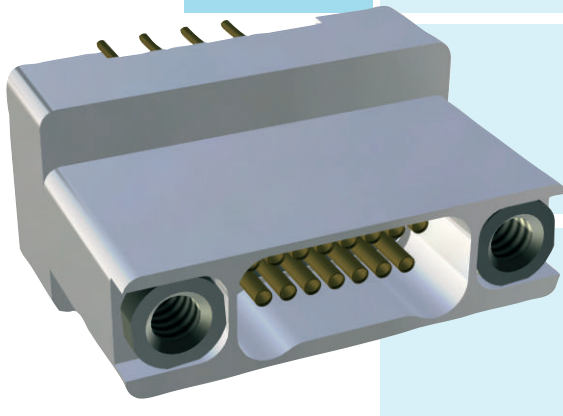


## PCB RECTANGULAR CONNECTORS

# BS TYPE

## 2 ROW VERTICAL PCB RECEPTACLE

0.050" PITCH



- Reliability for micro-miniature operating systems.
- Several tail lengths available.
- Operating temperature : 150°C or 200°C.
- 6 contact arrangements (9 to 51 contacts).

### IDENTIFICATION CODE



#### SERIES

**ND2A** : Nano-D 2 row AXON'.

#### CONNECTOR TYPE

**2** : Aluminium with electroless nickel plating and epoxy 150°C.  
3 : Aluminium with electroless nickel plating and epoxy 200°C.  
Other materials available on request. (eg Titanium, Stainless Steel).

#### NUMBER OF CONTACTS

09,15,21,25,37,51.  
Other versions available on request.

#### CONNECTOR TYPE

**S** : Receptacle connector.

#### FAMILY

**BS** : AXON' Vertical PCB connector.

#### HARDWARE

**P** : Threaded hole #0-80 UNF (non removable jackposts).  
Other versions available on request.

#### TAIL PLATING

**G** : Gold.  
Other tail plating available on request.

#### TAIL LENGTH

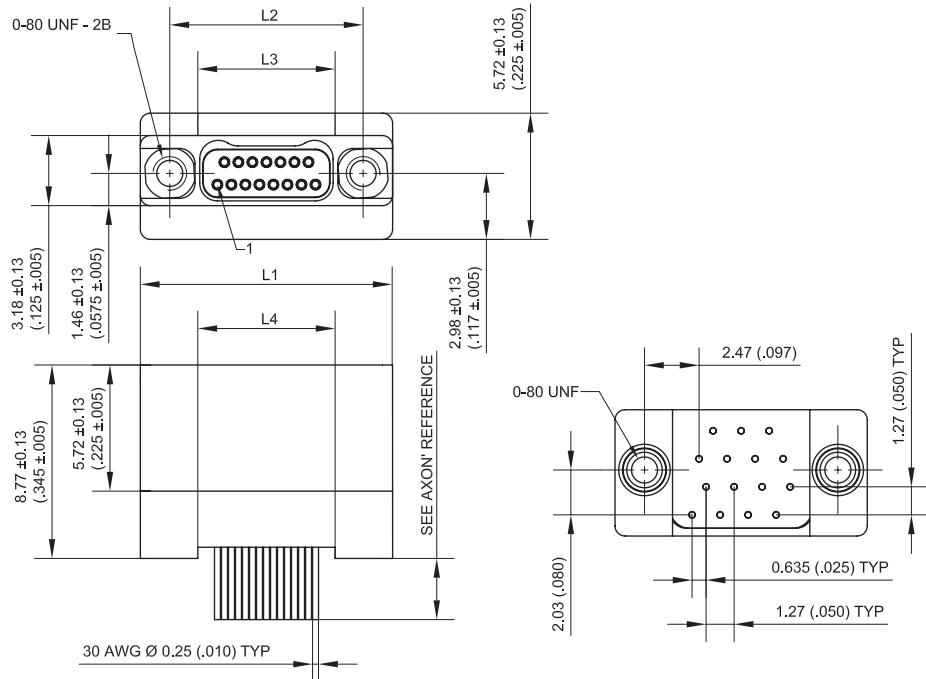
**1** : 2.77 mm (0.109").  
**2** : 3.56 mm (0.140").  
**3** : 4.37 mm (0.172").  
**4** : 2.29 mm (0.090").

Connectors are supplied with #0-80 UNF screws  
1/4" long (for PCB mounting)

IN BOLD : FACTORY STANDARD

# DIMENSIONS

Dimensions are in millimetres (inches).



SEE CONTACT LAYOUT ON PCB PAGE 202

SHELL SIZE	L1 ±0.13 (±.005)	L2 ±0.13 (±.005)	L3 ±0.13 (±.005)	L4 ±0.13 (±.005)
9 S	9.53 .375	6.86 .270	4.14 .163	4.32 .170
15 S	11.43 .450	8.76 .345	6.05 .238	6.22 .245
21 S	13.34 .525	10.67 .420	7.95 .313	8.13 .320
25 S	14.61 .575	11.94 .470	9.22 .363	9.40 .370
37 S	18.42 .725	15.75 .620	13.03 .513	13.21 .520
51 S	22.86 .900	20.19 .795	17.48 .688	17.65 .695

## SUMMARY OF CHARACTERISTICS

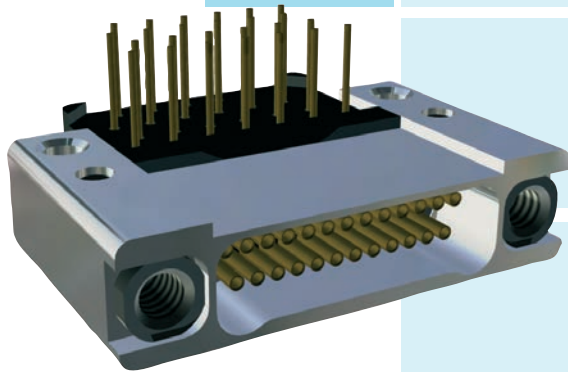
ELECTRICAL & MECHANICAL PERFORMANCE		MATERIAL & FINISH	
CURRENT RATING	1 A max.	SHELL	Aluminium alloy 6061 or 300 series stainless steel or titanium alloy, see ordering for plating options
CONTACT RESISTANCE	71 mΩ max.	MOULDED INSULATOR	Liquid Crystal Polymer (LCP)
INSULATION RESISTANCE	5000 MΩ min. @ 100 V DC	CONTACT	Copper alloy, gold over nickel plating
DIELECTRIC WITHSTANDING VOLTAGE	Sea level : 250 V AC Altitude 21 km (70,000 ft) : 100 V AC	ENCAPSULANT	Epoxy Resin
CONTACT ENGAGING FORCE	141 g max. (5 oz)	PCB TERMINALS	Gold plated solid copper wire
CONTACT SEPARATING FORCE	11 g min. (0.4 oz)	HARDWARE	300 series stainless steel, passivated
CONTACT RETENTION	0.9 kg (2 lbs)		
DURABILITY	200 mating cycles min.		
VIBRATION	20g's - No discontinuity > 1 μs		
SHOCK	50g's - No discontinuity > 1 μs		

SEE PAGE 185 FOR MORE INFORMATION

## PCB RECTANGULAR CONNECTORS

# CBR TYPE 2 ROW RIGHT ANGLE PCB RECEPTACLE

### 0.050" PITCH



- Reliability for micro-miniature operating systems.
- Several tail lengths available.
- Operating temperature : 150°C or 200°C.
- 6 contact arrangements (9 to 51 contacts).

## IDENTIFICATION CODE

**ND2A****2****15****S****CBR****P****G****1**

### SERIES

**ND2A** : Nano-D 2 row AXON'.

### CONNECTOR TYPE

**2** : Aluminium with electroless nickel plating and epoxy 150°C.  
3 : Aluminium with electroless nickel plating and epoxy 200°C.  
Other materials available on request. (eg Titanium, Stainless Steel).

### NUMBER OF CONTACTS

09,15,21,25,37,51.  
Other versions available on request.

### CONNECTOR TYPE

**S** : Receptacle connector.

### FAMILY

**CBR** : AXON' Right Angle PCB connector.

### HARDWARE

**P** : Threaded hole #0-80 UNF (non removable jackposts).  
**B** : None.  
Other versions available on request.

### TAIL PLATING

**G** : Gold.  
Other tail plating available on request.

### TAIL LENGTH

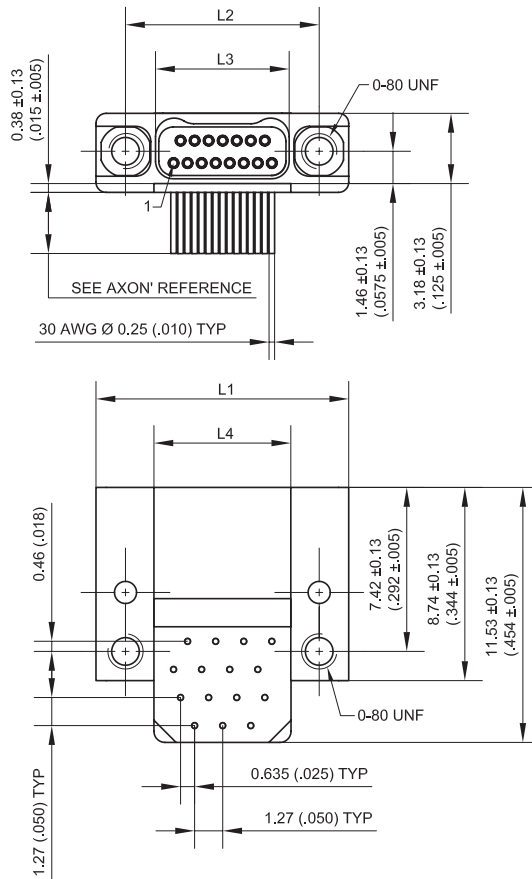
**1** : 2.77 mm (0.109").  
**2** : 3.56 mm (0.140").  
**3** : 4.37 mm (0.172").  
**4** : 2.29 mm (0.090").

Connectors are supplied with #0-80 UNF screws  
1/4" long (for PCB mounting)

IN BOLD : FACTORY STANDARD

# DIMENSIONS

Dimensions are in millimetres (inches).



SEE CONTACT LAYOUT ON PCB PAGE 203

SHELL SIZE	L1 ±0.13 (±.005)	L2 ±0.13 (±.005)	L3 ±0.13 (±.005)	L4 ±0.13 (±.005)
9 S	9.53 .375	6.86 .270	4.14 .163	4.32 .170
15 S	11.43 .450	8.76 .345	6.05 .238	6.22 .245
21 S	13.34 .525	10.67 .420	7.95 .313	8.13 .320
25 S	14.61 .575	11.94 .470	9.22 .363	9.40 .370
37 S	18.42 .725	15.75 .620	13.03 .513	13.21 .520
51 S	22.86 .900	20.19 .795	17.48 .688	17.65 .695

## SUMMARY OF CHARACTERISTICS

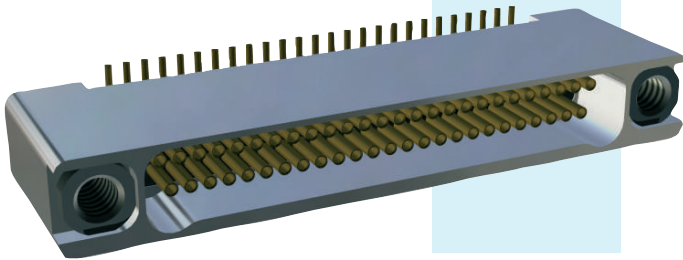
ELECTRICAL & MECHANICAL PERFORMANCE		MATERIAL & FINISH	
CURRENT RATING	1 A max.	SHELL	Aluminium alloy 6061 or 300 series stainless steel or titanium alloy, see ordering for plating options
CONTACT RESISTANCE	71 mΩ max.	MOULDED INSULATOR	Liquid Crystal Polymer (LCP)
INSULATION RESISTANCE	5000 MΩ min. @ 100 V DC	CONTACT	Copper alloy, gold over nickel plating
DIELECTRIC WITHSTANDING VOLTAGE	Sea level : 250 V AC Altitude 21 km (70,000 ft) : 100 V AC	ENCAPSULANT	Epoxy resin
CONTACT ENGAGING FORCE	141 g max. (5 oz)	PCB TERMINALS	Gold plated solid copper wire
CONTACT SEPARATING FORCE	11 g min. (0.4 oz)	HARDWARE	300 series stainless steel, passivated
CONTACT RETENTION	0.9 kg (2 lbs)		
DURABILITY	200 mating cycles min.		
VIBRATION	20g's - No discontinuity > 1 μs		
SHOCK	50g's - No discontinuity > 1 μs		

SEE PAGE 185 FOR MORE INFORMATION

# SMV TYPE

## 2 ROW VERTICAL SURFACE MOUNT PCB RECEPTACLE

0.050" PITCH



- Reliability for micro-miniature operating systems.
  - Surface Mount.
  - Several tail lengths available.
- Operating temperature : 150°C or 200°C.
- 6 contact arrangements (9 to 51 contacts).

### IDENTIFICATION CODE



**SERIES**

**ND2A** : Nano-D 2 row AXON'.

**CONNECTOR TYPE**

**2** : Aluminium with electroless nickel plating and epoxy 150°C.  
 3 : Aluminium with electroless nickel plating and epoxy 200°C.  
 Other materials available on request. (eg Titanium, Stainless Steel).

**NUMBER OF CONTACTS**

09,15,21,25,37,51.  
 Other versions available on request.

**CONNECTOR TYPE**

**S** : Receptacle connector.

**FAMILY**

**SMV** : AXON' Vertical surface mount PCB connector.

**HARDWARE**

**P** : Threaded holes #0-80 UNF ( non removable jackposts).  
 Other versions available on request.  
**B** : None.

**TAIL PLATING**

**G** : Gold, AWG 30.  
 Other tail plating available on request.

**TAIL LENGTH**

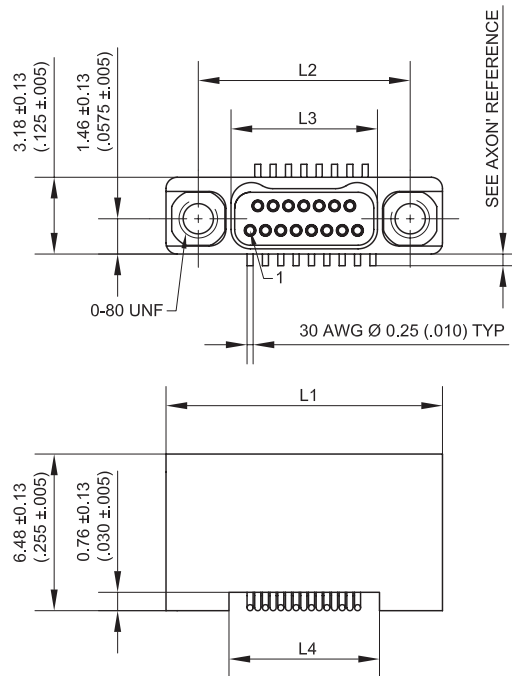
**1** : 0.51 mm (0.020").  
**2** : 1.02 mm (0.040").

Connectors are supplied with #0-80 UNF screws  
 1/4" long (for PCB mounting)

IN BOLD : FACTORY STANDARD

# DIMENSIONS

Dimensions are in millimetres (inches).



SEE CONTACT LAYOUT ON PCB PAGE 204

SHELL SIZE	L1 ±0.13 (±.005)	L2 ±0.13 (±.005)	L3 ±0.13 (±.005)	L4 ±0.13 (±.005)
9 S	9.53 .375	6.86 .270	4.14 .163	4.32 .170
15 S	11.43 .450	8.76 .345	6.05 .238	6.22 .245
21 S	13.34 .525	10.67 .420	7.95 .313	8.13 .320
25 S	14.61 .575	11.94 .470	9.22 .363	9.40 .370
37 S	18.42 .725	15.75 .620	13.03 .513	13.21 .520
51 S	22.86 .900	20.19 .795	17.48 .688	17.65 .695

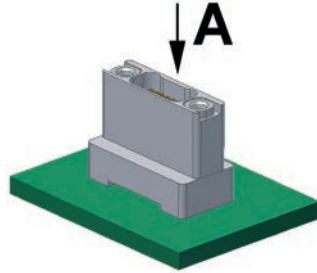
## SUMMARY OF CHARACTERISTICS

ELECTRICAL & MECHANICAL PERFORMANCE		MATERIAL & FINISH	
CURRENT RATING	1 A max.	SHELL	Aluminium alloy 6061 or 300 series stainless steel or titanium alloy, see ordering for plating options
CONTACT RESISTANCE	71 mΩ max.	MOULDED INSULATOR	Liquid Crystal Polymer (LCP)
INSULATION RESISTANCE	5000 MΩ min. @ 100 V DC	CONTACT	Copper alloy, gold over nickel plating
DIELECTRIC WITHSTANDING VOLTAGE	Sea level : 250 V AC Altitude 21 km (70,000 ft) : 100 V AC	ENCAPSULANT	Epoxy resin
CONTACT ENGAGING FORCE	141 g max. (5 oz)	PCB TERMINALS	Gold plated solid copper wire
CONTACT SEPARATING FORCE	11 g min. (0.4 oz)	HARDWARE	300 series stainless steel, passivated
CONTACT RETENTION	0.9 kg (2 lbs)		
DURABILITY	200 mating cycles min.		
VIBRATION	20g's - No discontinuity > 1 μs		
SHOCK	50g's - No discontinuity > 1 μs		

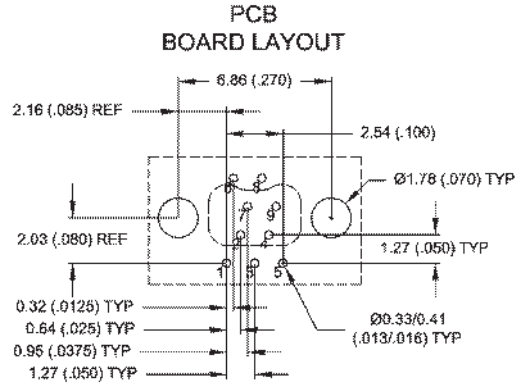
SEE PAGE 185 FOR MORE INFORMATION

# PCB LAYOUT FOR BS TYPE 0.050" PITCH - FEMALE CONNECTORS

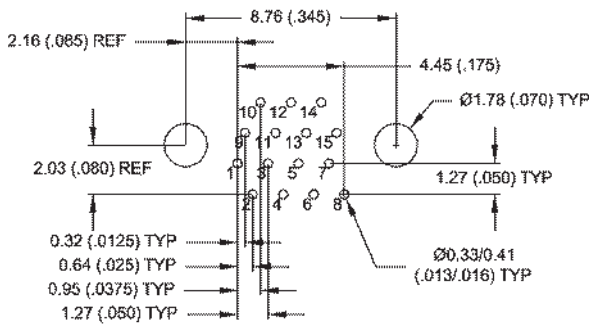
VIEW A



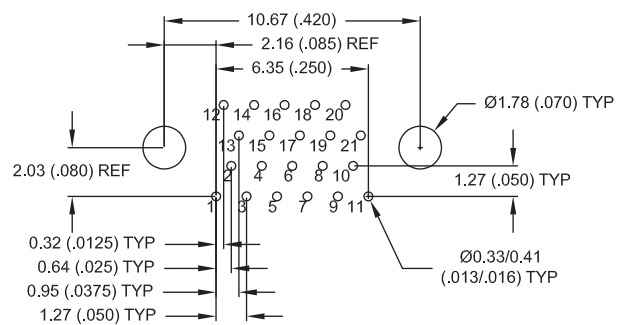
9 CONTACTS - VIEW A



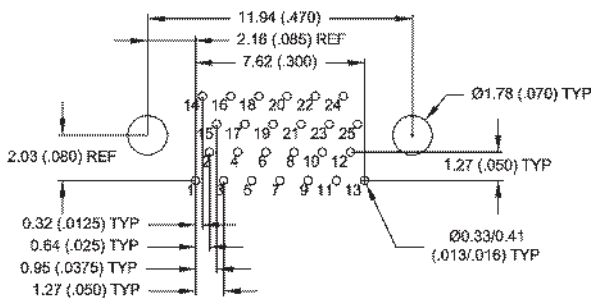
15 CONTACTS - VIEW A



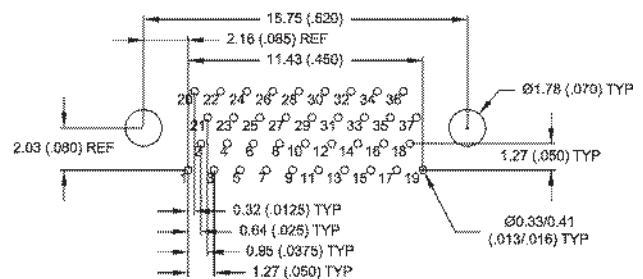
21 CONTACTS - VIEW A



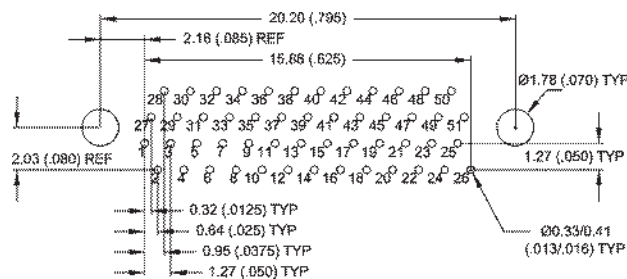
25 CONTACTS - VIEW A



37 CONTACTS - VIEW A



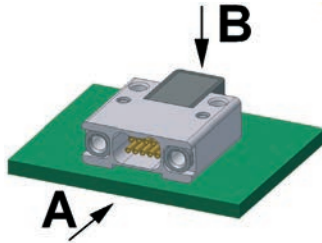
51 CONTACTS - VIEW A



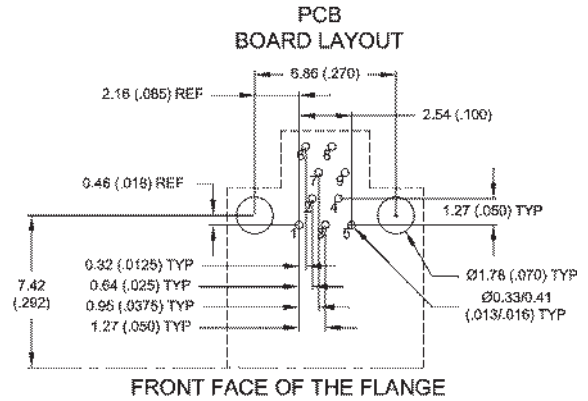
1.27 mm (0.05") contact spacing - 1.27 mm (0.05") spacing between rows - contact diameter : AWG 30

# PCB LAYOUT FOR CBR TYPE 0.050" PITCH - FEMALE CONNECTORS

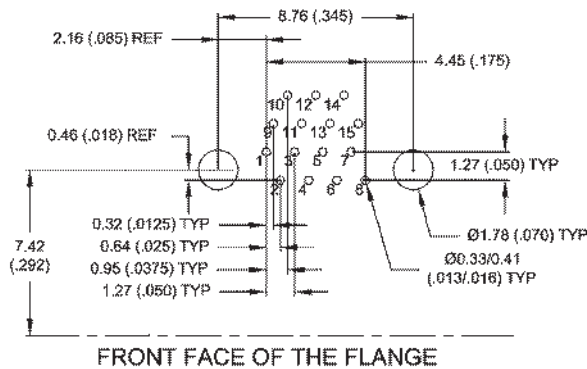
VIEW A



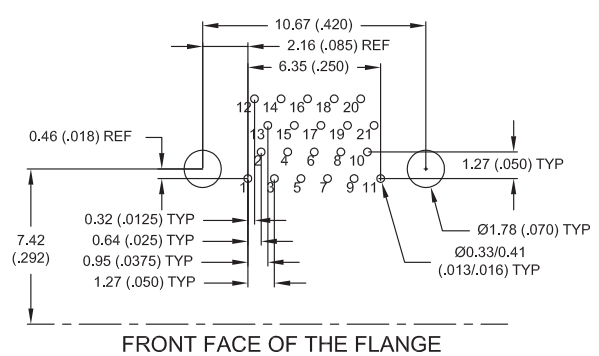
9 CONTACTS - VIEW B



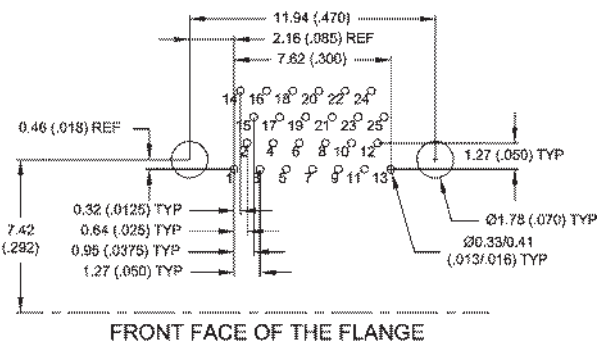
15 CONTACTS - VIEW B



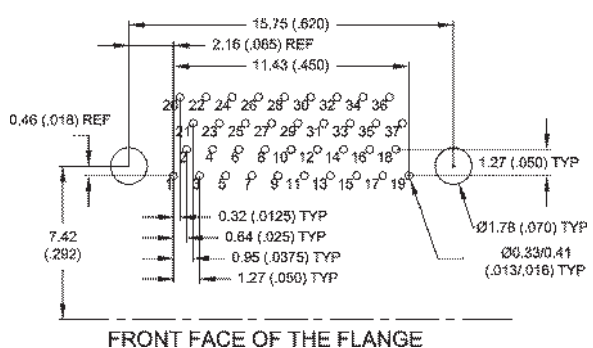
21 CONTACTS - VIEW B



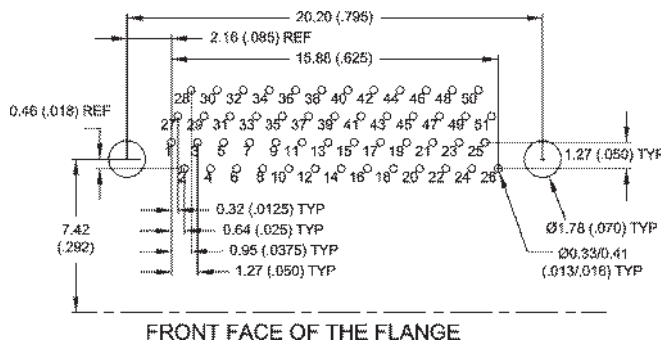
25 CONTACTS - VIEW B



37 CONTACTS - VIEW B



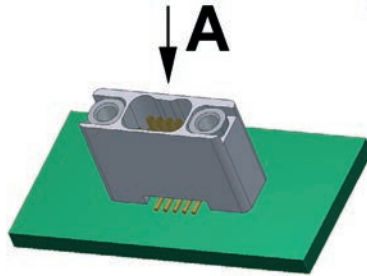
51 CONTACTS - VIEW B



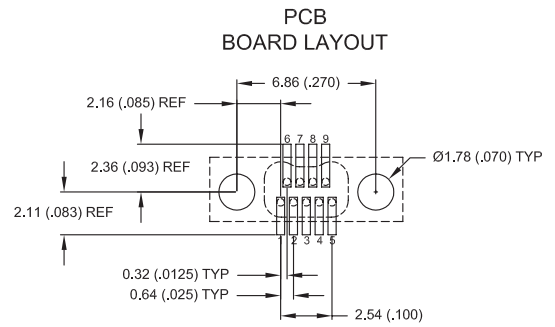
1.27 mm (0.05") contact spacing - 1.27 mm (0.05") spacing between rows - contact diameter : AWG 30



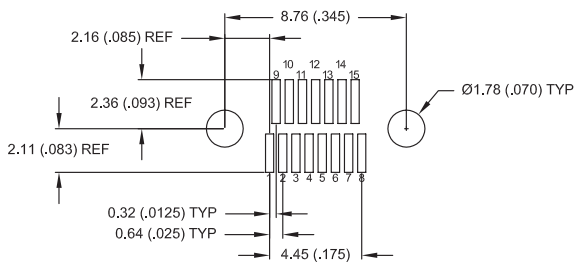
# PCB LAYOUT FOR SMV TYPE 0.050" PITCH - FEMALE CONNECTORS



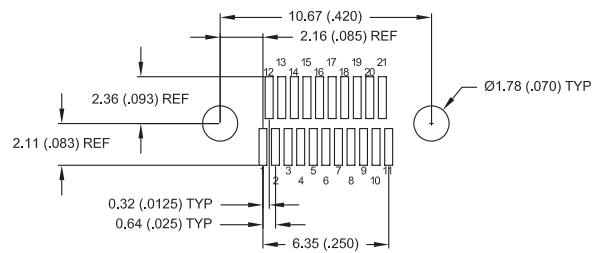
## 9 CONTACTS - VIEW A



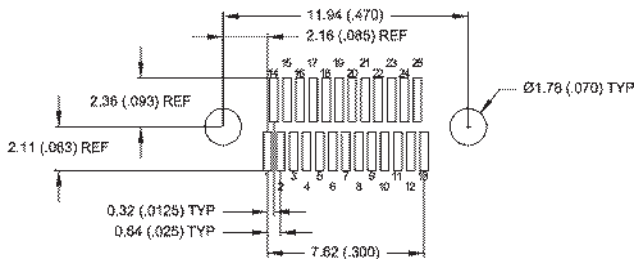
## 15 CONTACTS - VIEW A



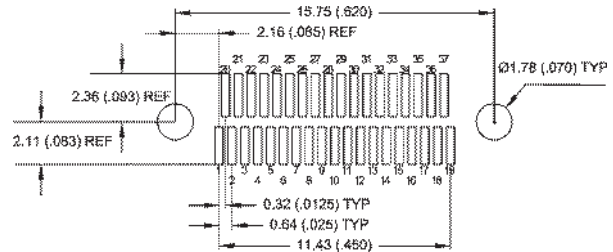
## 21 CONTACTS - VIEW A



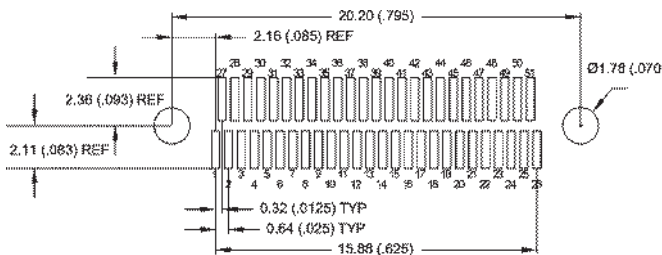
## 25 CONTACTS - VIEW A



## 37 CONTACTS - VIEW A

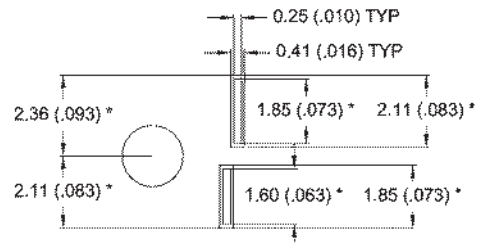


## 51 CONTACTS - VIEW A



## LAYOUT

### FOOTPRINT / PAD configuration



\* : For .040" tail length, add .020" to noted dimensions

0.635 mm (0.25") pad spacing - contact diameter : AWG 30