector	Color	Material	TPA
2	12129155	Black	PA66 HS IM	12129157
3	12129490	Black	PA66 HS IM	12129492
4	12129135	Black	PA66 HS IM	12129137
6	12064754	Black	PA6	12064755
8	12066195	Black	PA66 HS IM	12065141

280 Male Terminals Unsealed

Part #	Cable Range (mm ²)	Material	Plating
12084586	5.0-3.0	Tin Brass	Tin
12129498	3.0-2.0	Tin Brass	Tin
12020116	2.0-1.0	Tin Brass	Tin
12034047	0.80-0.50	Tin Brass	Tin
12066271	0.50-0.35	Tin Brass	Tin
12020782	0.35 (2 Req'd.)	Tin Brass	Tin

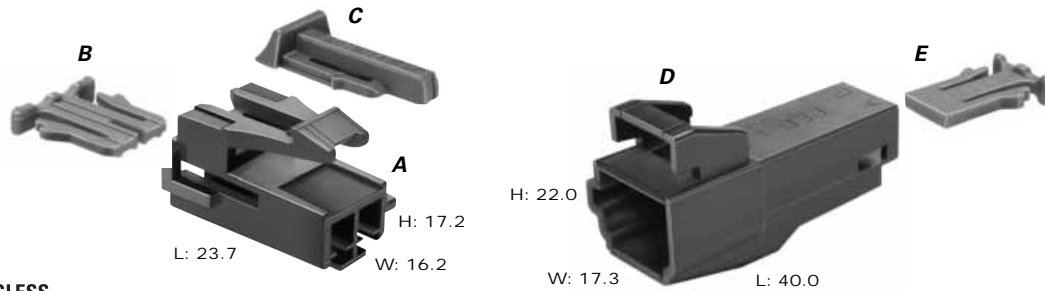
SECTION NOTES:

- Due to rigid tolerances of connector cavities, it is critical to meet all crimp dimensions as specified.
- Different color and connector indexing features are also available.
- Female connections for device applications, see page 2.37.

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Total Mated Length: 54.3mm

**A. Part No: 12129081 (Black)
12129082 (Md. Gray)**

Description:	Connector 2F
Size:	23.7L x 17.2H x 16.2W
Material:	PA66 HS IM
Terminals:	See Page 2.24

B. Part No: 12129083

Description:	TPA
Color:	Lt. Gray
Material:	PA66 HS IM

C. Part No: 12052834

Description:	CPA
Color:	Green
Material:	PP

**D. Part No: 12129155 (Black)
12129156 (Md. Gray)**

Description:	Connector 2M (Clip Slot-Self Locking)
Size:	40.0L x 22.0H x 17.3W
Material:	PA66 HS IM
Terminals:	See Page 2.25

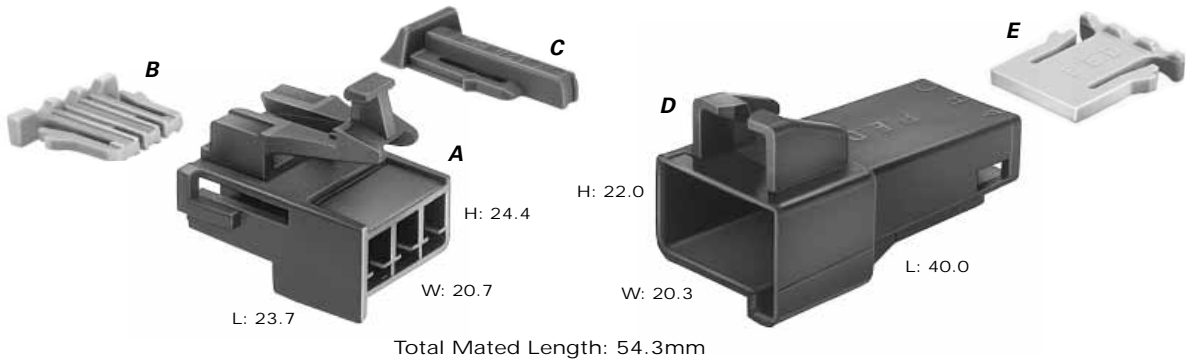
E. Part No: 12129157

Description:	TPA
Color:	Lt. Gray
Material:	PA66 HS IM

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A. Part No: 12129489

Description: Connector 3F
 Size: 23.7L x 24.4H x 20.7W
 Color: Black
 Material: PA66 HS IM
 Terminals: See Page 2.24

B. Part No: 12129491

Description: TPA
 Color: Lt. Gray
 Material: PA66 HS IM

C. Part No: 12052834

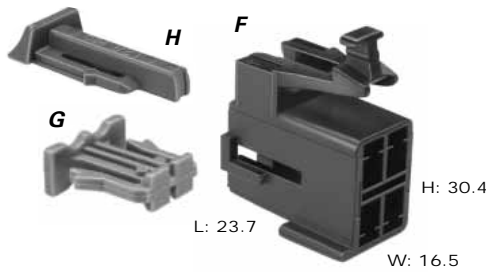
Description: CPA
 Color: Green
 Material: PP

D. Part No: 12129490

Description: Connector 3M
 Size: 40.0L x 22.0H x 20.3W
 Color: Black
 Material: PA66 HS IM
 Terminals: See Page 2.25

E. Part No: 12129492

Description: TPA
 Color: Lt. Gray
 Material: PA66 HS IM



**F. Part No: 12129136 (Black)
15479020 (Cream)**

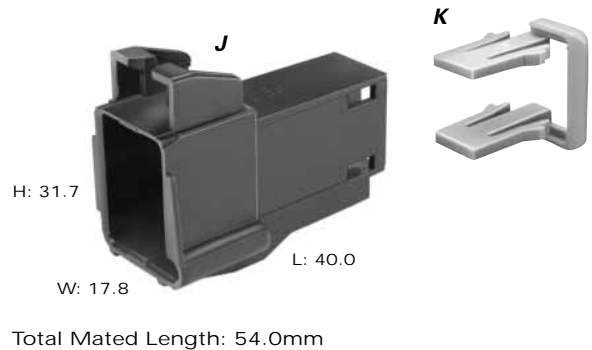
Description: Connector 4F
 Size: 23.7L x 30.4H x 16.5W
 Material: PA66 HS IM
 Terminals: See Page 2.24

G. Part No: 12129138

Description: TPA
 Color: Lt. Gray
 Material: PA66 HS IM

H. Part No: 12052834

Description: CPA
 Color: Green
 Material: PP



J. Part No: 12129135

Description: Connector 4M (Clip Slot-Self Locking)
 Size: 40.0L x 31.7H x 17.8W
 Color: Black
 Material: PA66 HS IM
 Terminals: See Page 2.25

K. Part No: 12129137

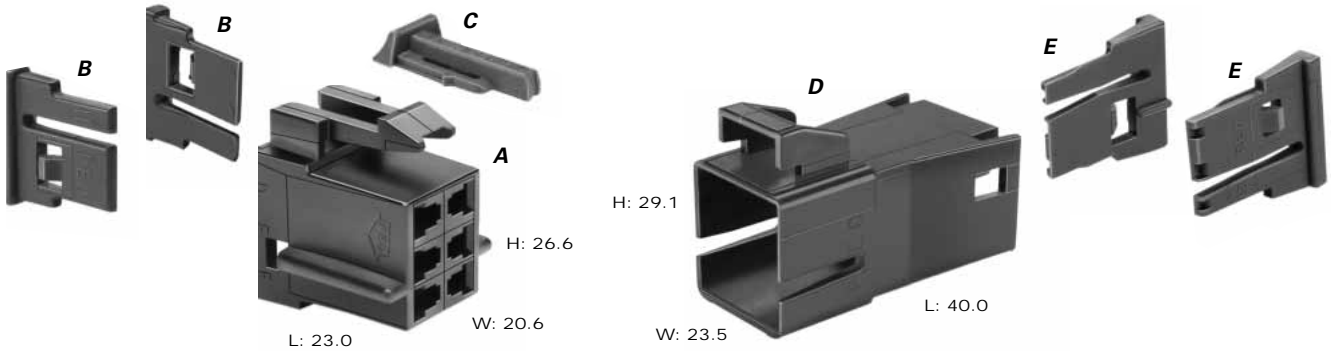
Description: TPA
 Color: Lt. Gray
 Material: PA66 HS IM

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Metri-Pack Series



Total Mated Length: 57.0mm

**A. Part No: 12064752 (Black)
15479022 (Cream)**

Description:	Connector 6F
Size:	23.0L x 26.6H x 20.6W
Material:	PA66 HS IM
Terminals:	See Page 2.24

B. Part No: 12064753

Description:	TPA
Number Req:	2
Color:	Md. Gray
Material:	PA66 HS IM

C. Part No: 12052834

Description:	CPA
Color:	Green
Material:	PP

D. Part No: 12064754

Description:	Connector 6M (Clip Slot-Self Locking)
Size:	40.0L x 29.1H x 23.5W
Color:	Black
Material:	PA6
Terminals:	See Page 2.25

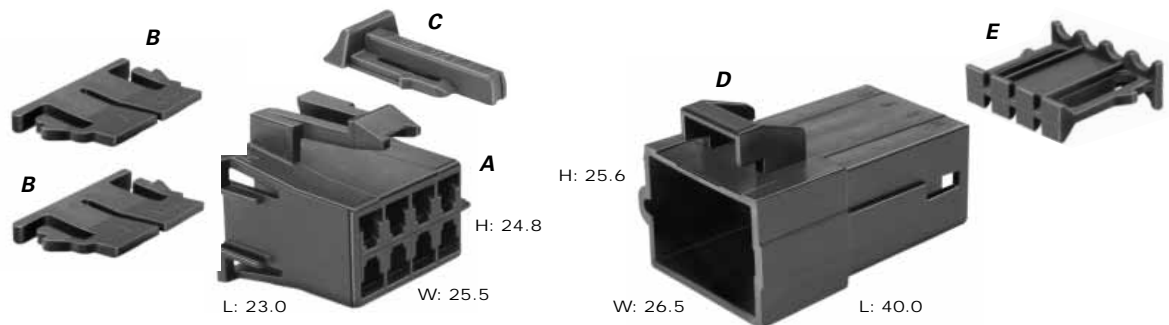
E. Part No: 12064755

Description:	TPA
Number Req:	2
Color:	Blue
Material:	PA66 HS IM

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Total Mated Length: 54.0mm

A. Part No: 12064998

Description:	Connector 8F
Size:	23.0L x 24.8H x 25.5W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.24

B. Part No: 12064999

Description:	TPA
Number Req:	2
Color:	Blue
Material:	PBT

C. Part No: 12052834

Description:	CPA
Color:	Green
Material:	PP

D. Part No: 12066195

Description:	Connector 8M (Clip Slot)
Size:	40.0L x 25.6H x 26.5W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.25

E. Part No: 12065141

Description:	TPA
Color:	Md. Gray
Material:	PA66 HS IM

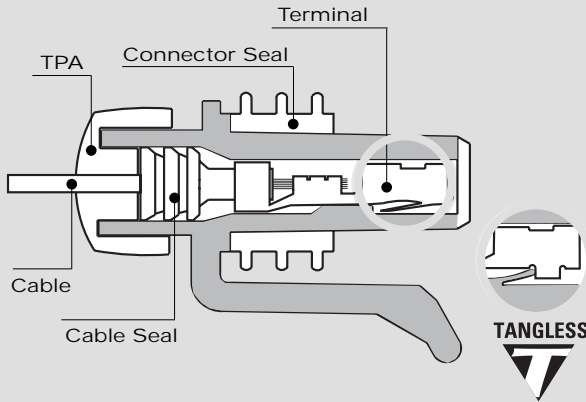
NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



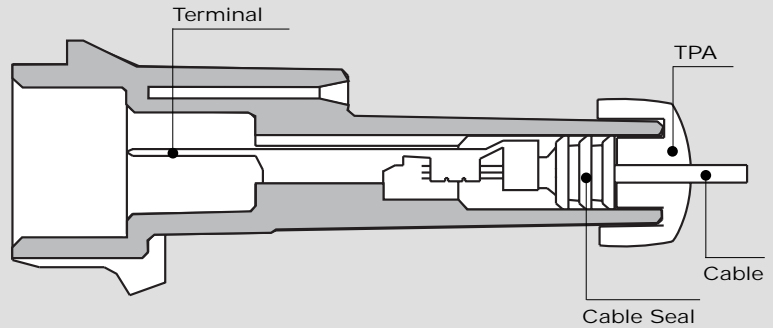
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Metri-Pack Series

Cross Sectional View



Female Connector Assembly



Male Connector



280 Tangless Female Terminals Sealed

Part #	Cable Range (mm ²)	Material	Plating
12110853	5.0-3.0	Tin Brass	Tin
12129409	2.0-1.0	Tin Brass	Tin
12110845*	3.0-2.0	Tin Brass	Tin
12110847*	1.0-0.80	Tin Brass	Tin
12110846*	0.50-0.35	Tin Brass	Tin

*Thin Stock—Electrical current restrictions apply.



280 Flexlock Female Connector Assemblies Sealed

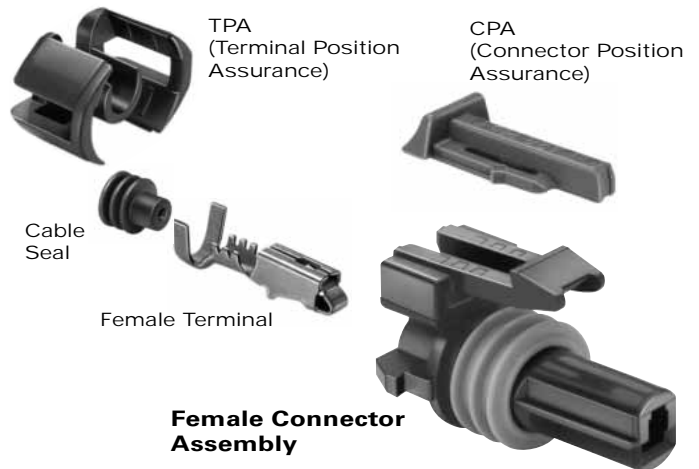
# Cavities	Conn. Asm.	Color	Material	TPA
7	12110751	Black	PA66 HS IM	12110754
15	12161186	Black	PA66 HS IM	12110782

280 Female Terminals Sealed

Part #	Cable Range (mm ²)	Material	Plating
12077413	3.0	Tin Brass	Tin
12129493	3.0-2.0	Tin Brass	Tin
12077411	1.0-0.80-0.50	Tin Brass	Tin
12084201	0.50-0.35	Tin Brass	Tin
12176387	5.0	Beryllium Copper	Silver/Nickel
12176388	3.0-2.0	Beryllium Copper	Silver/Nickel
12176389	1.0-0.80	Beryllium Copper	Silver/Nickel

280.1 Female Pull-to-Seat Terminals Sealed

Part #	Cable Range (mm ²)	Material	Plating
12077939	1.0-0.80-0.50	Silicon Bronze	Tin
12103360	0.50-0.35	Silicon Bronze	Tin



Female Connector Assembly

280 Female Connector Assemblies Sealed

# Cavities	Conn. Asm.	Color	Material	TPA
1	12065172	Black	PA66 HS IM	12065249
2	15300027	Black	PA66 HS IM	15300014
2	12124819	Black	PBT	12020807
3	12040977	Black	PA66 HS IM	12034145
4	12129565	Md. Gray	PA66 HS IM	15300016
5	12084891	Md. Gray	PA66 HS IM	15324857

280 Metri-Pack Cable Seals

Reel Part #	Loose Part #	Cable Dia.	Material	Color
12015360	15324981	4.30-3.45	Silicone	Blue
12015359	15324980	3.49-2.81	Silicone	Gray
12015284	15324982	2.85-2.03	Silicone	Green
12041352	15324984	2.42-2.03	Silicone	Tan
12089444	15324985	2.15-1.60	Silicone	Purple
12034365	15324983	1.70-1.29	Silicone	Dk. Red

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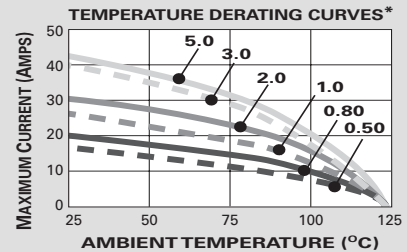
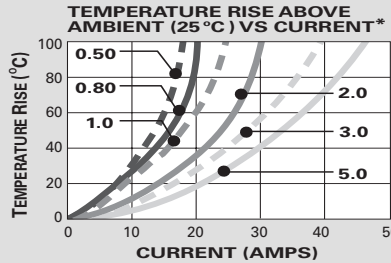


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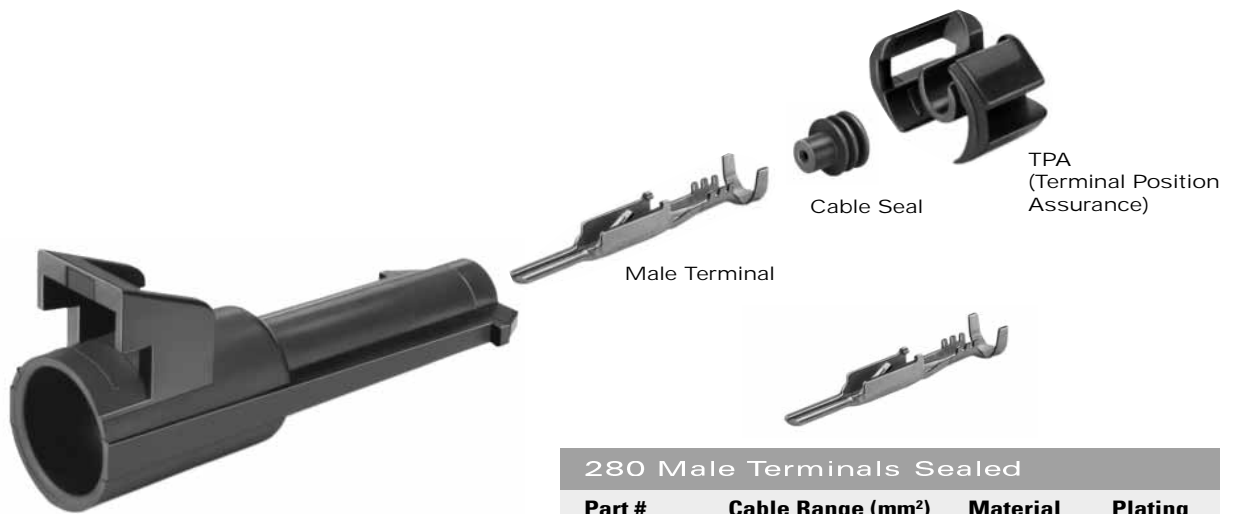
Sealed System Application Information

280 Series Terminals – Tin Plated

CABLE RANGE (mm²): 0.35-5.0
 CURRENT RANGE (AMPS): 0-30
 TEMP RANGE °C: -40 to 125
 RESISTANCE: <10mΩ@20mV
 VOLTAGE DROP: <3.0mV/amp
 CENTERLINE SPACING (mm): 7.7
 BLADE WIDTH (mm): 2.8



*The test data are based on single circuits in free space and were generated using a "Lumped Resistance" model. This model does not account for all of the variables that would be present in an actual application. For actual product performance, contact your regional support representative.



Male Connector

280 Male Terminals Sealed			
Part #	Cable Range (mm ²)	Material	Plating
12048254	3.0	Tin Brass	Tin
12129497	3.0-2.0	Tin Brass	Tin
12048159	0.80-0.50	Tin Brass	Tin
12124977	0.50-0.35	Tin Brass	Tin

280 Male Connectors Sealed				
# Cavities	Connector	Color	Material	TPA
1	12065171	Black	PA66 HS IM	12065249
2	15300002	Black	PA66 HS IM	15300014
2	12059450	Black	PA66 HS IM	12065279
3	15300003	Black	PA66 HS IM	15300015
4	12129600	Dk.Gray	PBT 30% GF	15324063
5	12186400	Gray	PBT 30% GF	12084673
7	12110753	Black	PA66 HS IM	12110754
15	12161187	Black	PA66 HS IM 14% GF	12176865

280 Metri-Pack Cavity Plug*			
Part #	Cavity Inside Diameter	Material	Color
12010300	6.7mm	Silicone	Green

*Cavity plugs seal unused female and male cavities.

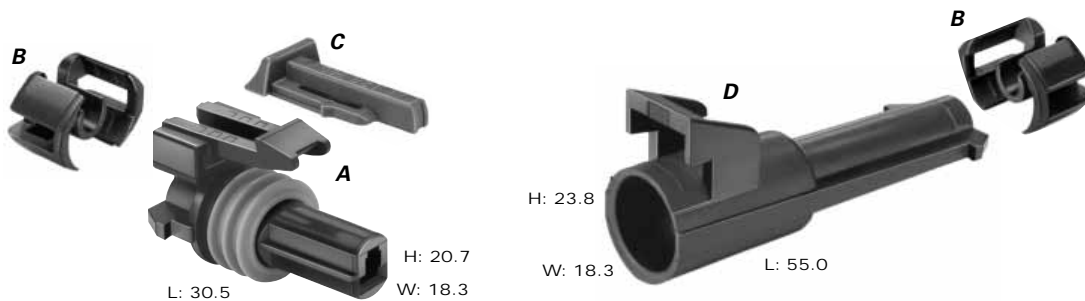
SECTION NOTES:

- Due to rigid tolerances of connector cavities, it is critical to meet all crimp dimensions as specified.
- Female Connections for device applications, see page 2.38.

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Total Mated Length: 70.3mm

A. Part No: 12065172

Description:	Connector Assembly 1F
Size:	30.5L x 20.7H x 18.3W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.30
Seals/Plugs:	See Page 2.30, 2.31

D. Part No: 12065171

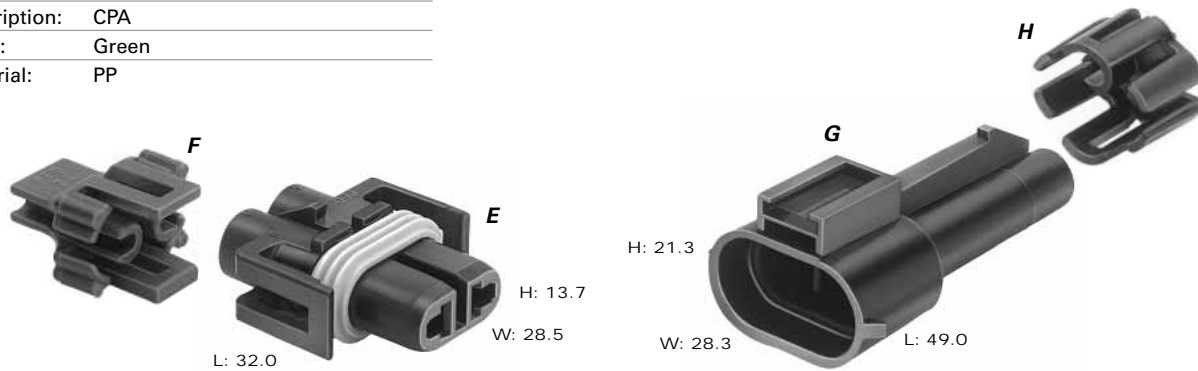
Description:	Connector 1M
Size:	55.0L x 23.8H x 18.3W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.31
Seals/Plugs:	See Page 2.30, 2.31

B. Part No: 12065249

Description:	TPA
Number Req:	2
Color:	Black
Material:	PA66 HS IM

C. Part No: 12052834

Description:	CPA
Color:	Green
Material:	PP



Total Mated Length: 81.9mm

E. Part No: 12124819

Description:	Connector Assembly 2F
Size:	32.0L x 13.7H x 28.5W
Color:	Black
Material:	PBT
Terminals:	See Page 2.30
Seals/Plugs:	See Page 2.30, 2.31

G. Part No: 12059450

Description:	Connector 2M (Clip Slot)
Size:	49.0L x 21.3H x 28.3W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.31
Seals/Plugs:	See Page 2.30, 2.31

F. Part No: 12020807

Description:	TPA
Color:	Md. Gray
Material:	PA66 HS IM

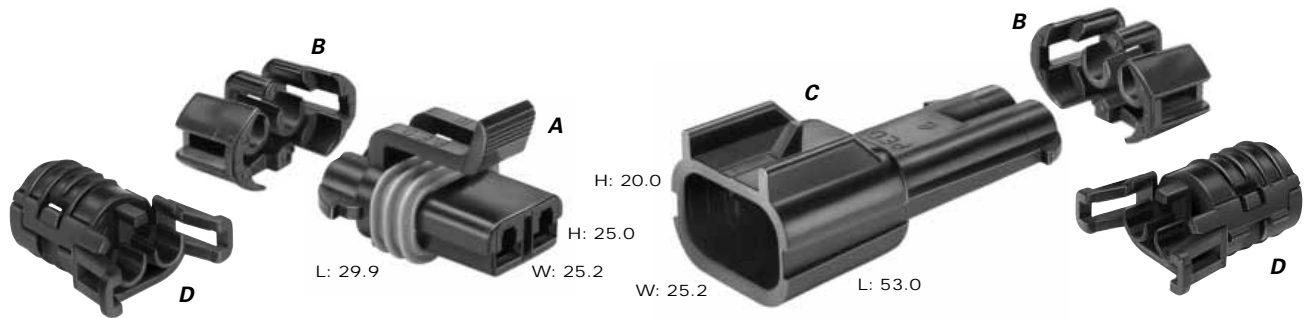
H. Part No: 12065279

Description:	TPA
Color:	Black
Material:	PA6

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



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Total Mated Length: 66.8mm

A. Part No: 15300027

Description:	Connector Assembly 2F
Size:	29.9L x 25.0H x 25.2W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.30
Seals/Plugs:	See Page 2.30, 2.31

C. Part No: 15300002

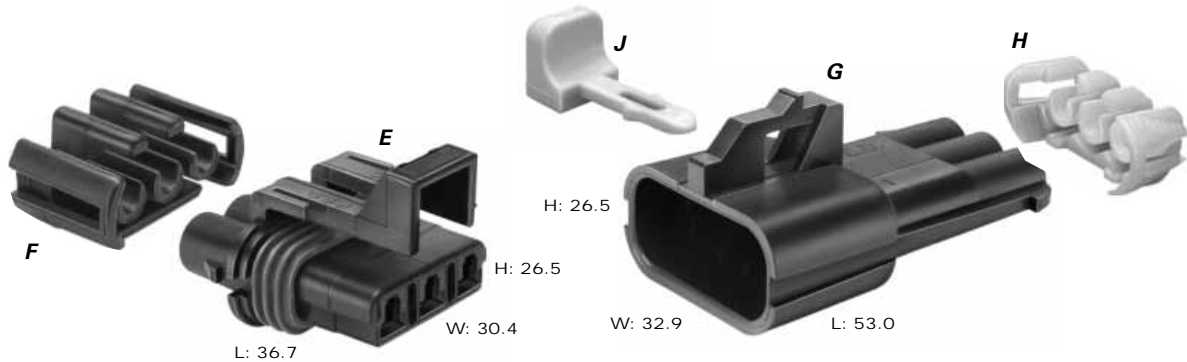
Description:	Connector 2M
Size:	53.0L x 20.0H x 25.2W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.31
Seals/Plugs:	See Page 2.30, 2.31

B. Part No: 15300014

Description:	TPA
Number Req.:	2
Color:	Blue
Material:	PA66 HS IM

D. Part No: 15327747 (Optional)

Description:	Conduit TPA
Number Req.:	2
Color:	Black
Material:	PA6



Total Mated Length: 76.1mm

E. Part No: 12040977

Description:	Connector Assembly 3F
Size:	36.7L x 26.5H x 30.4W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.30
Seals/Plugs:	See Page 2.30, 2.31

G. Part No: 15300003

Description:	Connector 3M (Clip Slot)
Size:	53.0L x 26.5H x 32.9W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.31
Seals/Plugs:	See Page 2.30, 2.31

F. Part No: 12034145

Description:	TPA
Color:	Black
Material:	PA66 HS IM

H. Part No: 15300015

Description:	TPA
Color:	Cream
Material:	PA66 HS IM

J. Part No: 12020833

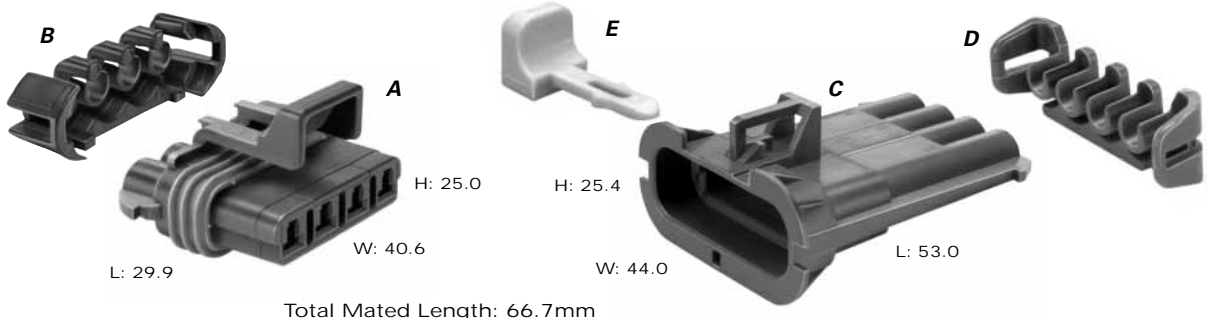
Description:	CPA
Color:	Gray
Material:	PBT

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



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Metri-Pack Series



Total Mated Length: 66.7mm

A. Part No: 12129565

Description:	Connector Assembly 4F
Size:	29.9L x 25.0H x 40.6W
Color:	Md. Gray
Material:	PA66 HS IM
Terminals:	See Page 2.30
Seals/Plugs:	See Page 2.30, 2.31

C. Part No: 12129600

Description:	Connector 4M (Clip Slot-Self Locking)
Size:	53.0L x 25.4H x 44.0W
Color:	Dk. Gray
Material:	PBT 30% GF
Terminals:	See Page 2.31
Seals/Plugs:	See Page 2.30, 2.31

B. Part No: 15300016

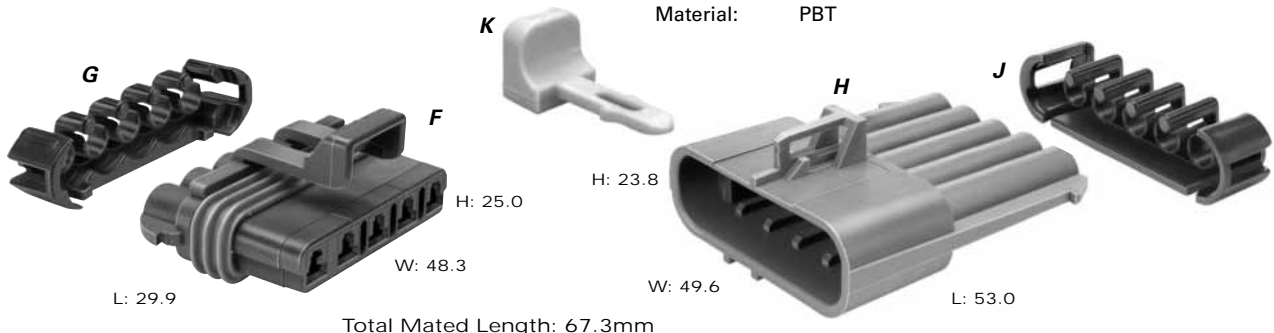
Description:	TPA
Color:	Black
Material:	PA66 HS IM

D. Part No: 15324063

Description:	TPA
Color:	Blue
Material:	PA66 HS IM

E. Part No: 12020833

Description:	CPA
Color:	Gray
Material:	PBT



Total Mated Length: 67.3mm

F. Part No: 12084891

Description:	Connector Assembly 5F
Size:	29.9L x 25.0H x 48.3W
Color:	Md. Gray
Material:	PA66 HS IM
Terminals:	See Page 2.30
Seals/Plugs:	See Page 2.30, 2.31

H. Part No: 12186400

Description:	Connector 5M (Clip Slot-Self Locking)
Size:	53.0L x 23.8H x 49.6W
Color:	Gray
Material:	PBT 30% GF
Terminals:	See Page 2.31
Seals/Plugs:	See Page 2.30, 2.31

G. Part No: 15324857

Description:	TPA
Color:	Black
Material:	PA66 HS IM

J. Part No: 12084673

Description:	TPA
Color:	Black
Material:	PA66 HS IM

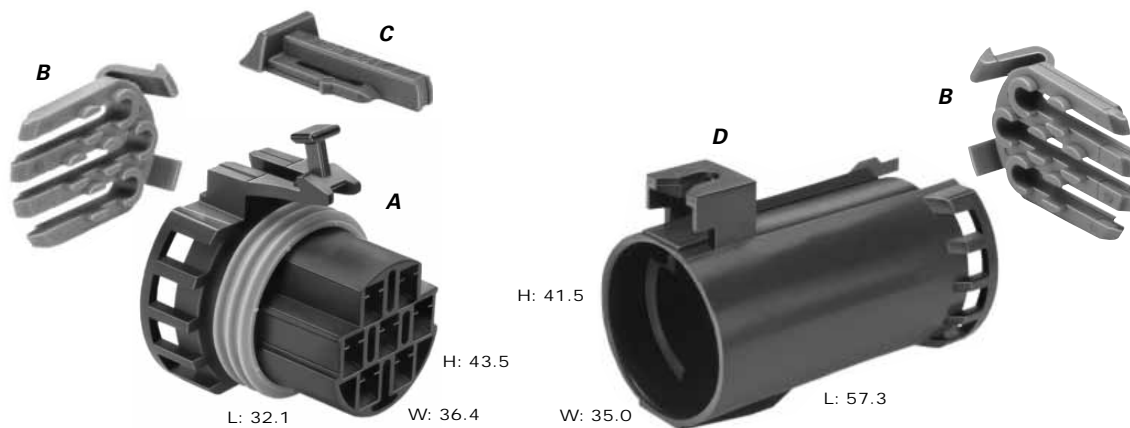
K. Part No: 12020833

Description:	CPA
Color:	Gray
Material:	PBT

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Total Mated Length: 77.3mm



**A. Part No: 12110751 (Black)
12129613 (Md. Gray)
12146841 (Cream)**

Description:	Connector Assembly 7F
Size:	32.1L x 43.5H x 36.4W
Material:	PA66 HS IM
Terminals:	See Page 2.30
Seals/Plugs:	See Page 2.30, 2.31

B. Part No: 12110754

Description:	TPA
Number Req:	2
Color:	Lt. Gray
Material:	PA66 HS IM

C. Part No: 12052834

Description:	CPA
Color:	Green
Material:	PP

**D. Part No: 12110753 (Black)
12129614 (Md. Gray)
12146840 (Cream)**

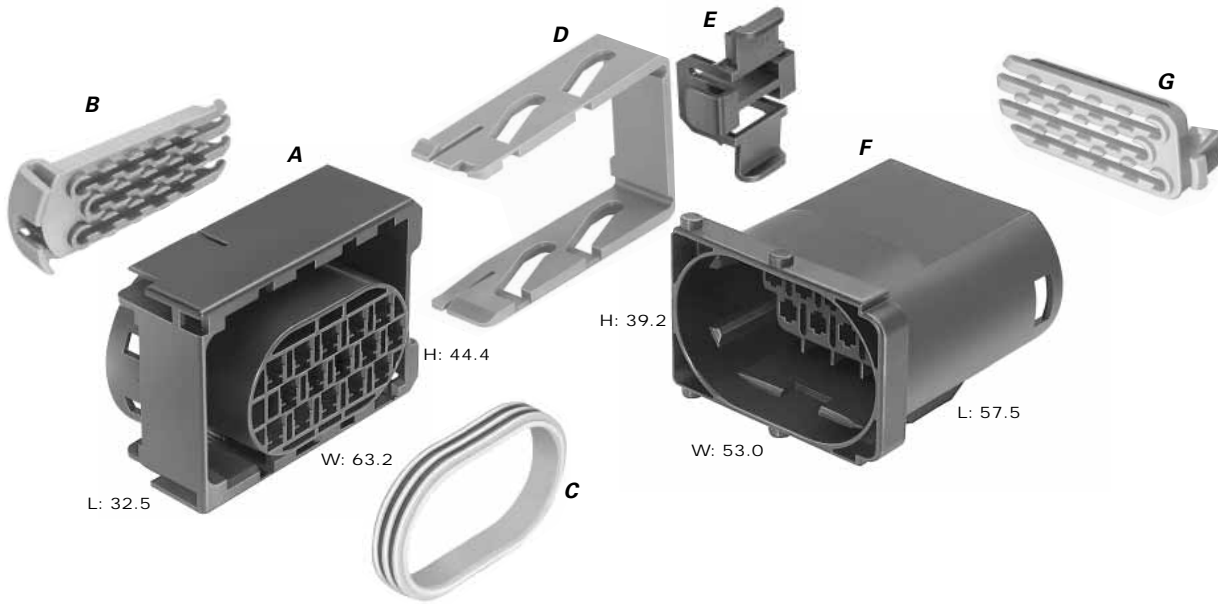
Description:	Connector 7M (Clip Slot-Self Locking)
Size:	57.3L x 41.5H x 35.0W
Material:	PA66 HS IM
Terminals:	See Page 2.31
Seals/Plugs:	See Page 2.30, 2.31

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



280

Metri-Pack Series



Total Mated Length: 76.6mm



A. Part No: 12161186

Description:	Connector 15F
Size:	32.5L x 44.4H x 63.2W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.30
Seals/Plugs:	See Page 2.30, 2.31

B. Part No: 12110782

Description:	TPA
Color:	Md. Gray
Material:	PA66 HS IM

C. Part No: 12110822

Description:	Connector Seal
Color:	Green
Material:	Silicone

D. Part No: 12161185

Description:	CPA Slide Lock Assist
Color:	Dk. Gray
Material:	PA66 HS IM 14% GF

E. Part No: 12176640

Description:	Spacer Lock
Color:	Black
Material:	PP

F. Part No: 12161187

Description:	Connector 15M (Clip Slot-Self Locking)
Size:	57.5L x 39.2H x 53.0W
Color:	Black
Material:	PA66 HS IM 14% GF
Terminals:	See Page 2.31
Seals/Plugs:	See Page 2.30, 2.31

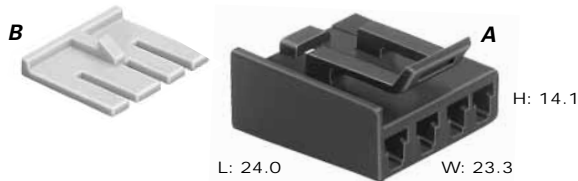
G. Part No: 12176865

Description:	TPA
Color:	Lt. Gray
Material:	PA66 HS IM

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



280 Device Connections



A. Part No: 12052856

Description:	Connector 4F
Size:	24.0L x 14.1H x 23.3W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.24
Typical App:	Dimmer Switch

B. Part No: 15324456

Description:	TPA
Color:	Dk. Green
Material:	PA66 HS IM

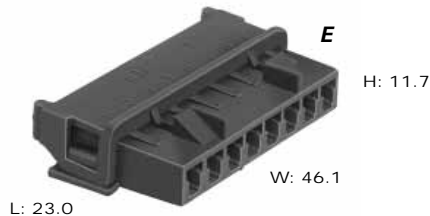


C. Part No: 12084890

Description:	Connector 5F
Size:	29.9L x 24.2H x 48.3W
Color:	Md. Gray
Material:	PA66 HS IM
Terminals:	See Page 2.24
Typical App:	Tail Lamp Module

D. Part No: 15324857

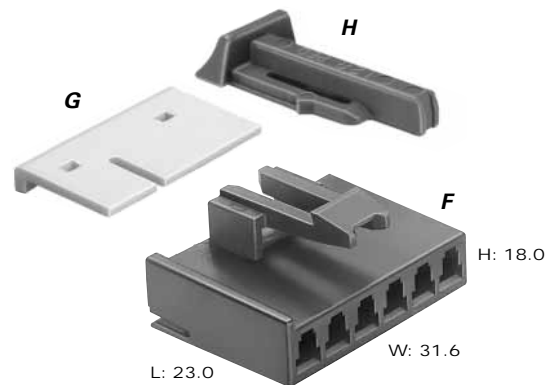
Description:	TPA
Color:	Black
Material:	PA66 HS IM



E. Part No: 12041301*

Description:	Connector 8F
Size:	23.0L x 11.7H x 46.1W
Color:	Black
Material:	PP
Terminals:	See Page 2.24
Typical App:	Various

*Hinged secondary lock.



F. Part No: 12092254

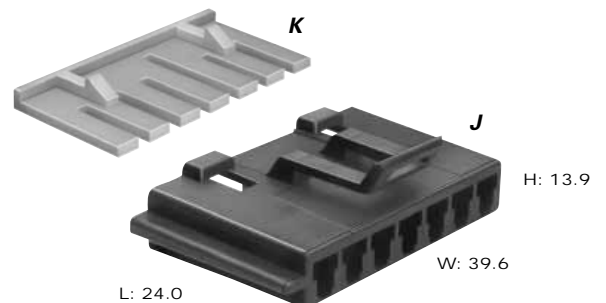
Description:	Connector 6F
Size:	23.0L x 18.0H x 31.6W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.24
Typical App:	Wiper Switch

G. Part No: 12092252

Description:	TPA
Color:	Cream
Material:	PA6

H. Part No: 12052834

Description:	CPA
Color:	Green
Material:	PP



J. Part No: 12052854

Description:	Connector 7F
Size:	24.0L x 13.9H x 39.6W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.24
Typical App:	Wiper Switch

K. Part No: 12124811

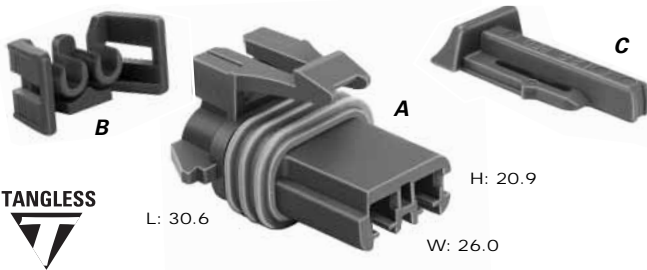
Description:	TPA
Color:	Cream
Material:	PA66 HS IM

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



280 Device Connections

Metri-Pack Series



A. Part No: 12129487

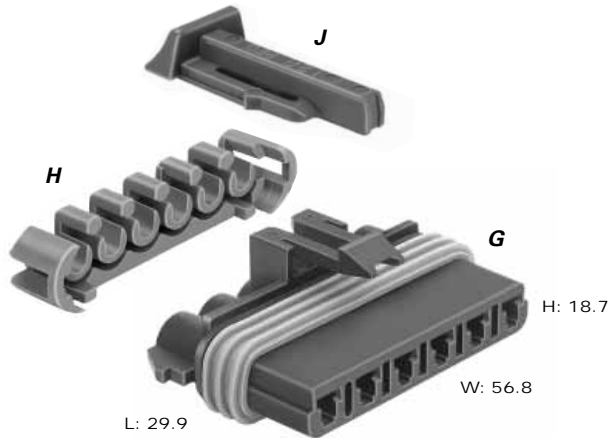
Description:	Connector Assembly 2F
Size:	30.6L x 20.9H x 26.0W
Color:	Md. Gray
Material:	PA66 HS IM
Terminals:	See Page 2.30
Seals/Plugs:	See Page 2.30, 2.31
Typical App:	Window Lift Motor

B. Part No: 12077904

Description:	TPA
Color:	Blue
Material:	PA66 HS IM

C. Part No: 12052834

Description:	CPA
Color:	Green
Material:	PP



G. Part No: 12059573

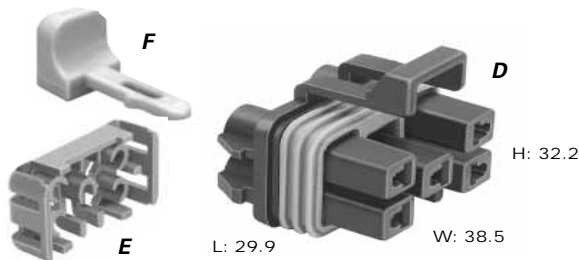
Description:	Connector Assembly 6F
Size:	29.9L x 18.7H x 56.8W
Color:	Black
Material:	PA66
Terminals:	See Page 2.30
Seals/Plugs:	See Page 2.30, 2.31
Typical App:	Various

H. Part No: 12059195

Description:	TPA
Color:	Blue
Material:	PA6

J. Part No: 12052834

Description:	CPA
Color:	Green
Material:	PP



D. Part No: 12124634

Description:	Connector Assembly 5F
Size:	29.9L x 32.2H x 38.5W
Color:	Black
Material:	PA6
Terminals:	See Page 2.30
Seals/Plugs:	See Page 2.30, 2.31
Typical App:	Wiper Switch

E. Part No: 12052816

Description:	TPA
Color:	Md. Gray
Material:	PA66 HS IM

F. Part No: 12020833

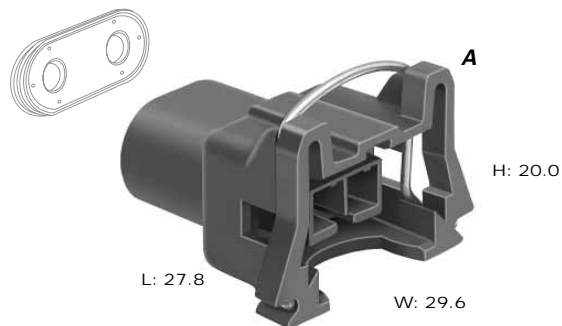
Description:	CPA
Color:	Gray
Material:	PBT

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



280.1 Pull-to-Seat

Multiple Cable Seal
(Included)



A. Part No: 12129142 (Black/Gray Seal)

2.66 - 2.0 Cable O.D.

Part No: 12129140 (Black/Purple Seal)

2.15 - 1.65 Cable O.D.

Part No: 12110179 (Black/Orange Red Seal)

1.85 - 1.47 Cable O.D.

Description: Connector Assembly 2F

Size: 27.8L x 20.0H x 29.6W

Material: PA66 HS 33% GF

Terminals: See Page 2.30

Typical App: Fuel Injector

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.

Metri-Pack Series

480



Available in device and in-line connections for vehicle applications, Metri-Pack 480 Series connectors can meet or exceed the requirements for most marine, appliance, and industrial control applications.

Ideally suited for high current applications that do not require environmental protection, Metri-Pack 480 Series products are extremely rugged and versatile.



Available in device and in-line connections for underhood vehicle applications, Metri-Pack 480 Series sealed connectors can meet or exceed the requirements for most marine, appliance, and industrial control applications.

Utilizing triple-rib peripheral silicone rubber seals, Metri-Pack 480 Series sealed systems are ideally suited for high current applications that require protection from environmental hazards.



480 Metri-Pack Features

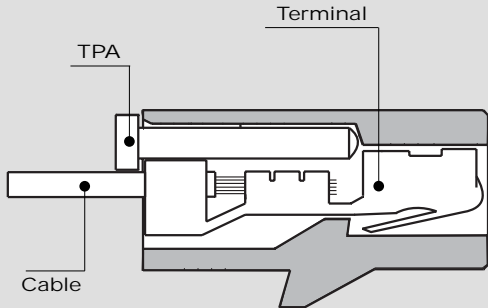
- Connector Position Assurance (CPA)
- Terminal Position Assurance (TPA)
- 42 Amps continuous maximum current rating
- Low energy, low voltage capability
- Excellent resistance to temperature, chemicals and abrasion
- -40°C to 125°C temperature range



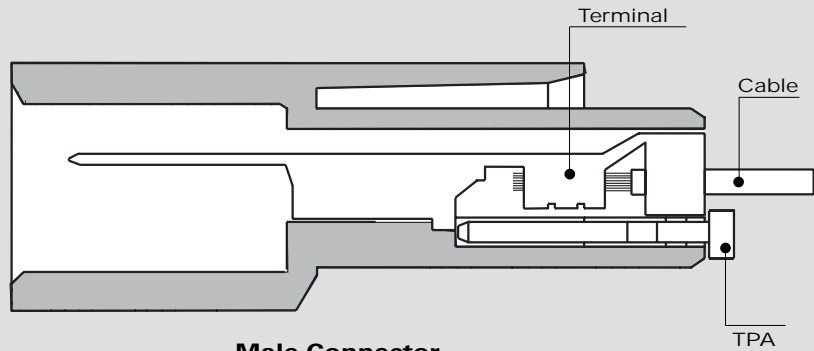
480

Metri-Pack Series

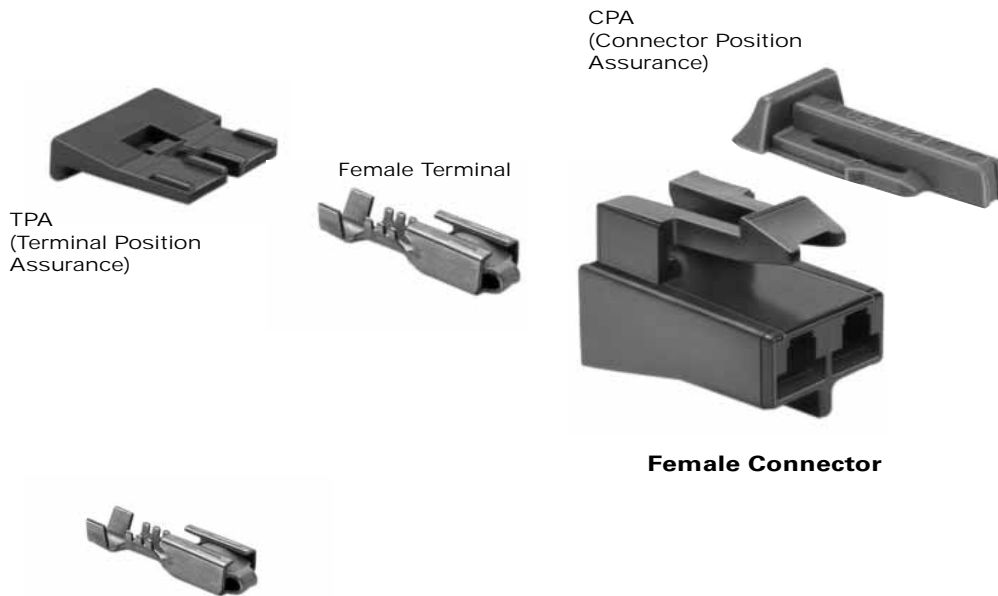
Cross Sectional View



Female Connector



Male Connector



480 Female Terminals Unsealed			
Part #	Cable Range (mm ²)	Material	Plating
12084595	5.0-3.0	Tin Brass	Tin
12052221	3.0	Tin Brass	Tin
12124304	2.0-1.0	Tin Brass	Tin
12015860	0.80-0.50	Tin Brass	Tin
12052219	0.50-0.35	Tin Brass	Tin
12020366	2.0-1.0 (1 Req'd.)	Tin Brass	Tin
	0.80-0.50 (1 Req'd.)		

480 Female Connectors Unsealed				
# Cavities	Connector	Color	Material	TPA
1	12015952	Md.Gray	PA66 HS IM	-
2	12064749	Black	PA66 HS IM	12059860

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.

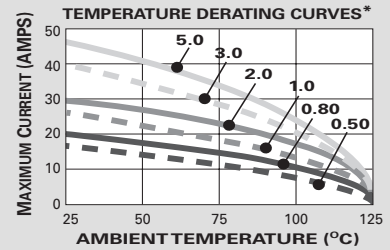
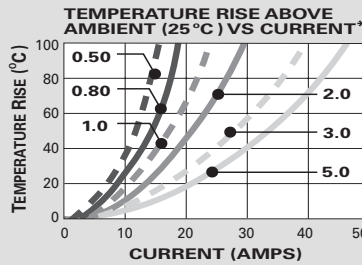


480

Unsealed System Application Information

CABLE RANGE (mm²): 0.35-5.0
 CURRENT RANGE (AMPS): 0-42
 TEMP RANGE °C: -40 to 125
 RESISTANCE: <10mΩ@20mV
 VOLTAGE DROP: <3.0mV/amp
 CENTERLINE SPACING (mm): 6.9
 BLADE WIDTH (mm): 4.8

480 Series Terminals – Tin Plated



*The test data are based on single circuits in free space and were generated using a “Lumped Resistance” model. This model does not account for all of the variables that would be present in an actual application. For actual product performance, contact your regional support representative.



Male Connector

Male Terminal

TPA
(Terminal Position Assurance)

480 Male Connectors Unsealed

# Cavities	Connector	Color	Material	TPA
1	12015987	Md. Gray	PA66 HS IM	–
2	12064750	Black	PA66 HS IM	12064751

480 Male Terminals Unsealed

Part #	Cable Range (mm ²)	Material	Plating
12033820	5.0-3.0	Tin Brass	Tin over Copper
12052827	3.0	Tin Brass	Tin over Copper
12020120	2.0-1.0	Tin Brass	Tin over Copper
12020119	0.80-0.50	Tin Brass	Tin over Copper
12066269	0.50-0.35	Tin Brass	Tin over Copper
12020784	0.35 (2 Req'd.)	Tin Brass	Tin over Copper

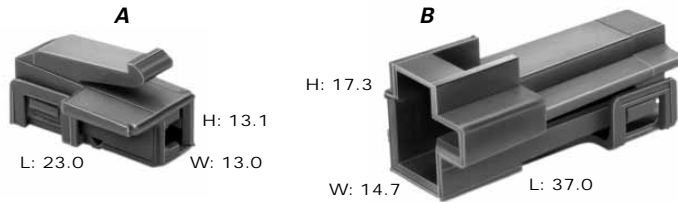
SECTION NOTES:

- Due to rigid tolerances of connector cavities, it is critical to meet all crimp dimensions as specified.
- Female connections for device applications, see page 2.49.

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



480



Total Mated Length: 49.6mm

A. Part No: 12015952*

Description:	Connector 1F
Size:	23.0L x 13.1H x 13.0W
Color:	Md. Gray
Material:	PA66 HS IM
Terminals:	See Page 2.42

*Hinged secondary lock

B. Part No: 12015987*

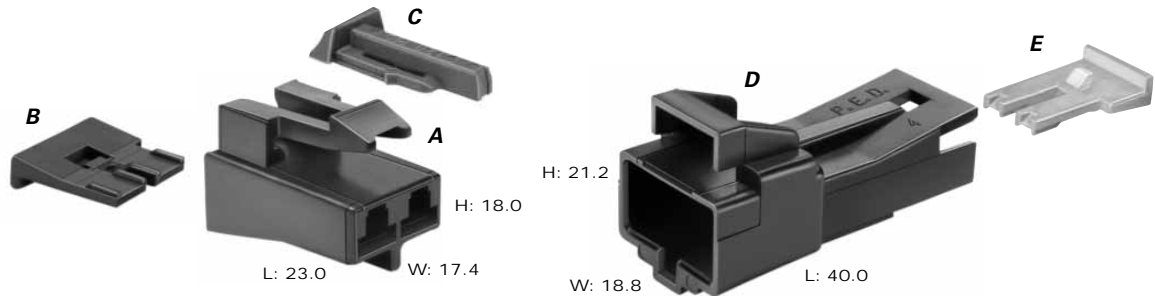
Description:	Connector 1M
Size:	37.0L x 17.3H x 14.7W
Color:	Md. Gray
Material:	PA66 HS IM
Terminals:	See Page 2.43

*Hinged secondary lock

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



480



Total Mated Length: 53.9mm

A. Part No: 12064749

Description:	Connector 2F
Size:	23.0L x 18.0H x 17.4W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.42

B. Part No: 12059860

Description:	TPA
Color:	Md. Gray
Material:	PA66 HS IM

C. Part No: 12052834

Description:	CPA
Color:	Green
Material:	PP

D. Part No: 12064750

Description:	Connector 2M (Clip Slot)
Size:	40.0L x 21.2H x 18.8W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.43

E. Part No: 12064751

Description:	TPA
Color:	Cream
Material:	PA66 HS IM

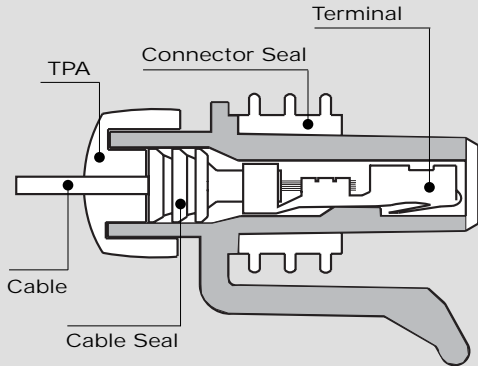
NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



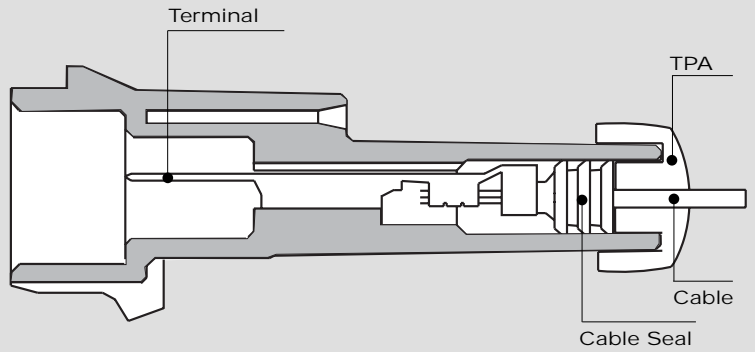
480

Metri-Pack Series

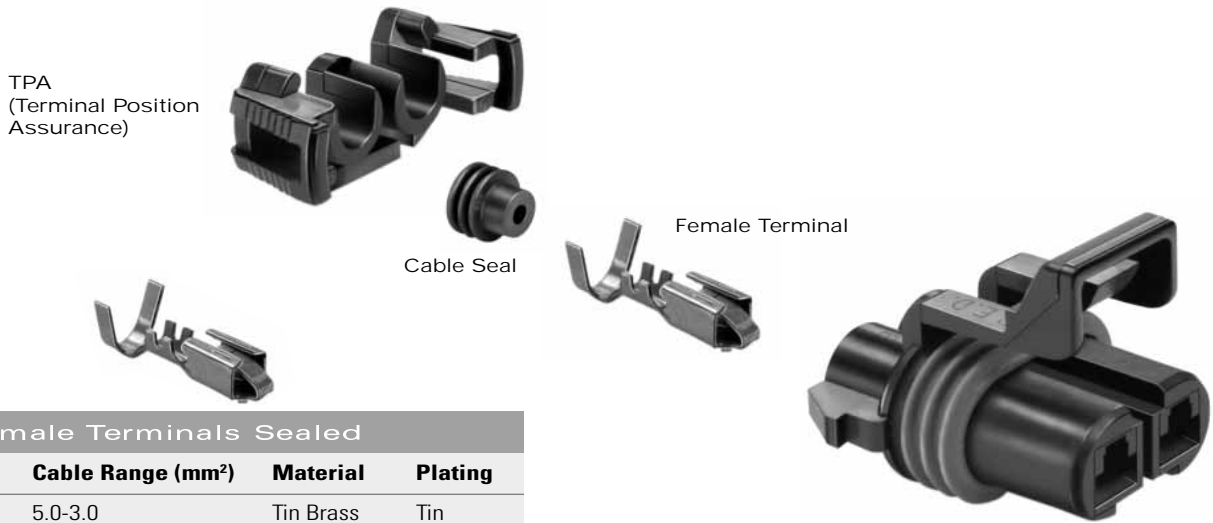
Cross Sectional View



Female Connector Assembly



Male Connector



480 Female Terminals Sealed			
Part #	Cable Range (mm ²)	Material	Plating
12052139	5.0-3.0	Tin Brass	Tin
12048451	2.0-1.0	Tin Brass	Tin
12048450	0.80-0.50	Tin Brass	Tin

480 Metri-Pack Cable Seals				
Reel Part #	Loose Part #	Cable Dia.	Material	Color
12065703	15324987	5.16-4.40	Silicone	Orange
12052453	15324990	4.50-3.61	Silicone	Purple
12052452	15324989	3.76-2.81	Silicone	Red
12048433	15324988	2.85-2.01	Silicone	White
12052931	15324991	2.15-1.60	Silicone	Yellow
12162068	15324992	1.70-1.29	Silicone	Pink

480 Female Connector Assembly Sealed				
# Cavities	Conn. Asm.	Color	Material	TPA
2	12052613	Black	PA66 HS IM	12059897

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.

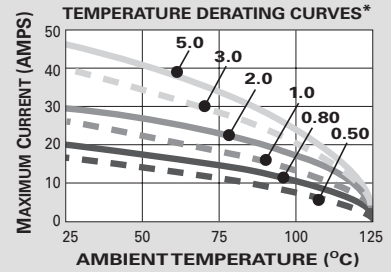
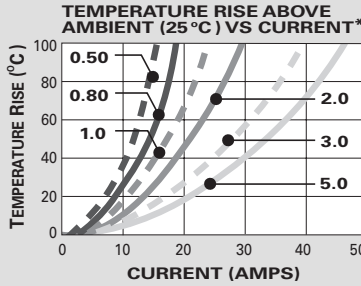


480

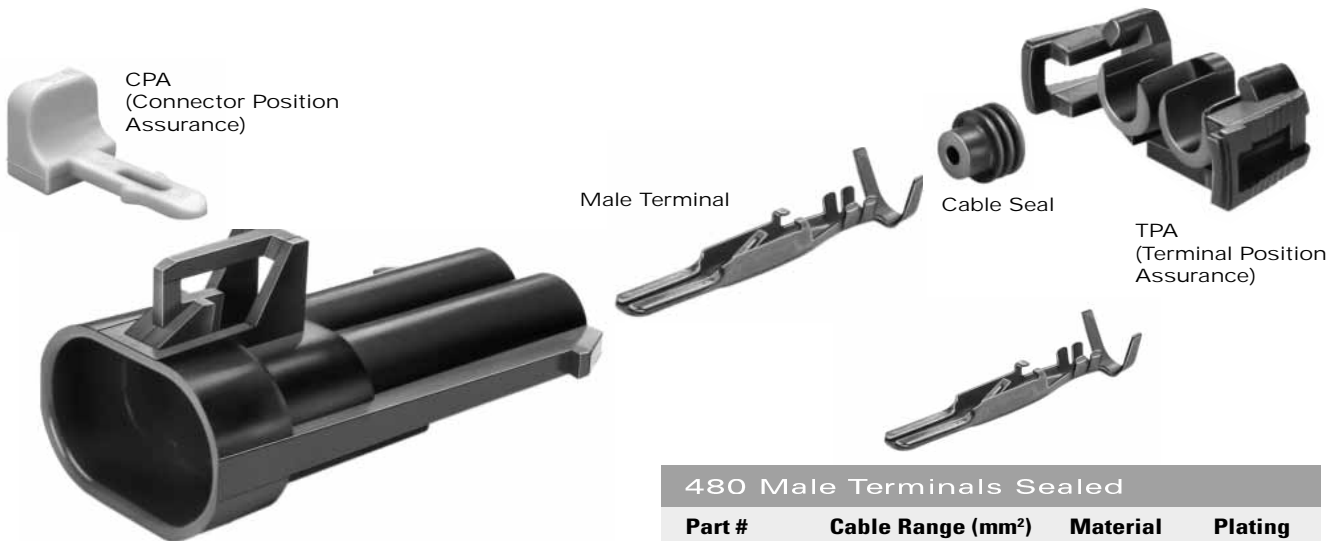
Sealed System Application Information

CABLE RANGE (mm²): 0.50-5.0
 CURRENT RANGE (AMPS): 0-42
 TEMP RANGE °C: -40 to 125
 RESISTANCE: <10mΩ@20mV
 VOLTAGE DROP: <3.0mV/amp
 CENTERLINE SPACING (mm): 9.5
 BLADE WIDTH (mm): 4.8

480 Series Terminals – Tin Plated



*The test data are based on single circuits in free space and were generated using a “Lumped Resistance” model. This model does not account for all of the variables that would be present in an actual application. For actual product performance, contact your regional support representative.



Male Connector

480 Male Terminals Sealed

Part #	Cable Range (mm ²)	Material	Plating
12052172	5.0	Tin Brass	Tin
12065197	3.0	Tin Brass	Tin
12065196	2.0-1.0	Tin Brass	Tin



480 Metri-Pack Cavity Plug*

Part #	Cavity Inside Diameter	Material	Color
12066082	8.5mm	Silicone	Green

*Cavity plugs seal unused female and male cavities

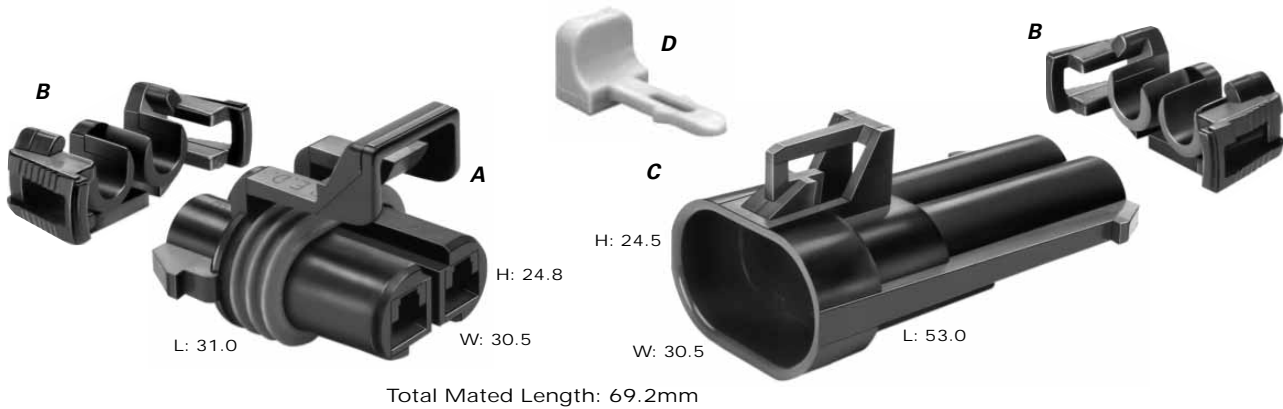
SECTION NOTES:

- Due to rigid tolerances of connector cavities, it is critical to meet all crimp dimensions as specified.
- Female connections for device applications, see page 2.50.

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



480



A. Part No: 12052613

Description:	Connector Assembly 2F
Size:	31.0L x 24.8H x 30.5W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.46
Seals/Plugs:	See Page 2.46, 2.47

C. Part No: 12065863

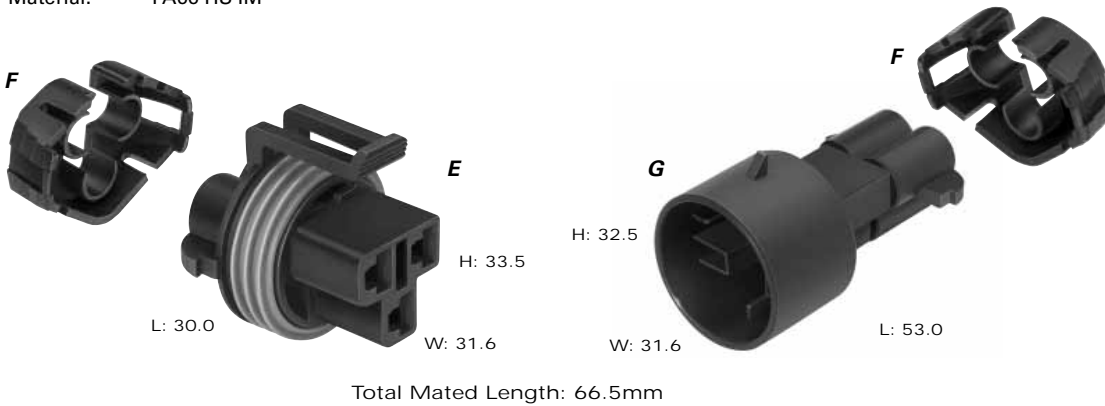
Description:	Connector 2M (Clip Slot)
Size:	53.0L x 24.5H x 30.5W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.47
Seals/Plugs:	See Page 2.46, 2.47

B. Part No: 12059897

Description:	TPA
Number Req:	2
Color:	Black
Material:	PA66 HS IM

D. Part No: 12020833

Description:	CPA
Color:	Gray
Material:	PBT



E. Part No: 12131592

Description:	Connector Assembly 3F
Size:	30.0L x 33.5H x 31.6W
Color:	Black
Material:	PA66 25% GF
Terminals:	See Page 2.46
Seals/Plugs:	See Page 2.46, 2.47

G. Part No: 15344628

Description:	Connector 3M
Size:	53.0L x 32.5H x 31.6W
Color:	Black
Material:	PA6 25% GF
Terminals:	See Page 2.47
Seals/Plugs:	See Page 2.46, 2.47

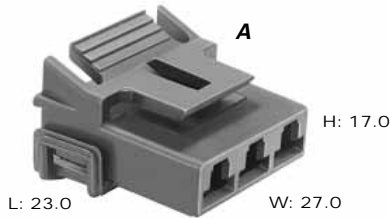
F. Part No: 12131543

Description:	TPA
Number Req:	2
Color:	Black
Material:	PA66

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.

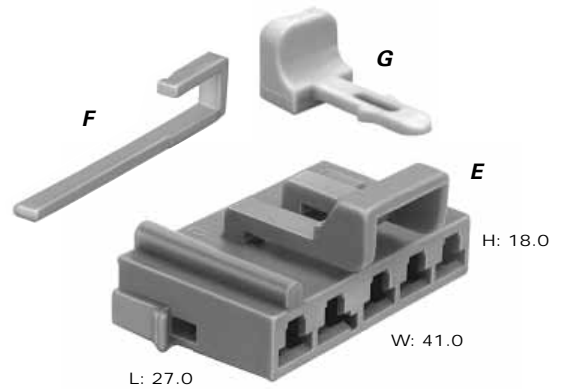


480 Device Connections



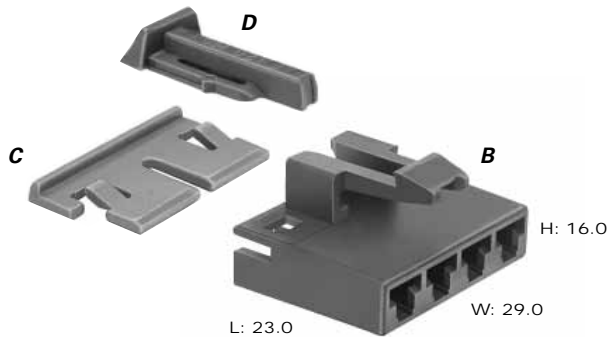
A. Part No: 12162512*

Description:	Connector 3F
Size:	23.0L x 17.0H x 27.0W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.42
Typical App:	Switch
*Hinged secondary lock	



E. Part No: 12059296

Description:	Connector 5F
Size:	27.0L x 18.0H x 41.0W
Color:	Red
Material:	PA6
Terminals:	See Page 2.42
Typical App:	Switch



B. Part No: 12066571

Description:	Connector 4F
Size:	23.0L x 16.0H x 29.0W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.42
Typical App:	Various

C. Part No: 12066572

Description:	TPA
Color:	Md. Gray
Material:	PA66 HS IM

D. Part No: 12052834

Description:	CPA
Color:	Green
Material:	PP

F. Part No: 12059297

Description:	Secondary Lock
Color:	Natural
Material:	PBT

G. Part No: 12020833

Description:	CPA
Color:	Gray
Material:	PBT



H. Part No: 12034061*

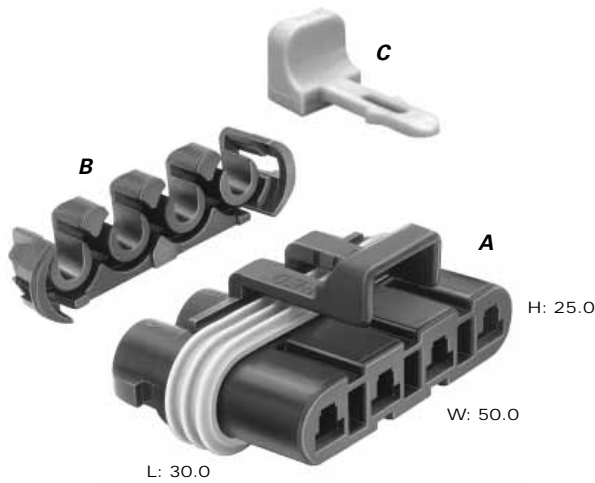
Description:	Connector 6F
Size:	28.0L x 18.0H x 51.0W
Color:	Cream
Material:	PA66 HS IM
Terminals:	See Page 2.42
Typical App:	Switch
*Hinged secondary lock	

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



480 Device Connections

Metri-Pack Series



A. Part No: 12048412

Description:	Connector Assembly 4F
Size:	30.0L x 25.0H x 50.0W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.46
Seals/Plugs:	See Page 2.46, 2.47
Typical App:	Resistor Pack

B. Part No: 12048413

Description:	TPA
Color:	Black
Material:	PA66 HS IM

C. Part No: 12020833

Description:	CPA
Color:	Gray
Material:	PBT

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.

Metri-Pack Series

630



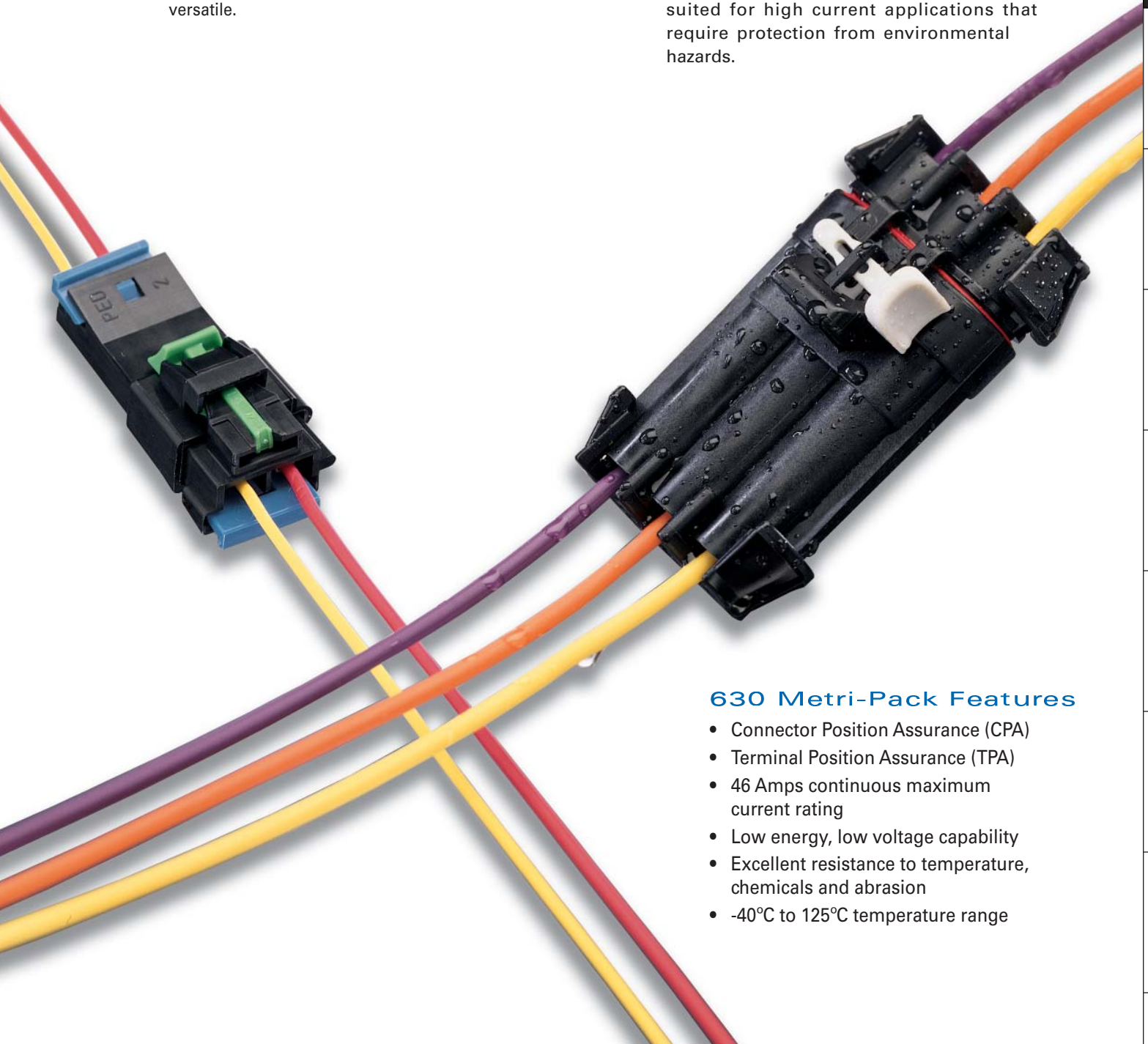
Available in device and in-line connections for vehicle applications, Metri-Pack 630 Series connectors can meet or exceed the requirements for most marine, appliance, and industrial control applications.

Ideally suited for high current applications that do not require environmental protection, Metri-Pack 630 Series products are extremely rugged and versatile.



Available in device and in-line connections for underhood vehicle applications, Metri-Pack 630 Series sealed connectors can meet or exceed the requirements for most marine, appliance, and industrial control applications.

Utilizing triple-rib peripheral silicone rubber seals, Metri-Pack 630 Series sealed systems are ideally suited for high current applications that require protection from environmental hazards.



630 Metri-Pack Features

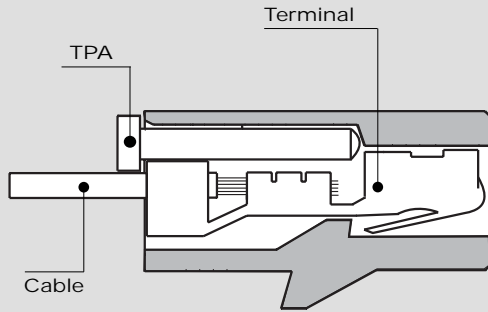
- Connector Position Assurance (CPA)
- Terminal Position Assurance (TPA)
- 46 Amps continuous maximum current rating
- Low energy, low voltage capability
- Excellent resistance to temperature, chemicals and abrasion
- -40°C to 125°C temperature range



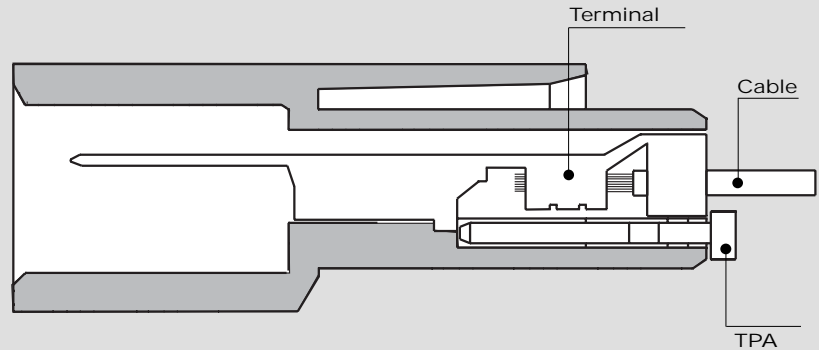
630

Metri-Pack Series

Cross Sectional View



Female Connector



Male Connector



TPA
(Terminal Position Assurance)

Female Terminal



CPA
(Connector Position Assurance)



Female Connector



630 Female Terminals Unsealed			
Part #	Cable Range (mm ²)	Material	Plating
12084590	5.0-3.0	Tin Brass	Tin
12052224	3.0	Tin Brass	Tin
12084596	5.0-3.0 (2 Req'd.)	Tin Brass	Tin
12015870	2.0-1.0	Tin Brass	Tin
12015869	0.80-0.50	Tin Brass	Tin
12020035	0.80-0.50 (2 Req'd.)	Tin Brass	Tin
12052222	0.50-0.35	Tin Brass	Tin

630 Female Connectors Unsealed				
# Cavities	Connector	Color	Material	TPA
2	12129939	Black	PA66 HS IM	12129940
4	12015664	Black	PA66 HS IM	-

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.

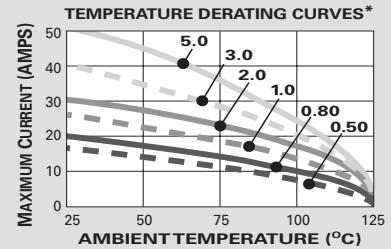
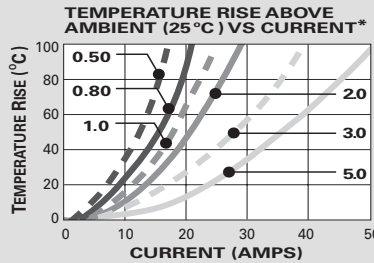


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Unsealed System Application Information

CABLE RANGE (mm²): 0.35-5.0
CURRENT RANGE (AMPS): 0-46
TEMP RANGE °C: -40 to 125
RESISTANCE: <10mΩ@20mV
VOLTAGE DROP: <3.0mV/amp
CENTERLINE SPACING (mm): 8.5
BLADE WIDTH (mm): 6.3

630 Series Terminals – Tin Plated



*The test data are based on single circuits in free space and were generated using a "Lumped Resistance" model. This model does not account for all of the variables that would be present in an actual application. For actual product performance, contact your regional support representative.



Male Connector

Male Terminal



TPA
(Terminal Position Assurance)



630 Male Connectors Unsealed

# Cavities	Connector	Color	Material	TPA
2	12129938	Black	PA66 HS IM	12129940
4	12052623	Black	PA66 HS IM	—

630 Male Terminals Unsealed

Part #	Cable Range (mm ²)	Material	Plating
12066493	5.0-3.0	Tin Brass	Tin over Copper
12052826	3.0	Tin Brass	Tin over Copper
12020365	3.0 (2 Req'd.)	Tin Brass	Tin over Copper
12020126	2.0-1.0	Tin Brass	Tin over Copper
12020125	0.80-0.50	Tin Brass	Tin over Copper
12033972	0.80-0.50 (2 Req'd.)	Tin Brass	Tin over Copper
12066454	0.50-0.35	Tin Brass	Tin over Copper

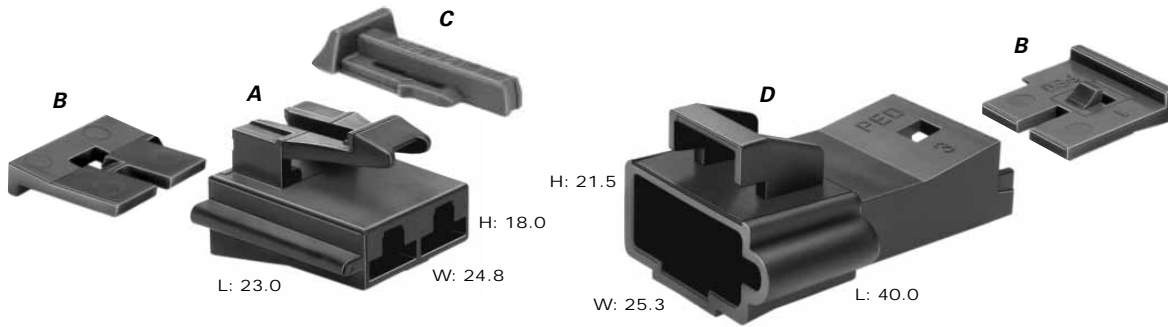
SECTION NOTES:

- Due to rigid to tolerances of connector cavities, it is critical to meet all crimp dimensions as specified.

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Total Mated Length: 53.0mm

A. Part No: 12129939

Description:	Connector 2F
Size:	23.0L x 18.0H x 24.8W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.52

D. Part No: 12129938

Description:	Connector 2M (Clip Slot-Self Locking)
Size:	40.0L x 21.5H x 25.3W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.53

B. Part No: 12129940

Description:	TPA
Number Req:	2
Color:	Blue
Material:	PA66 HS IM

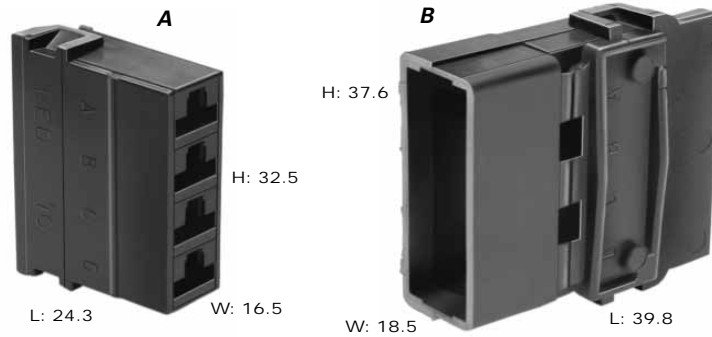
C. Part No: 12052834

Description:	CPA
Color:	Green
Material:	PP

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Total Mated Length: 53.1 mm

A. Part No: 12015664*

Description:	Connector 4F
Size:	24.3L x 32.5H x 16.5W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.52

*Hinged secondary lock.

B. Part No: 12052623*

Description:	Connector 4M
Size:	39.8L x 37.6H x 18.5W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.53

*Hinged secondary lock.

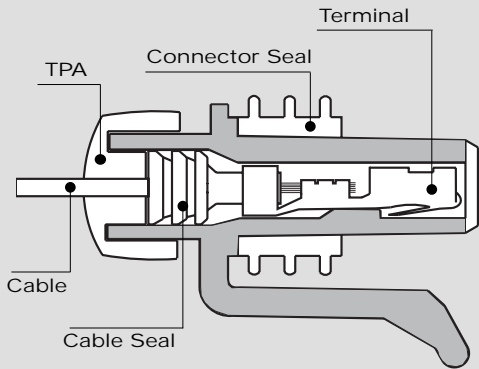
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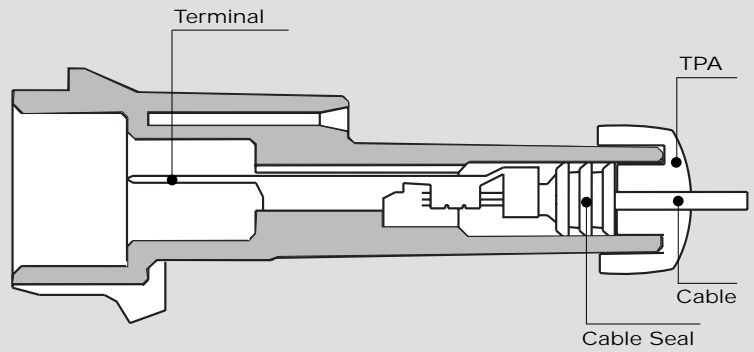
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Metri-Pack Series

Cross Sectional View



Female Connector Assembly



Male Connector



TPA
(Terminal Position Assurance)



Cable Seal



Female Terminal



Female Connector Assembly

630 Female Terminals Sealed

Part #	Cable Range (mm ²)	Material	Plating
12052456	5.0-3.0	Tin Brass	Tin
12052455	2.0-1.0	Tin Brass	Tin
12052457	0.80-0.50	Tin Brass	Tin



630 Female Pull-to-Seat Terminals

Part #	Cable Range (mm ²)	Material	Plating
12033997	3.0	Tin Brass	Tin
12066614	2.0-1.0	Tin Brass	Tin
12020156	0.80-0.50	Tin Brass	Tin



630 Metri-Pack Cable Seals

Reel Part #	Loose Part #	Cable Dia.	Material	Color
12059257	15324993	5.15-4.40	Silicone	Green
12059260	15324996	4.50-3.61	Silicone	Blue
12059258	15324994	3.75-2.81	Silicone	Lt. Gray
12059259	15324995	2.85-2.01	Silicone	Dk. Red
12077760	15324997	2.40-1.65	Silicone	Tan

630 Female Connector Assembly Sealed

# Cavities	Conn. Asm.	Color	Material	TPA
3	12124685	Black	PBT 30% GF	12045699

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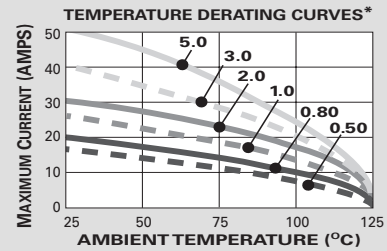
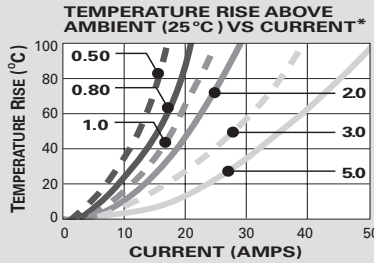


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Sealed System Application Information

CABLE RANGE (mm²): 0.50-5.0
 CURRENT RANGE (AMPS): 0-46
 TEMP RANGE °C: -40 to 125
 RESISTANCE: <10mΩ@20mV
 VOLTAGE DROP: <3.0mV/amp
 CENTERLINE SPACING (mm): 10.8
 BLADE WIDTH (mm): 6.3

630 Series Terminals – Tin Plated



*The test data are based on single circuits in free space and were generated using a “Lumped Resistance” model. This model does not account for all of the variables that would be present in an actual application. For actual product performance, contact your regional support representative.



CPA
(Connector Position Assurance)



Male Connector

Male Terminal



Cable Seal



TPA
(Terminal Position Assurance)



630 Male Terminals Sealed

Part #	Cable Range (mm ²)	Material	Plating
12064736	5.0	Tin Brass	Tin
12064737	3.0	Tin Brass	Tin
12064735	2.0-1.0	Tin Brass	Tin
12064734	0.80-0.50	Tin Brass	Tin



630 Metri-Pack Cavity Plug*

Part #	Cavity Inside Diameter	Material	Color
12059255	9.8mm	Silicone	Green

*Cavity plugs seal unused female and male cavities.

SECTION NOTES:

- Due to rigid tolerances of connector cavities, it is critical to meet all crimp dimensions as specified.

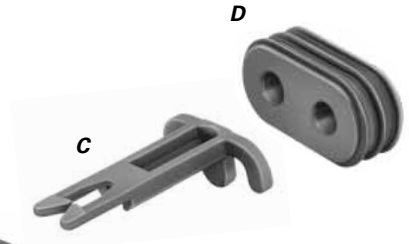
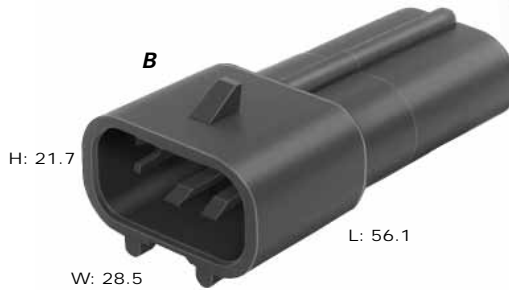
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Metri-Pack Series

Multiple Cable Seal
(Included)



Total Mated Length: 67.5mm

A. Part No: 12033769

Description:	Connector Assembly 2F
Size:	31.5L x 20.0H x 27.3W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.56, Pull-To-Seat Terminals

B. Part No: 12034269

Description:	Connector 2M
Size:	56.1L x 21.7H x 28.5W
Color:	Black
Material:	PA66 HS IM
Terminals:	See Page 2.57

C. Part No: 12034363

Description:	TPA
Color:	Md. Gray
Material:	PA66 HS IM

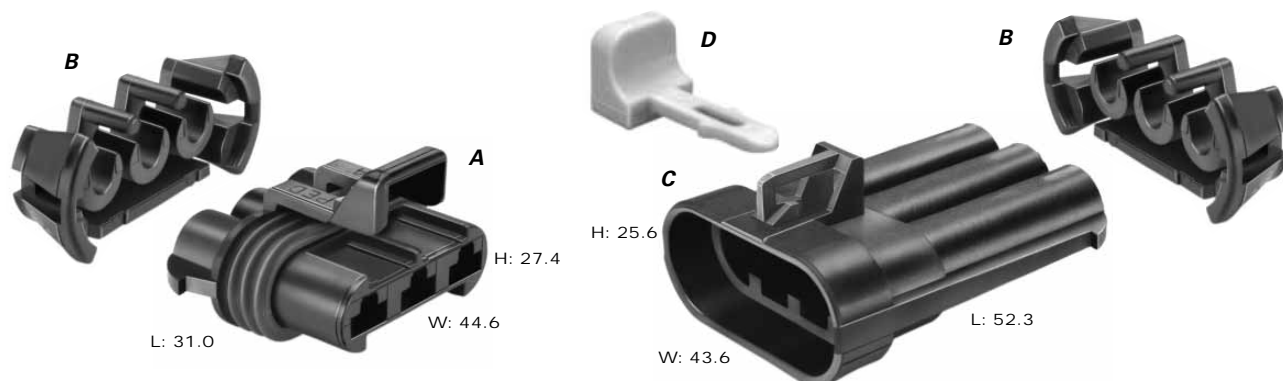
D. Part No: 12034364

Description:	Seal
Color:	Gray
Material:	Silicone

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



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Total Mated Length: 69.5mm

A. Part No: 12124685

Description:	Connector Assembly 3F
Size:	31.0L x 27.4H x 44.6W
Color:	Black
Material:	PBT 30% GF
Terminals:	See Page 2.56
Seals/Plugs:	See Page 2.56, 2.57

B. Part No: 12045699

Description:	TPA
Number Req:	2
Color:	Black
Material:	PA66 HS IM

C. Part No: 15358681

Description:	Connector 3M (Clip Slot)
Size:	52.3L x 25.6H x 43.6W
Color:	Black
Material:	PBT 30% GF
Terminals:	See Page 2.57
Seals/Plugs:	See Page 2.56, 2.57

D. Part No: 12020833

Description:	CPA
Color:	Gray
Material:	PBT

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.

