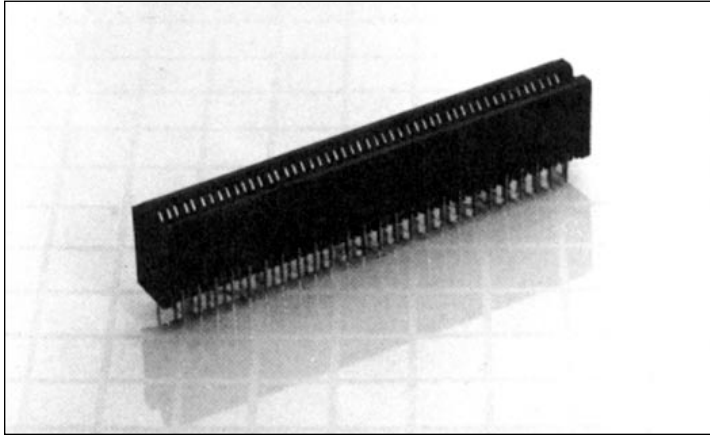


.050" (1.27mm) Series 235 Ultra Thin Card Edge Connector



DIP SOLDER TERMINALS WITHOUT MOUNTING EARS

PART NUMBER LEGEND

235-21-XXXDS-XX

PLATING OPTIONS

- 01 = .000010 GOLD IN CONTACT AREA OVER NICKEL WITH GOLD FLASH TAILS.
- 03 = .000030 GOLD IN CONTACT AREA OVER NICKEL WITH GOLD FLASH TAILS.
- 05 = .000050 GOLD IN CONTACT AREA OVER NICKEL WITH GOLD FLASH TAILS.
- 20 = .000010 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.
- 23 = .000030 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.
- 25 = .000050 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.

TAIL STYLES

DS = DIP SOLDER

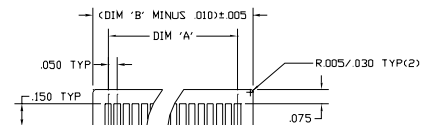
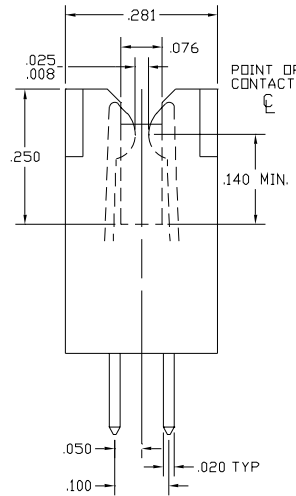
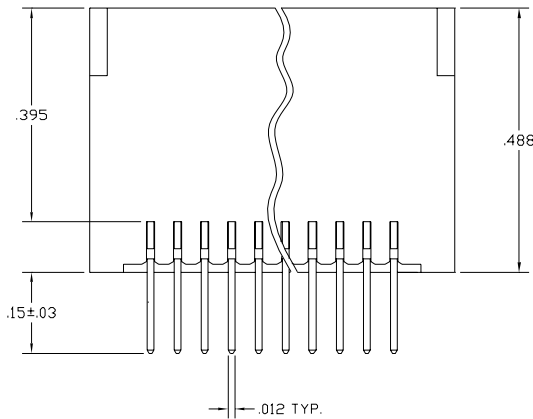
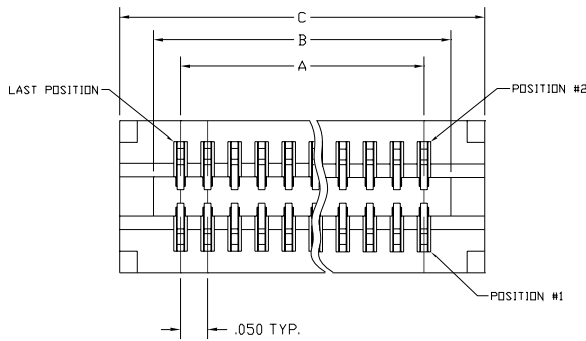
TOTAL NUMBER OF CONTACTS (SEE TABLE 1)

INSULATOR MATERIAL

1 = POLYESTER

NO. OF ROWS

SERIES NUMBER



PCB THICKNESS = .054" TO .070"
RECOMMENDED MATING PCB

NOTE:

- 1) RECOMMENDED PC BOARD THICKNESS .054"/.070"
- 2) RECOMMENDED PCB PLATING:
 - FLAT PAD: 30 MICROINCH GOLD MIN. OVER 50/75 MICROINCH NICKEL
 - THROUGH-HOLE: 100/300 MICROINCH OF 60/40 TIN/LEAD OVER 50/75 MICROINCH NICKEL

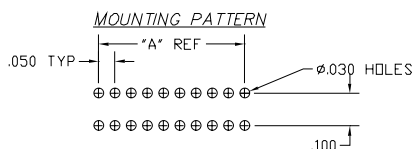


TABLE 1

100	235-21-100DS-XX	2.450	2.550	2.675
80	↑↑-080DS-↑↑	1.950	2.050	2.175
60	↑↑-060DS-↑↑	1.450	1.550	1.675
50	↑↑-050DS-↑↑	1.200	1.300	1.425
40	↑↑-040DS-↑↑	.950	1.050	1.175
30	↑↑-030DS-↑↑	.700	.800	.925
20	↑↑-020DS-↑↑	.450	.550	.675
12	↑↑-012DS-↑↑	.250	.350	.475
10	235-21-010DS-XX	.200	.300	.425
NO. OF CONTACTS	PART NO.	DIMENSIONS		
		'A'	'B'	'C'



North and South America:

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353 61 330013 • Fax: 353 61 330803

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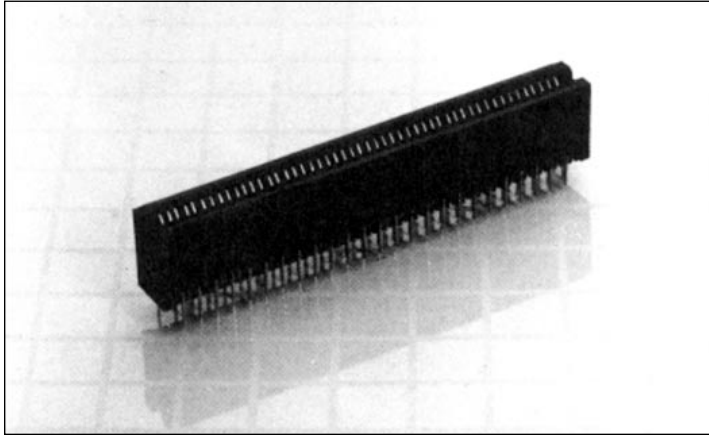
Far East:

Methode Electronics Far East, Pte. Ltd.

1 Tuas Lane, Jurong Town • Singapore 638610
65-68615444 • Fax: 65-68614777

Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

.050" (1.27mm) Series 236 Ultra Thin Card Edge Connector



DIP SOLDER TERMINALS WITHOUT MOUNTING EARS

PART NUMBER LEGEND

236-21-XXXDS-XX

PLATING OPTIONS

- 01 = .000010 GOLD IN CONTACT AREA OVER NICKEL WITH GOLD FLASH TAILS.
- 03 = .000030 GOLD IN CONTACT AREA OVER NICKEL WITH GOLD FLASH TAILS.
- 05 = .000050 GOLD IN CONTACT AREA OVER NICKEL WITH GOLD FLASH TAILS.
- 20 = .000010 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.
- 23 = .000030 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.
- 25 = .000050 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.

TAIL STYLES

DS = DIP SOLDER

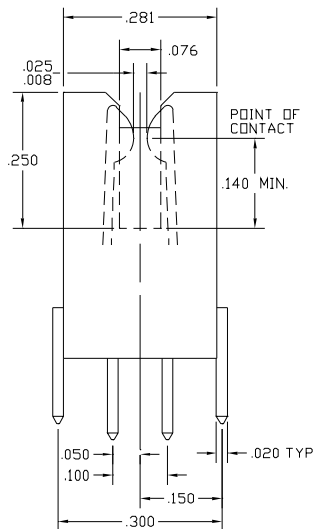
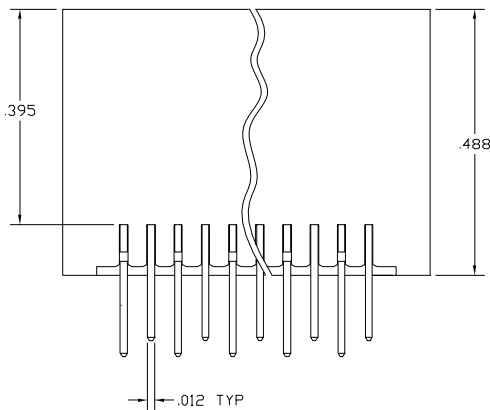
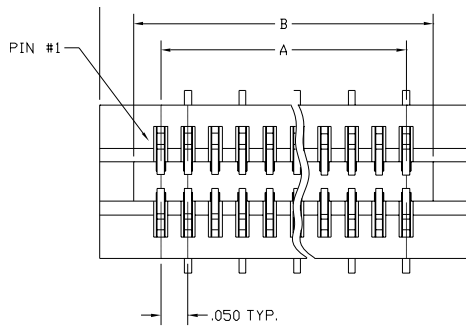
TOTAL NUMBER OF CONTACTS (SEE TABLE 1)

INSULATOR MATERIAL

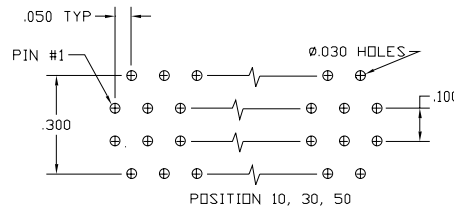
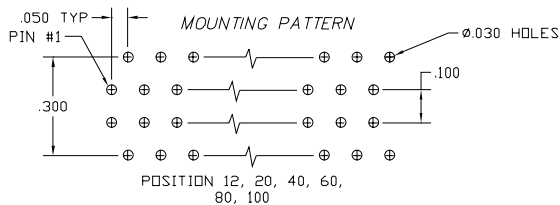
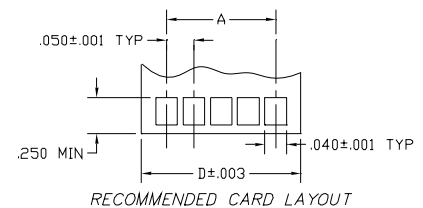
1 = POLYESTER

NO. OF ROWS

SERIES NUMBER



NO. OF CONTACTS	PART NO.	DIMENSIONS			
		'A'	'B'	'C'	'D'
100	236-21-100DS-XX	2.450	2.550	2.675	2.542
80	↑ -080DS- ↑	1.950	2.050	2.175	2.042
60	↑ -060DS- ↑	1.550	1.675	1.542	
50	-050DS-	1.200	1.300	1.425	1.292
40	-040DS-	.950	1.050	1.175	1.042
30	-030DS-	.700	.800	.925	.792
20	-020DS-	.450	.550	.675	.542
12	-012DS-	.250	.350	.475	.342
10	236-21-010DS-XX	.200	.300	.425	.292



North and South America:

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1700 Hicks Road • Rolling Meadows, IL 60008 USA

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353 61 330013 • Fax: 353 61 330803

Email: info@methode.ie • Web: ireland.methode.com/main.html

Far East:

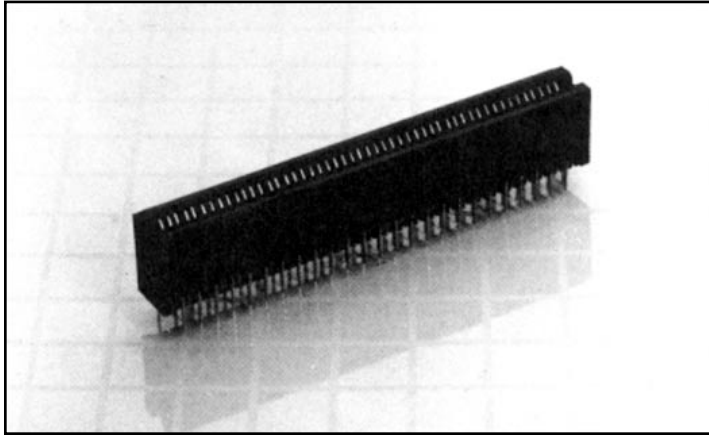
Methode Electronics Far East, Pte. Ltd.

1 Tuas Lane, Jurong Town • Singapore 638610

65-68615444 • Fax: 65-68614777

Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

.050" (1.27mm) Series 237 Ultra Thin Card Edge Connector



DIP SOLDER TERMINALS WITHOUT MOUNTING EARS

PART NUMBER LEGEND

237-21-XXXDS-XX

PLATING OPTIONS

- 01 = .000010 GOLD IN CONTACT AREA OVER NICKEL WITH GOLD FLASH TAILS.
- 03 = .000030 GOLD IN CONTACT AREA OVER NICKEL WITH GOLD FLASH TAILS.
- 05 = .000050 GOLD IN CONTACT AREA OVER NICKEL WITH GOLD FLASH TAILS.
- 20 = .000010 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.
- 23 = .000030 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.
- 25 = .000050 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.

TAIL STYLES

DS = DIP SOLDER

TOTAL NUMBER OF CONTACTS (SEE TABLE 1)

INSULATOR MATERIAL

1 = POLYESTER

NO. OF ROWS

SERIES NUMBER

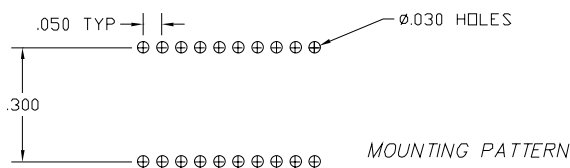
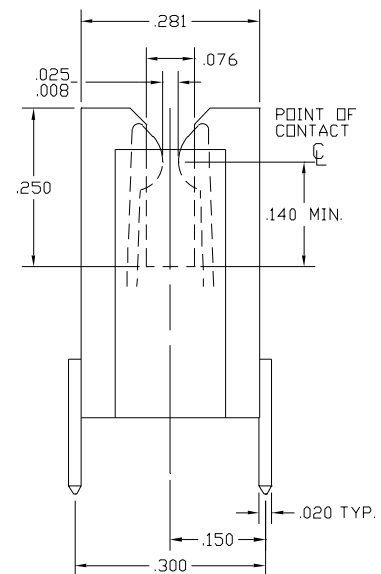
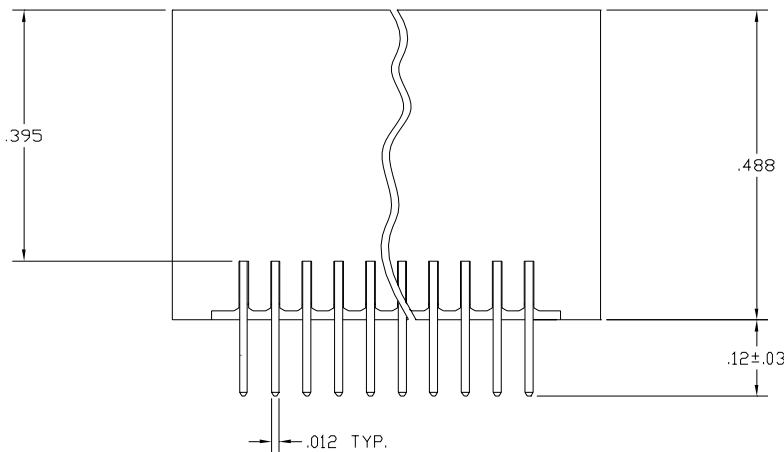
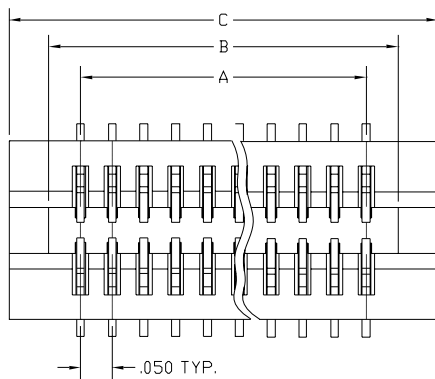


TABLE 1

ND. OF CONTACTS	PART NO.	*A*	*B*	*C*
100	237-21-100DS-XX	2.450	2.550	2.675
80	↑ -080DS- ↑	1.950	2.050	2.175
60	-060DS-	1.450	1.550	1.675
50	-050DS-	1.200	1.300	1.425
40	-040DS-	.950	1.050	1.175
30	-030DS-	.700	.800	.925
20	-020DS-	.450	.550	.675
12	-012DS-	.250	.350	.475
10	237-21-010DS-XX	.200	.300	.425



North and South America:

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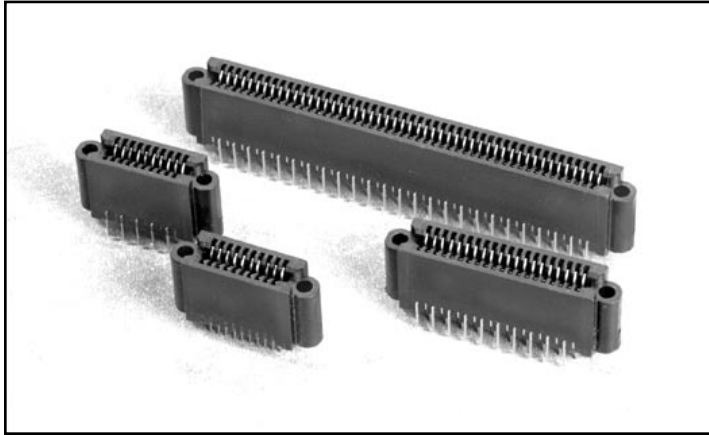
Far East:

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1 Tuas Lane, Jurong Town • Singapore 638610
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Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

.050" (1.27mm) Series 238 Ultra Thin Card Edge Connector



DIP SOLDER TERMINALS WITH MOUNTING EARS

PART NUMBER LEGEND

238-21-XXXDS-XX

PLATING OPTIONS

20 = .000010 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.

23 = .000030 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.

TAIL STYLES

DS = DIP SOLDER

TOTAL NUMBER OF CONTACTS (SEE TABLE 1)

INSULATOR MATERIAL

1 = POLYESTER

NO. OF ROWS

SERIES NUMBER

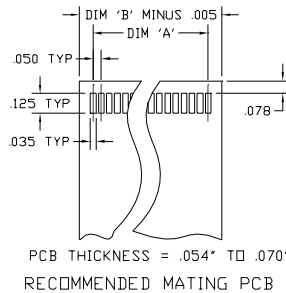
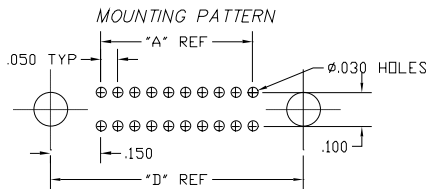
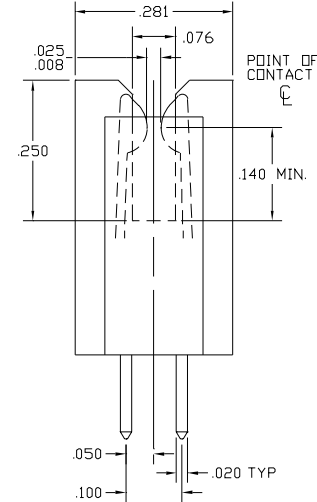
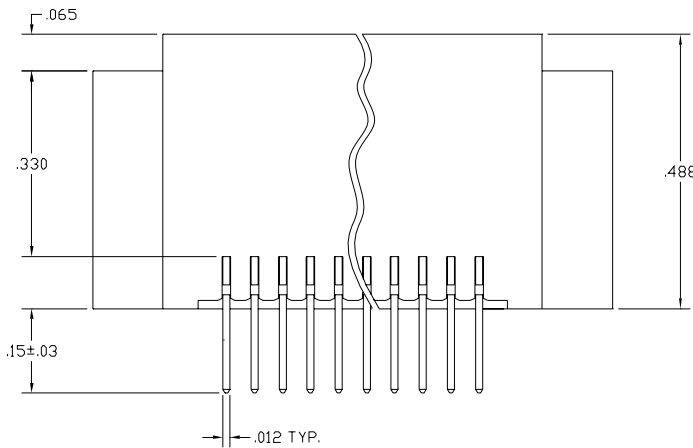
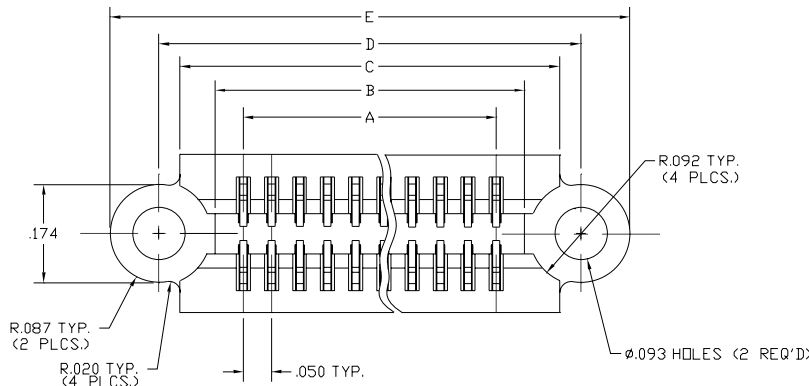


TABLE 1

NO. OF CONTACTS	PART NO.	*A*	*B*	*C*	*D*	*E*
100	238-21-100DS-XX	2.450	2.550	2.675	2.750	2.925
80	-080DS-	1.950	2.050	2.175	2.250	2.425
60	-060DS-	1.450	1.550	1.675	1.750	1.925
50	-050DS-	1.200	1.300	1.425	1.500	1.675
40	-040DS-	.950	1.050	1.175	1.250	1.425
30	-030DS-	.700	.800	.925	1.000	1.175
20	-020DS-	.450	.550	.675	.750	.925
12	-012DS-	.250	.350	.475	.550	.725
10	238-21-010DS-XX	.200	.300	.425	.500	.675

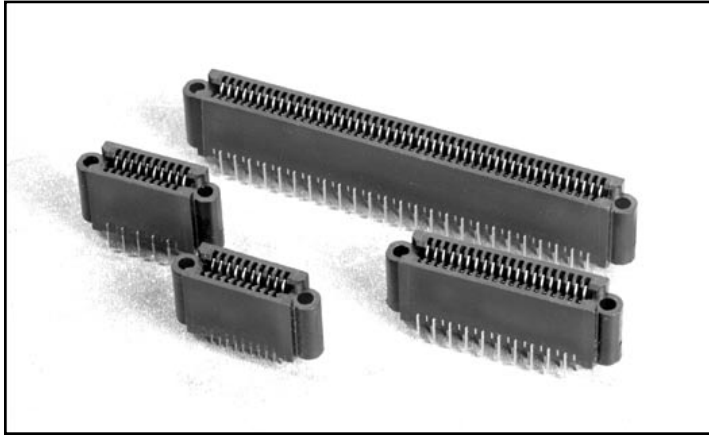


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.050" (1.27mm) Series 239 Ultra Thin Card Edge Connector



DIP SOLDER TERMINALS WITH MOUNTING EARS

PART NUMBER LEGEND

239-21-XXXDS-XX

PLATING OPTIONS

20 = .000010 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.

23 = .000030 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.

TAIL STYLES

DS = DIP SOLDER

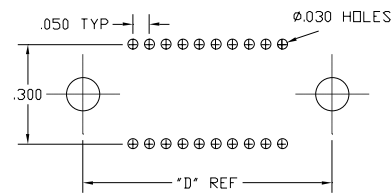
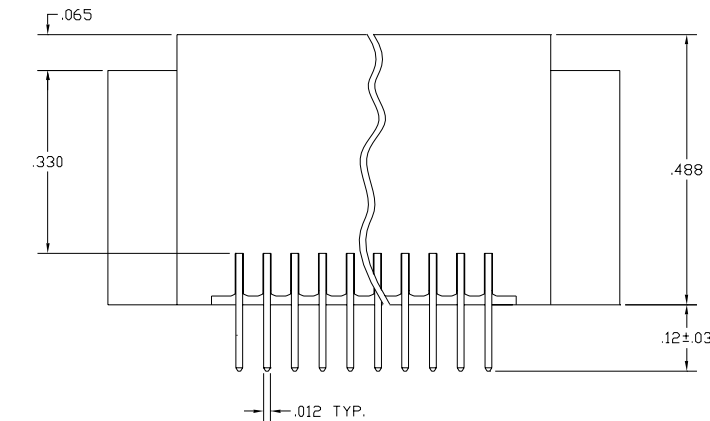
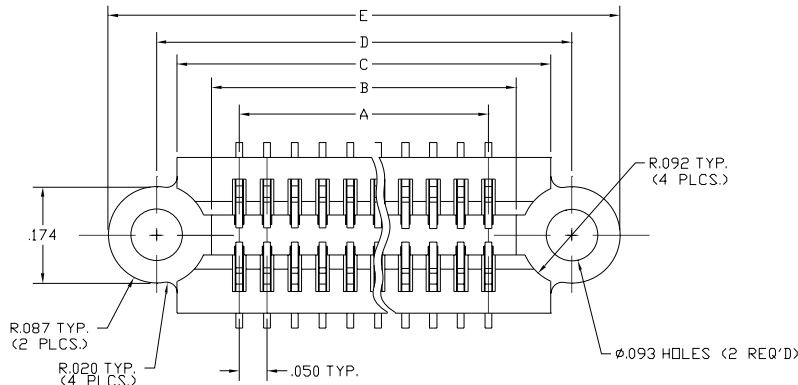
TOTAL NUMBER OF CONTACTS (SEE TABLE 1)

INSULATOR MATERIAL

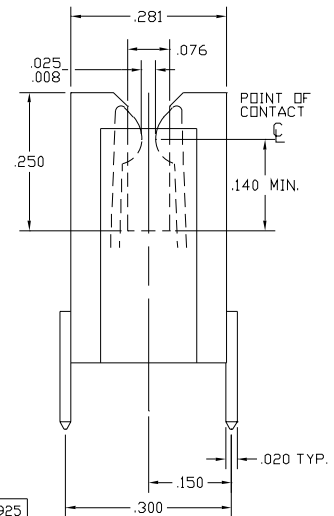
1 = POLYESTER

NO. OF ROWS

SERIES NUMBER



MOUNTING PATTERN



NO. OF CONTACTS	PART NO.	*A*	*B*	*C*	*D*	*E*
100	239-21-100DS-XX	2.450	2.550	2.675	2.750	2.925
80	↑ -080DS-↑	1.950	2.050	2.175	2.250	2.425
60	↑ -060DS-↑	1.450	1.550	1.675	1.750	1.925
50	↑ -050DS-↑	1.200	1.300	1.425	1.500	1.675
40	↑ -040DS-↑	.950	1.050	1.175	1.250	1.425
30	↑ -030DS-↑	.700	.800	.925	1.000	1.175
20	↑ -020DS-↑	.450	.550	.675	.750	.925
12	↑ -012DS-↑	.250	.350	.475	.550	.725
10	239-21-010DS-XX	.200	.300	.425	.500	.675
		DIMENSIONS				



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Europe:

Methode Electronics Ireland, Ltd.

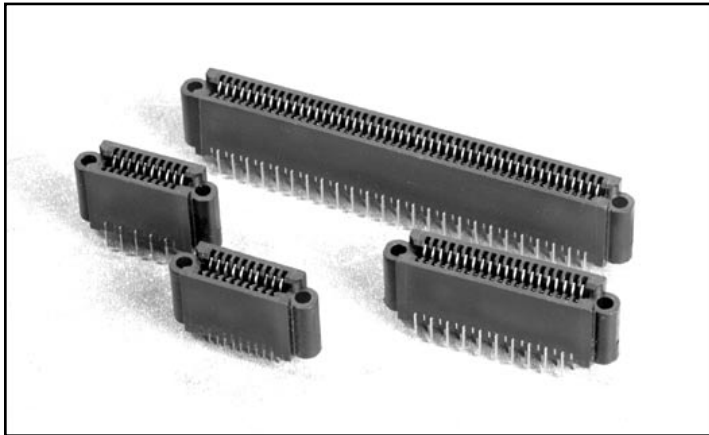
11 Annacotty Business Park • Limerick, Ireland
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Far East:

Methode Electronics Far East, Pte. Ltd.

1 Tuas Lane, Jurong Town • Singapore 638610
65-68615444 • Fax: 65-68614777

.050" (1.27mm) Series 240 Ultra Thin Card Edge Connector



DIP SOLDER TERMINALS WITHOUT MOUNTING EARS

PART NUMBER LEGEND

240-21-XXXDS-XX

PLATING OPTIONS

20 = .000010 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.

23 = .000030 GOLD IN CONTACT AREA OVER NICKEL WITH TIN LEAD PLATED TAILS.

40 = TIN OVER NICKEL ALL OVER.

TAIL STYLES

DS = DIP SOLDER

DS1 = .098 LENGTH

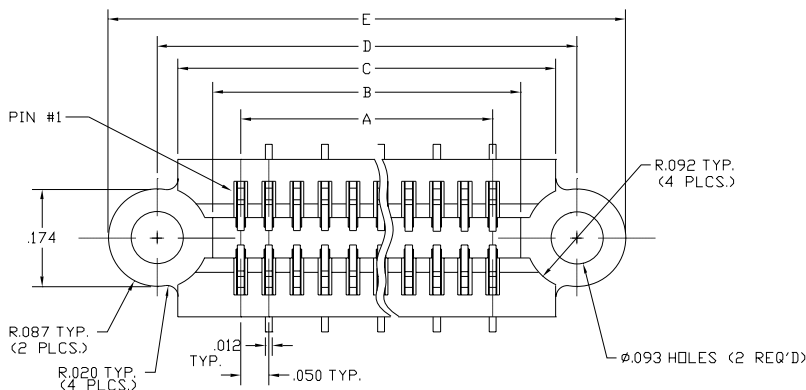
TOTAL NUMBER OF CONTACTS (SEE TABLE 1)

INSULATOR MATERIAL

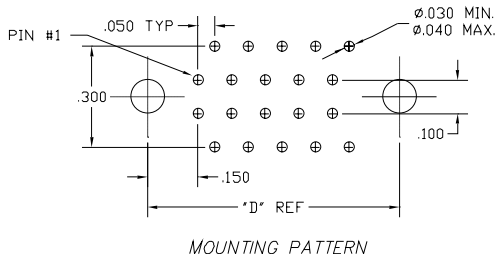
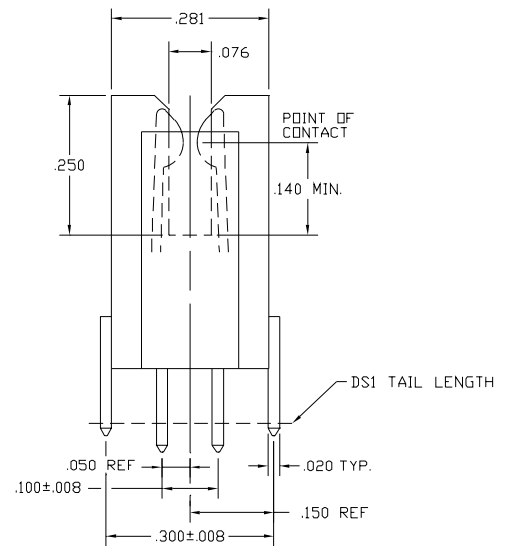
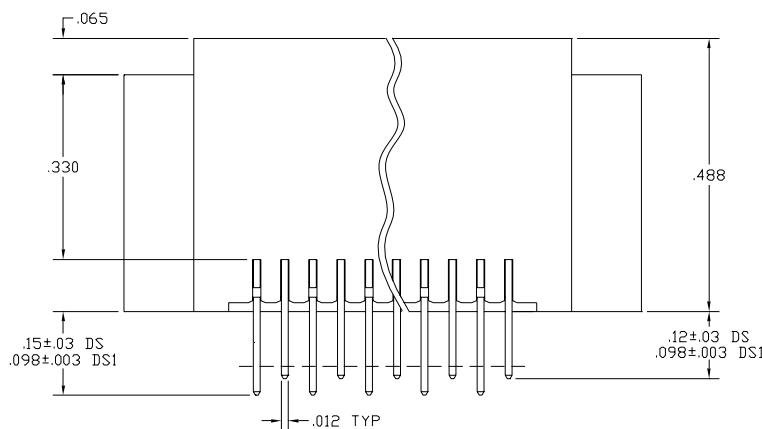
1 = POLYESTER

NO. OF ROWS

SERIES NUMBER



NO. OF CONTACTS	PART NO.	'A'	'B'	'C'	'D'	'E'
100	240-21-100DS-XX	2.450	2.550	2.675	2.750	2.925
80	↑ -080DS-↑	1.950	2.050	2.175	2.250	2.425
60	↑ -060DS-↑	1.450	1.550	1.675	1.750	1.925
50	↑ -050DS-↑	1.200	1.300	1.425	1.500	1.675
40	↑ -040DS-↑	.950	1.050	1.175	1.250	1.425
30	↑ -030DS-↑	.700	.800	.925	1.000	1.175
20	↑ -020DS-↑	.450	.550	.675	.750	.925
12	↑ -012DS-↑	.250	.350	.475	.550	.725
10	240-21-010DS-XX	.200	.300	.425	.500	.675

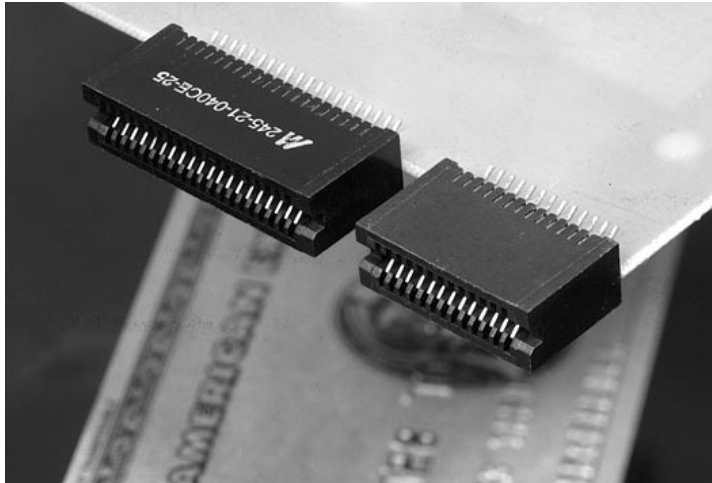


North and South America:
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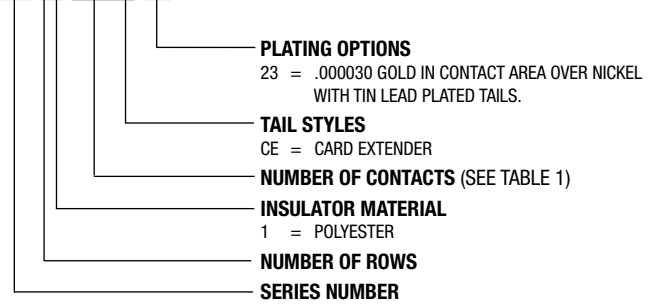
Europe:
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Far East:
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.050" (1.27mm) Series 245 Edge Mount Card Edge Connector



PART NUMBER LEGEND 245-21-XXXCE-XX



Specifications

Materials

Contact Material: Copper Alloy

Contact Plating: Gold over nickel

Insulator Material: High Temperature Thermoplastic, UL 94V-0

Operating Temperature: -55°C to +85°C

Mechanical Performance

Durability: 5000 cycles of engagement/disengagement

Vibration: Per MIL-STD-1344, method 2005

Shock: Per MIL-STD-1344, method 2004

Normal Force: 130 grams, average per contact pair

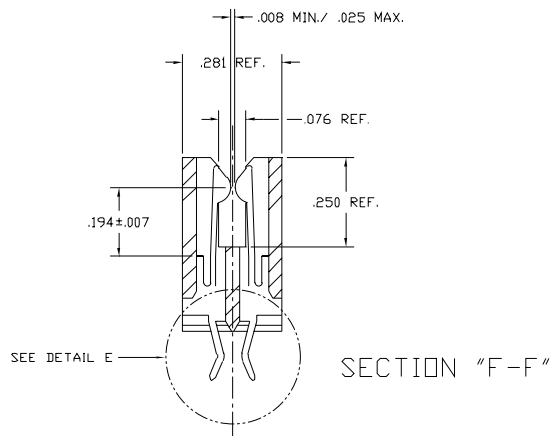
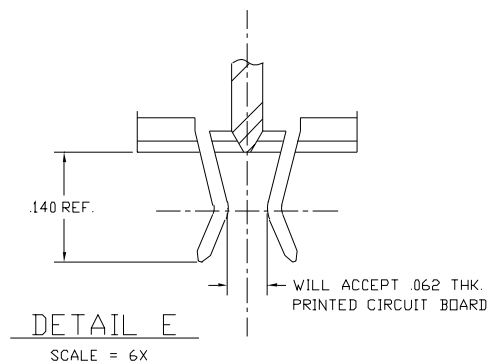
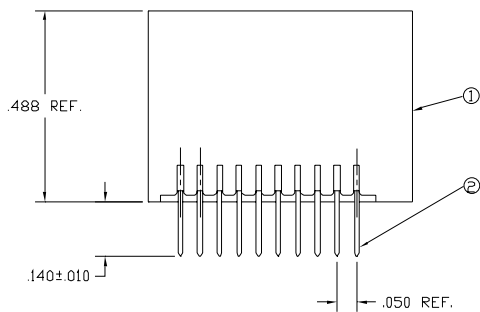
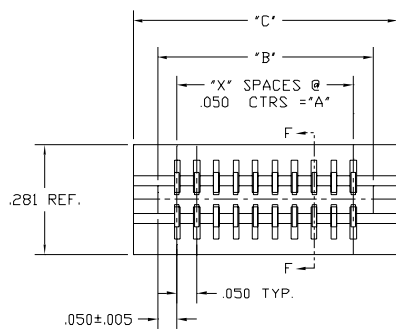


TABLE 1

100	245-21-100CE-XX	2.450	2.550	2.675	49
80	↑ .080CE - ↓	1.950	2.050	2.175	39
60	↑ .060CE - ↓	1.450	1.550	1.675	29
50	↑ .050CE - ↓	1.200	1.300	1.425	24
40	↑ .040CE - ↓	.950	1.050	1.175	19
30	↑ .030CE - ↓	.700	.800	.925	14
20	↑ .020CE - ↓	.450	.550	.675	9
12	↑ .012CE - ↓	.250	.350	.475	5
10	245-21-010CE-XX	.200	.300	.425	4
N.D. OF CONTACTS	PART NO.	DIMENSIONS			N.D. OF SPACES
		A	B	C	



North and South America:

Methode Electronics, Inc. Connector Products

1700 Hicks Road • Rolling Meadows, IL 60008 USA

847-392-3500 • Toll Free: 800-323-6864 • Fax: 847-392-9404

Email: info@methode.com • Web: www.methode.com/connector/index.html

Europe:

Methode Electronics Ireland, Ltd.

11 Annacotty Business Park • Limerick, Ireland

353 61 330013 • Fax: 353 61 330803

Email: info@methode.ie • Web: ireland.methode.com/main.html

Far East:

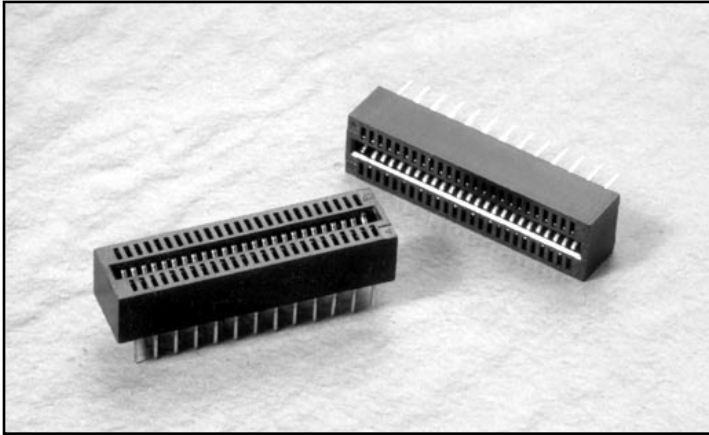
Methode Electronics Far East, Pte. Ltd.

1 Tuas Lane, Jurong Town • Singapore 638610

65-68615444 • Fax: 65-68614777

Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

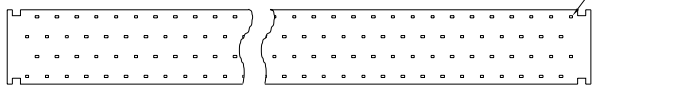
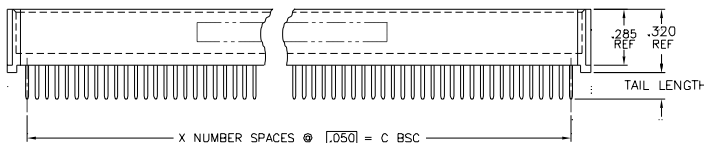
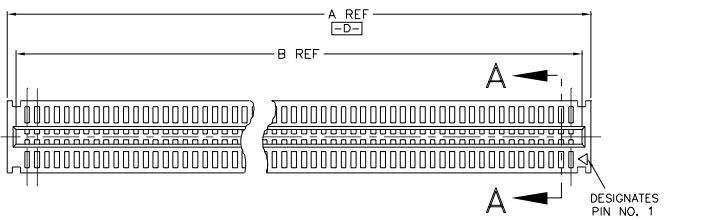
.050" (1.27mm) Series 271 Low Profile Card Edge Connector, Through Board



PART NUMBER LEGEND

271-00-XXXDSX-XX

- PLATING OPTIONS (SEE TABLE 2)
- TAIL LENGTH
1 = .135 ± .010 (STD)
- DIP SOLDER
- NUMBER OF CONTACTS (SEE TABLE 1)
- MOUNTING STYLE
00 = STD (AS SHOWN)
- SERIES NUMBER



PC FOOTPRINT FOR 15/30 AND 25/50 (POSITIONS/CONTACTS) REFERENCE ONLY

PC FOOTPRINT FOR EVEN NUMBER OF POSITIONS REFERENCE ONLY

NOTES:

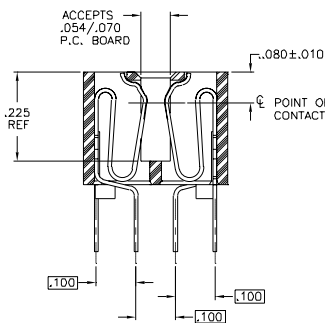
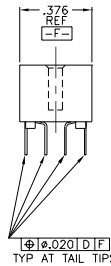
1. 16 oz. MAX. INSERTION PER CONTACT PAIR USING .070±.0002 THK. STEEL TEST BLADE.
2. .5 oz. MIN. WITHDRAWAL PER CONTACT PAIR USING .054±.0002 THK. STEEL TEST BLADE.

TABLE 1

PART NUMBER	NUMBER OF CONTACTS	NUMBER OF POSITIONS	A	B	C
271-XX-012DSX-XXX	12	6	.440	.350	.250
271-XX-020DSX-XXX	20	10	.640	.550	.450
271-XX-024DSX-XXX	24	12	.740	.650	.550
271-XX-030DSX-XXX	30	15	.890	.800	.700
271-XX-050DSX-XXX	50	25	1.390	1.300	1.200
271-XX-060DSX-XXX	60	30	1.640	1.550	1.450
271-XX-080DSX-XXX	80	40	2.140	2.050	1.950
271-XX-100DSX-XXX	100	50	2.640	2.550	2.450
271-XX-112DSX-XXX	112	56	2.940	2.850	2.750
271-XX-132DSX-XXX	132	66	3.440	3.350	3.250

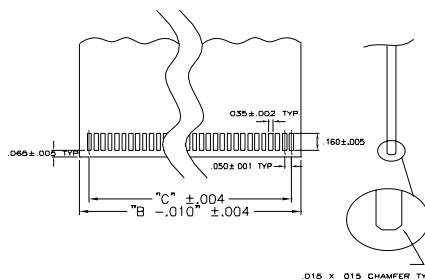
TABLE 2

DASH NUMBER	PART NUMBER
23	SELECT GOLD(.000030 MIN.) IN CONTACTING AREA WITH TIN LEAD TAILS OVER (.000050/.000075) NICKEL OVERALL UNDERPLATE.
41	BRIGHT TIN (.000200 MIN.) OVER (.000050/.000075) NICKEL OVERALL UNDERPLATE.
90	SELECT GOLD FLASH OVER SELECT PALLADIUM NICKEL (.000040 MIN.) IN CONTACTING AREA WITH TIN LEAD TAILS OVER (.000050/.000075) NICKEL OVERALL UNDERPLATE.



SECTION A-A

ROTATED CW 90°
SCALE 2/1



RECOMMENDED MATING BOARD LAYOUT



North and South America:

Methode Electronics, Inc. Connector Products

1700 Hicks Road • Rolling Meadows, IL 60008 USA
847-392-3500 • Toll Free: 800-323-6864 • Fax: 847-392-9404

Europe:

Methode Electronics Ireland, Ltd.

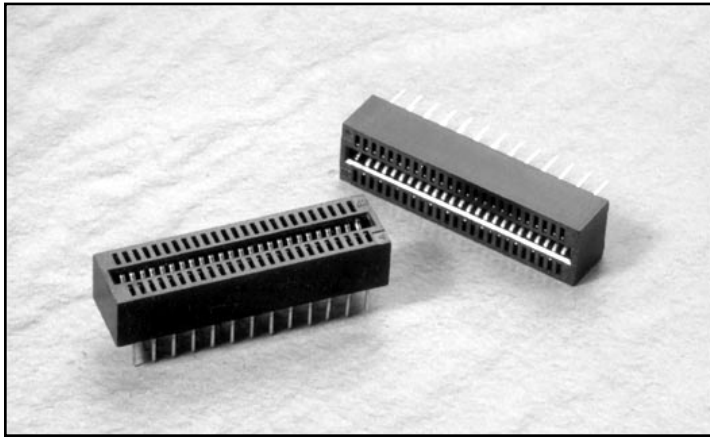
11 Annacotty Business Park • Limerick, Ireland
353 61 330013 • Fax: 353 61 330803
Email: info@methode.ie • Web: ireland.methode.com/main.html

Far East:

Methode Electronics Far East, Pte. Ltd.

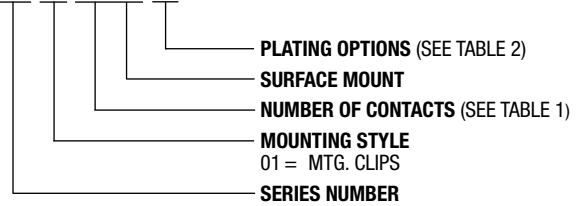
1 Tuas Lane, Jurong Town • Singapore 638610
65-68615444 • Fax: 65-68614777
Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

.050" (1.27mm) Series 271 Low Profile Card Edge Connector, SMT



PART NUMBER LEGEND

271-XX-XXXSM-XX



PLATING OPTIONS (SEE TABLE 2)

SURFACE MOUNT

NUMBER OF CONTACTS (SEE TABLE 1)

MOUNTING STYLE

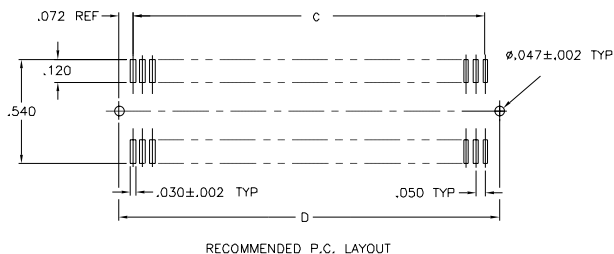
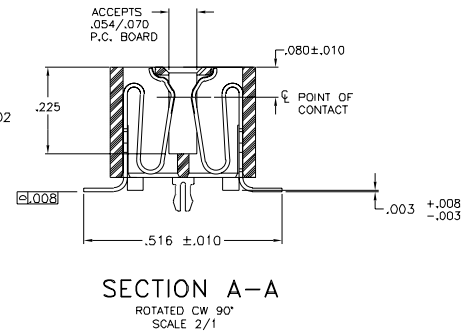
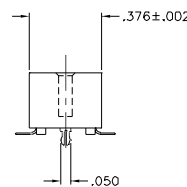
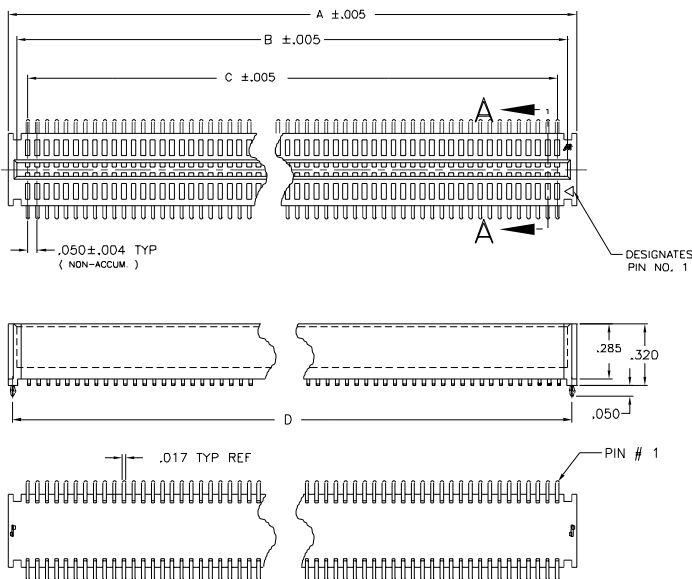
01 = MTG. CLIPS

SERIES NUMBER

NOTES:

1. 15 oz. MAX. INSERTION PER CONTACT PAIR USING .070±.0002 THK. STEEL TEST BLADE.
2. .5 oz. MIN. WITHDRAWAL PER CONTACT PAIR USING .054±.0002 THK. STEEL TEST BLADE.
3. INSULATOR MATERIAL: HIGH TEMP. THERMOPLASTIC
4. CONTACT MATERIAL: BERYLLIUM COPPER PLATED PER TABLE

DASH NUMBER	PLATING DESCRIPTION
23	SELECT GOLD(.000030 MIN.) IN CONTACTING AREA WITH TIN LEAD TAILS OVER (.000050/.000075) NICKEL OVERALL UNDERPLATE.
41	BRIGHT TIN (.000200 MIN.) OVER (.000050/.000075) NICKEL OVERALL UNDERPLATE.
90	SELECT GOLD FLASH OVER SELECT PALLADIUM NICKEL (.000040 MIN.) IN CONTACTING AREA WITH TIN LEAD TAILS OVER (.000050/.000075) NICKEL OVERALL UNDERPLATE.



PART NUMBER	NUMBER OF CONTACTS	NO. OF POSITIONS	A	B	C	D
271-XX-020SM-XXX	20	10	.640	.550	.450	.594
271-XX-024SM-XXX	24	12	.740	.650	.550	.694
271-XX-028SM-XXX	28	14	.840	.750	.650	.794
271-XX-030SM-XXX	30	15	.890	.800	.700	.844
271-XX-050SM-XXX	50	25	1.390	1.300	1.200	1.344
271-XX-060SM-XXX	60	30	1.640	1.550	1.450	1.594
271-XX-080SM-XXX	80	40	2.140	2.050	1.950	2.094
271-XX-100SM-XXX	100	50	2.640	2.550	2.450	2.594
271-XX-112SM-XXX	112	56	2.940	2.850	2.750	2.894
271-XX-132SM-XXX	132	66	3.440	3.350	3.250	3.394



North and South America:

Methode Electronics, Inc. Connector Products

1700 Hicks Road • Rolling Meadows, IL 60008 USA
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Email: info@methode.com • Web: www.methode.com/connector/index.html

Europe:

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Email: info@methode.ie • Web: ireland.methode.com/main.html

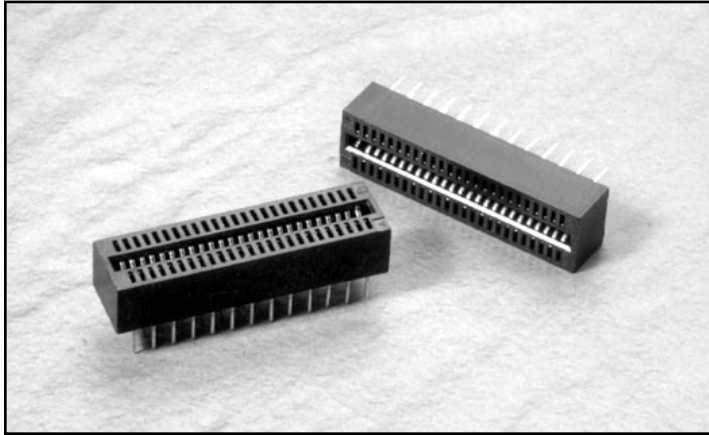
Far East:

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1 Tuas Lane, Jurong Town • Singapore 638610
65-68615444 • Fax: 65-68614777

Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

.050" (1.27mm) Series 275 Low Profile Card Edge Connector



PART NUMBER LEGEND

275-00-XXXDSX-XX

PLATING OPTIONS (SEE TABLE 2)

TAIL LENGTH

1 = .135 ± .010 (STD)

DIP SOLDER

NUMBER OF CONTACTS (SEE TABLE 1)

MOUNTING STYLE

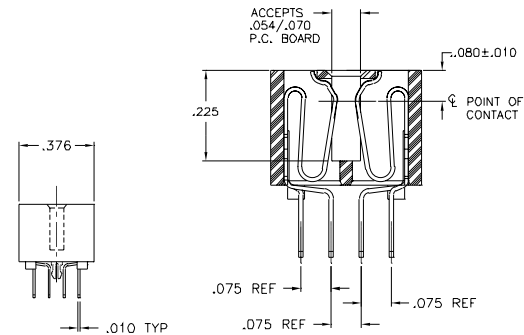
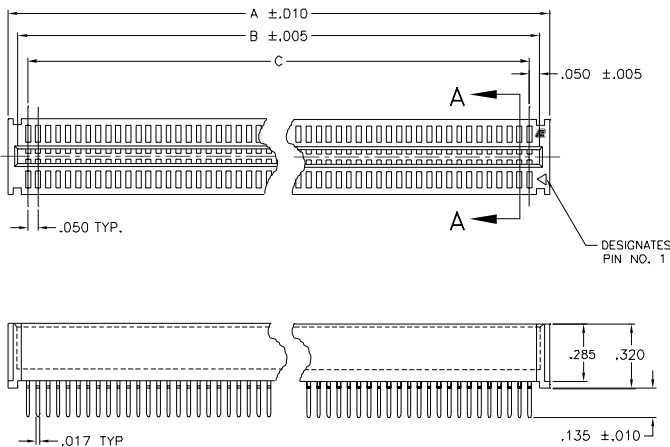
00 = STD (AS SHOWN)

SERIES NUMBER

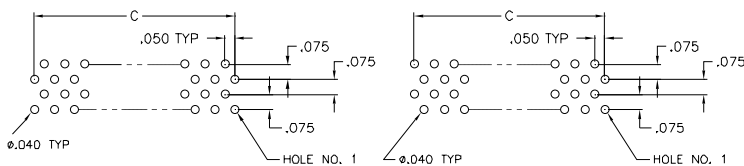
NOTES:

- INSULATOR: HIGH TEMPERATURE THERMOPLASTIC CONTACT: COPPER ALLOY

DASH NUMBER	PLATING DESCRIPTION
23	SELECT GOLD(.000030 MIN.) IN CONTACTING AREA WITH TIN LEAD TAILS OVER (.000050/.000075) NICKEL OVERALL UNDERPLATE.
41	BRIGHT TIN (.000200 MIN.) OVER (.000050/.000075) NICKEL OVERALL UNDERPLATE.
90	SELECT GOLD FLASH OVER SELECT PALLADIUM NICKEL (.000040 MIN.) IN CONTACTING AREA WITH TIN LEAD TAILS OVER (.000050/.000075) NICKEL OVERALL UNDERPLATE.



SECTION A-A



PC FOOTPRINT FOR 15/30 AND 25/50 (POSITION/CONTACTS) REFERENCE ONLY

PC FOOTPRINT FOR EVEN NUMBER OF POSITIONS REFERENCE ONLY

TABLE 1

PART NUMBER	NUMBER OF CONTACTS	NO. OF POSITIONS	A	B	C
275-XX-020DSX-XX	20	10	.640	.550	.450
275-XX-024DSX-XX	24	12	.740	.650	.550
275-XX-050DSX-XX	50	25	1.390	1.300	1.200
275-XX-060DSX-XX	60	30	1.640	1.550	1.450
275-XX-100DSX-XX	100	50	2.640	2.550	2.450
275-XX-112DSX-XX	112	56	2.940	2.850	2.750
275-XX-132DSX-XX	132	66	3.440	3.350	3.250



North and South America:

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1700 Hicks Road • Rolling Meadows, IL 60008 USA

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Email: info@methode.com • Web: www.methode.com/connector/index.html

Europe:

Methode Electronics Ireland, Ltd.

11 Annacotty Business Park • Limerick, Ireland

353 61 330013 • Fax: 353 61 330803

Email: info@methode.ie • Web: ireland.methode.com/main.html

Far East:

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1 Tuas Lane, Jurong Town • Singapore 638610

65-68615444 • Fax: 65-68614777

Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html



Specifications

Card Edge Connectors, 235, 238, 237, 239, 236, 240 Series (.050" Centers)

Specifications

Operating Voltage: 375 VAC RMS at sea level

Current Rating: 1 Amp continuous

Contact Resistance: 6 milliohms, 30 millivolts at rated current

Contact Material: Copper alloy

Insulator Material: Polyester glass filled, 94V-0 rated per MIL-M-24519, black



METHODE ELECTRONICS, INC.

North and South America:

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353 61 330013 • Fax: 353 61 330803

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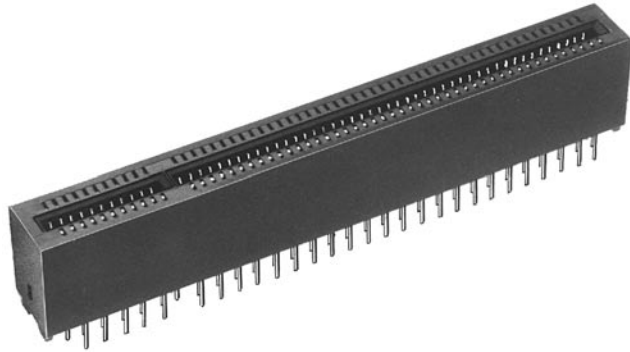
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Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

High Density Card Edge .050" (1.27) Vesa Micro Channel Architecture (MCA) - M42 Series



PART NUMBER LEGEND

M42X-02-XXX-X

COLOR

- 0 = Brown
- 1 = White
- 2 = Black

POSITIONS

112, 120, 132, 182, 184, 194

PLATING

- T = 5 μ m select gold nominal
- 8 = 30 μ m select gold nominal

SPECIFICATIONS:

Material:

Insulator: Polyphenylene Sulfide (PPS), glass-reinforced thermoplastic, rated UL 94V-0

Insulator color: Dark Brown (120 Pos: White)

Contacts: Phosphor Bronze

Plating:

T = 5 μ m gold nom. (8 = optional 30 μ m) to MIL-G-45204, Type II, Grade C on contact area over 50 μ m nickel underplate to QQ-N-290, Class 2, Grade C, 100 μ m tin-lead to MIL-P-81728 on solder tails.

Electrical:

Operation voltage: 125 VAC max

Current rating: 1 Amp max

Contact resistance: 20 Ω m max

Insulation resistance: 1000 Ω M min @ 500 VDC between adjacent contacts (75° F and 50% R.H.)

Dielectric withstanding voltage: 500 VAC min RMS (sea level)

Capacitance: 1.5 pF max

Mechanical:

Contact force: 78 gms. min

Insertion force: 6 ozs. max per mated pair

Withdrawal force: 4 ozs. min per mated pair

Mating durability: 100 cycles min

Contact retention: 1.0 lb. min

Measurements based on use with .062" PCB

Environmental:

Operating temperature: -65°C to +125°C

Thermal shock: MIL-STD-1344, Method 1003.1

MATING OPTIONS:

Mates with .062" PC boards with contact pads on .050" centerlines



North and South America:

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Email: info@methode.com • Web: www.methode.com/connector/index.html

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Email: info@methode.ie • Web: ireland.methode.com/main.html

Far East:

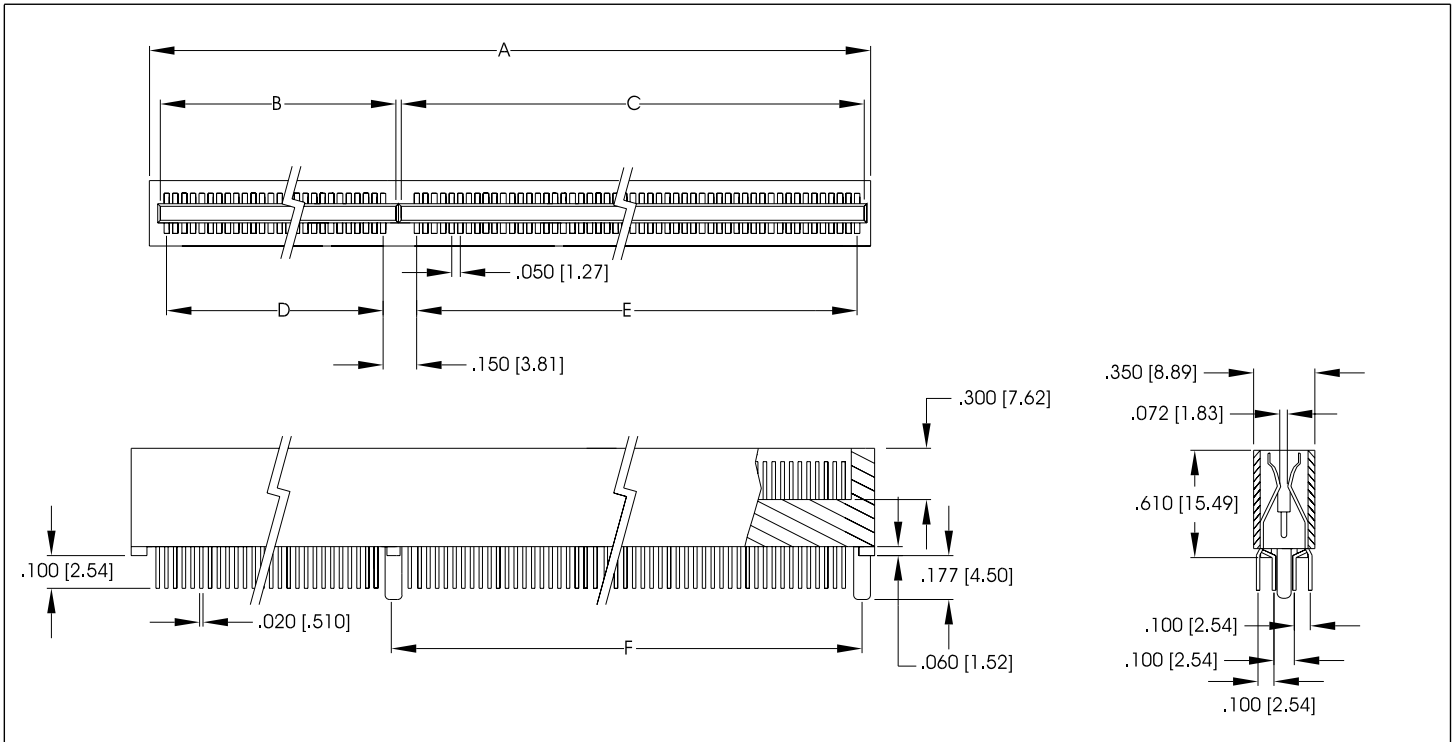
Methode Electronics Far East, Pte. Ltd.

1 Tuas Lane, Jurong Town • Singapore 638610

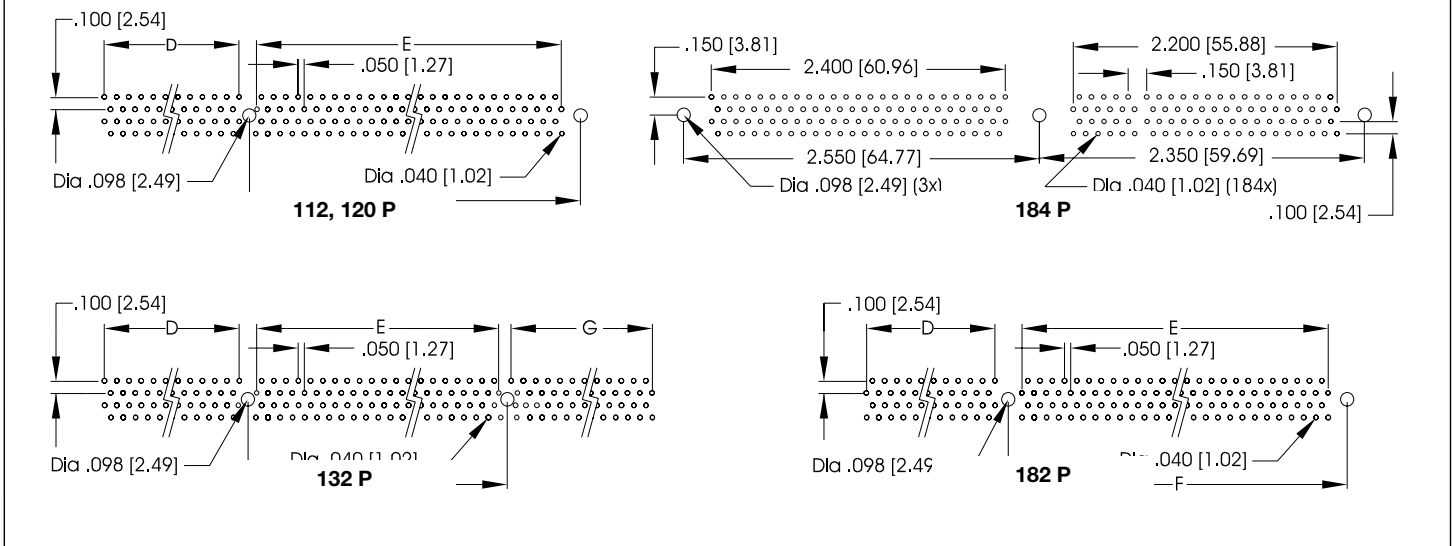
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Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

High Density Card Edge .050" (1.27) Vesa Micro Channel Architecture (MCA) - M42 Series



PC Board Layouts



Unit: Inch / mm

Dimensional:

CONTACTS	A	B	C	D	E	F	G
112	3.140 (79.76)	0.625 (15.88)	2.325 (59.06)	0.500 (12.70)	2.200 (55.88)	2.232 (56.69)	—
120	3.340 (84.84)	0.625 (15.88)	2.525 (64.14)	0.500 (12.70)	2.400 (60.96)	2.550 (64.77)	—
132	3.740 (95.00)	0.625 (15.88)	2.925 (74.30)	1.834 (46.60)	2.200 (55.88)	2.350 (59.69)	0.450 (11.43)
182	4.890 (124.21)	2.175 (55.25)	2.525 (64.14)	2.050 (52.07)	2.400 (60.96)	2.550 (64.77)	—
194	5.290 (134.37)	2.175 (55.25)	2.925 (74.30)	2.050 (52.07)	2.200 (55.88)	2.350 (59.69)	0.450 (11.43)



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353 61 330013 • Fax: 353 61 330803

Email: info@methode.ie • Web: ireland.methode.com/main.html

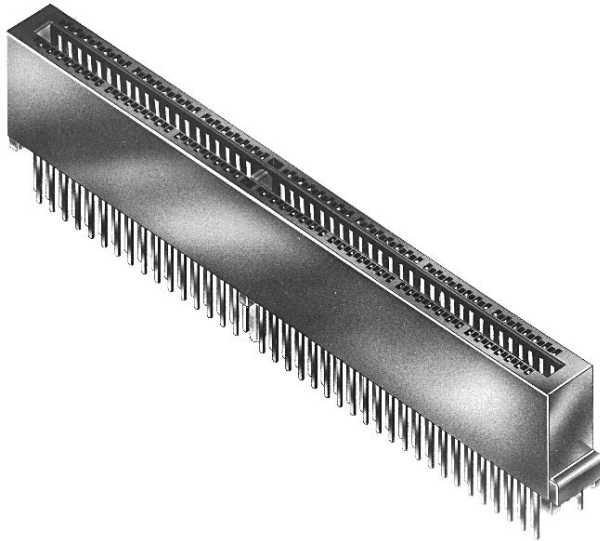
Far East:

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1 Tuas Lane, Jurong Town • Singapore 638610
65-68615444 • Fax: 65-68614777

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High Density Card Edge .050" (1.27) Centerline EISA Connector - M42 Series



PART NUMBER LEGEND

M42X-03-XXX-X

COLOR

0 = Brown
2 = Black

POSITIONS

188

PLATING

T = 5 μ m select gold nominal

SPECIFICATIONS:

Material:

Insulator: Polyphenylene Sulfide (PPS), glass-reinforced thermoplastic, rated UL 94V-0

Insulator color: Dark Brown

Optional color: Black

Contacts: Phosphor Bronze

Plating:

T = 5 μ m gold to MIL-G-45204, Type 2, Grade C on contact area over 50 μ m nickel underplate to QQ-N-290, Class 2, Grade C with 100 μ m tin-lead on solder tails to MIL-P-81728

Electrical:

Operation voltage: 125 VAC max

Current rating: 3 Amps max

Contact resistance: 20 Ω m max

Insulation resistance: 1000 Ω M max @ 500 VDC min between adjacent contacts (75° F and 50% R.H.)

Dielectric withstanding voltage: 500 VAC min RMS (sea level)

Capacitance: 1.5 pF max

Mechanical:

Contact retention: 2 lbs. min per contact

Insertion force:

Upper Row: 23 lbs. max Combined rows: 32 lbs. max

Withdrawal force: 15 lbs. min

Mating durability: 250 cycles min

Contact normal force: 75 gms. min

Environmental:

Operating temperature: -65°C to +125°C

MATING OPTIONS:

Mates with .062" PC boards of EISA or ISA structure

PACKAGING:

Anti-static plastic tubes available



North and South America:

Methode Electronics, Inc. Connector Products

1700 Hicks Road • Rolling Meadows, IL 60008 USA

847-392-3500 • Toll Free: 800-323-6864 • Fax: 847-392-9404

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353 61 330013 • Fax: 353 61 330803

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Far East:

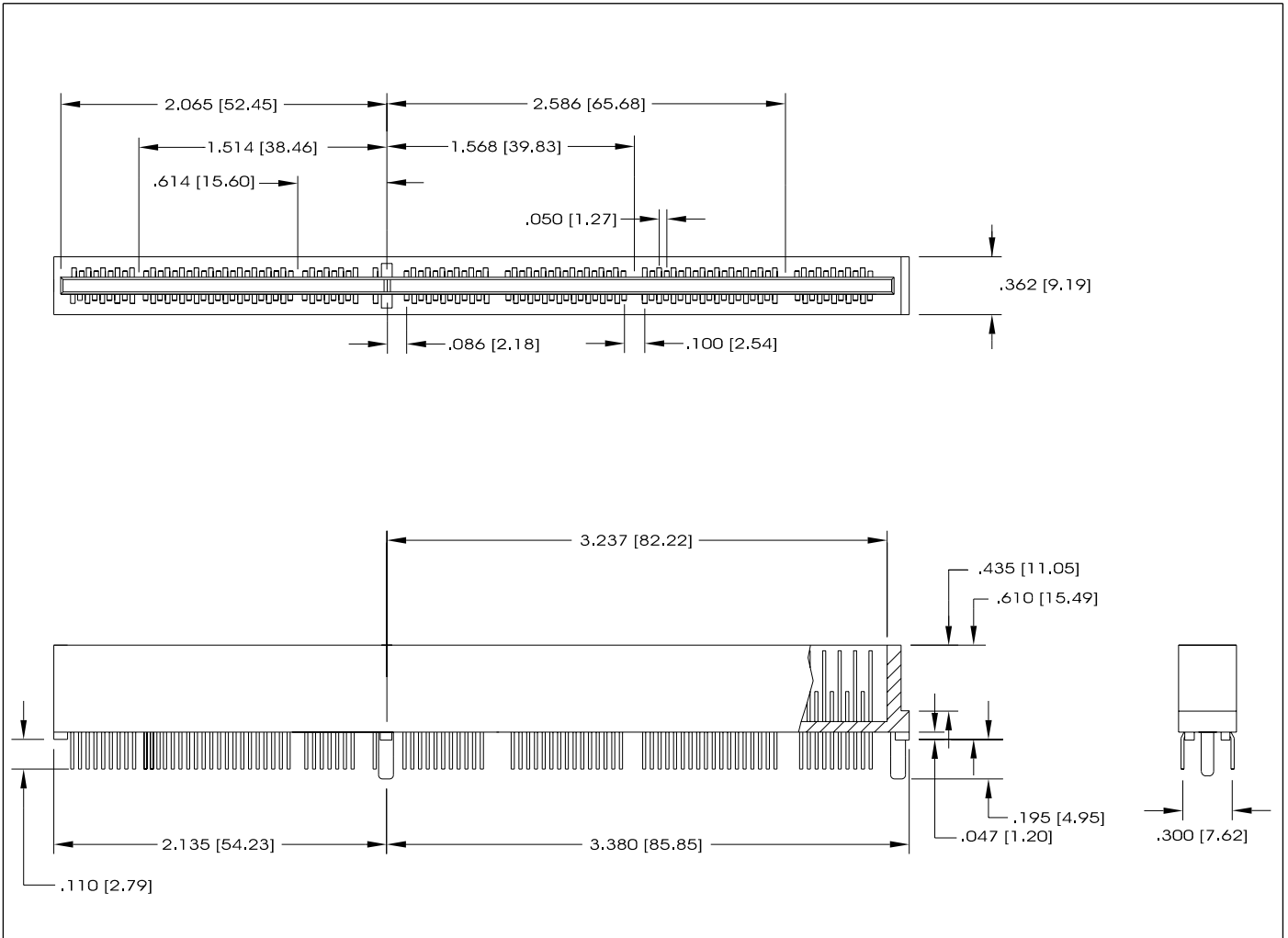
Methode Electronics Far East, Pte. Ltd.

1 Tuas Lane, Jurong Town • Singapore 638610

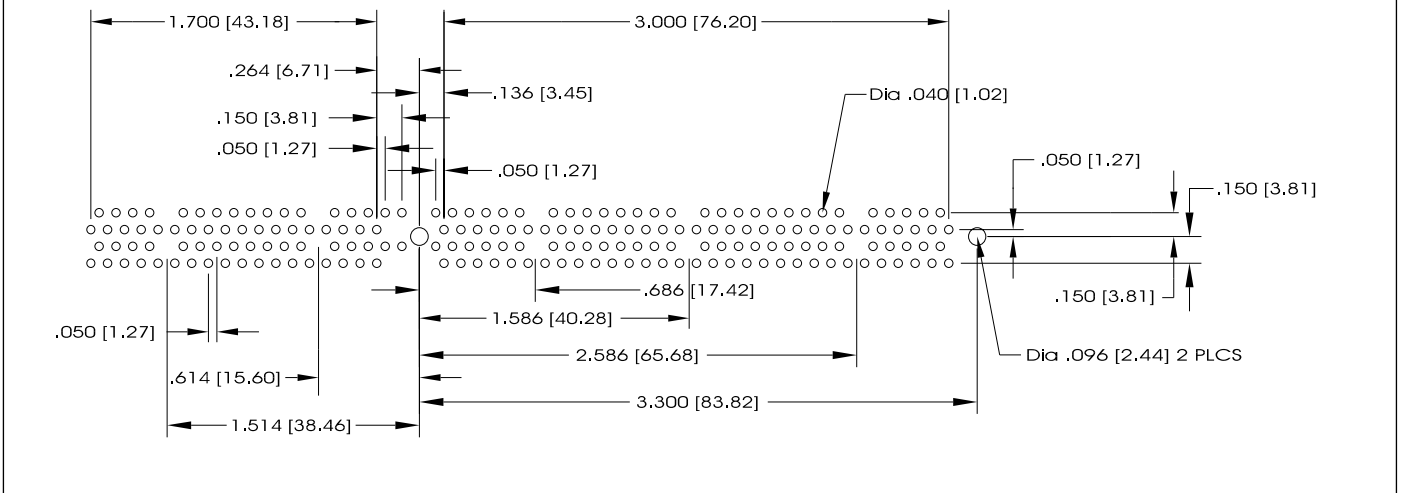
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Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

High Density Card Edge .050" (1.27) Centerline EISA Connector - M42 Series



PC Board Layout



North and South America:

Methode Electronics, Inc. Connector Products

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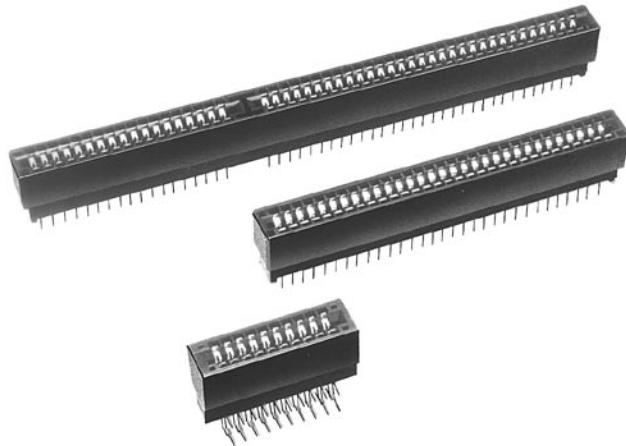
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Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

Card Edge Connectors .100" x .200" [2.54 x 5.08] Centerline - M42 Series



PART NUMBER LEGEND

M42X-01-XX(X)

POSITIONS

18, 30, 32, 36, 40, 44, 50, 56, 60, 62, 80, 98, 100

PLATING

T = 5 µin select gold nominal

8 = 30 µin select gold nominal

SPECIFICATIONS:

Material:

Insulator: Polybutylene Terephthalate (PBT), glass reinforced thermoplastic, rated UL 94V-0

Insulator color: Black

Contacts: Phosphor Bronze

Plating:

T = 5 µin gold nom. (8 = optional 30 µin) to MIL-G-45204, Type II, Grade C on contact area over 50 µin nickel underplate to QQ-N-290, Class 2, Grade C, 100 µin. tin-lead to MIL-P-81728 on solder tails

Electrical:

Operation voltage: 250 VAC max

Current rating: 3 Amps max

Contact resistance: 20 mΩ max

Insulation resistance: 5000 MΩ min @ 750 VDC between adjacent terminals (75°F and 50% R.H.)

Dielectric withstanding voltage: 750 VAC min RMS (sea level)

Voltage drop: 30 mV max

Mechanical:

Contact normal force: 3.8 ozs. min

Insertion force: 5 to 10 ozs. avg. per contact pair

Withdrawal force: 3 to 5 ozs. avg. per contact pair

Contact retention: 4 lbs. min per contact pair when mated with .062" PC board

Mating durability: 150 cycles min

Environmental:

Operating temperature: -65°C to +125°C

MATING OPTIONS:

Mates with PC boards with thicknesses of .054" - .070"

PACKAGING:

Anti-static plastic trays or corrugated boxes available

APPROVALS AND CERTIFICATIONS:

Select parts recognized under the component program of Underwriters Laboratories, Inc. No. E167232

Certified by Canadian Standards Association No. LR7



North and South America:

Methode Electronics, Inc. Connector Products

1700 Hicks Road • Rolling Meadows, IL 60008 USA

847-392-3500 • Toll Free: 800-323-6864 • Fax: 847-392-9404

Email: info@methode.com • Web: www.methode.com/connector/index.html

Europe:

Methode Electronics Ireland, Ltd.

11 Annacotty Business Park • Limerick, Ireland

353 61 330013 • Fax: 353 61 330803

Email: info@methode.ie • Web: ireland.methode.com/main.html

Far East:

Methode Electronics Far East, Pte. Ltd.

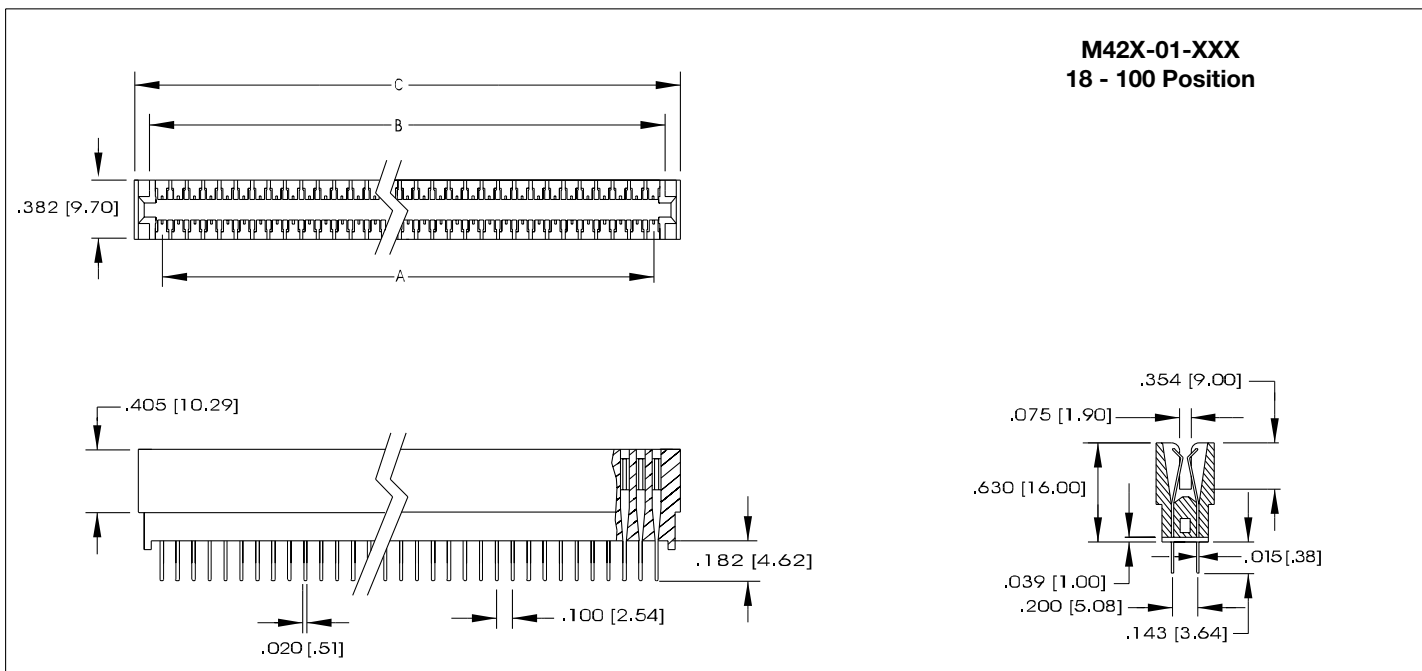
1 Tuas Lane, Jurong Town • Singapore 638610

65-68615444 • Fax: 65-68614777

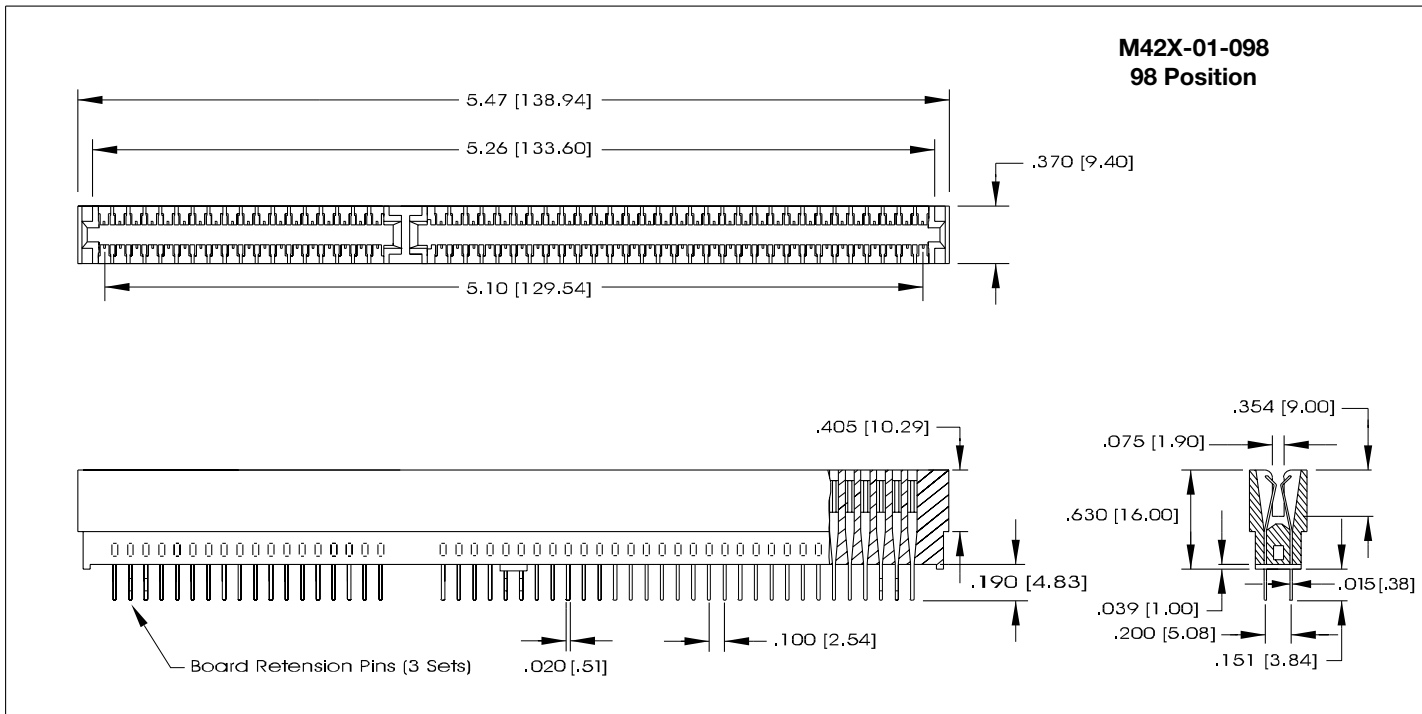
Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

Card Edge Connectors

.100" x .200" [2.54 x 5.08] Centerline - M42 Series



A = .100" [2.54] x No. of Spaces
 B = .100" [2.54] x No. of Spaces + .200" [5.08]
 C = .100" [2.54] x No. of Spaces + .375" [9.53]

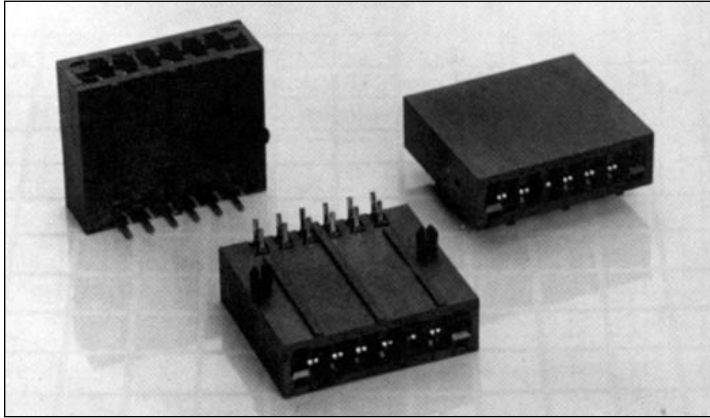


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Europe:
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 11 Annacotty Business Park • Limerick, Ireland
 353 61 330013 • Fax: 353 61 330803
 Email: info@methode.ie • Web: ireland.methode.com/main.html

Far East:
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 1 Tuas Lane, Jurong Town • Singapore 638610
 65-68615444 • Fax: 65-68614777
 Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

.150" (3.81mm) Series 186 - 469 Right Angle Connector



CARD EDGE "MAKE BEFORE BREAK" RIGHT ANGLE 12 POSITION DUAL READOUT WITH INTEGRAL BOARD RETENTION FEATURE

PART NUMBER LEGEND

186-469-XX-XX

PLATING OPTIONS

- 20 = 10 GOLD OVER 50 NICKEL WITH SOLDER TAILS
- 22 = 20 GOLD OVER 50 NICKEL WITH SOLDER TAILS
- 25 = 50 GOLD OVER 50 NICKEL WITH SOLDER TAILS
- 23 = SEL 30 GOLD OVER 50/75 NICKEL WITH TIN LEAD TAILS OVER COPPER FLASH

KEY LOCATION CONTACT STYLE (SEE TABLE 1)

Specifications

Operating Voltage: 500 VAC RMS at sea level

Current Rating: 3 Amp continuous

Contact Resistance: 6 milliohms, 30 millivolts at rated current

Contact Material: Copper alloy

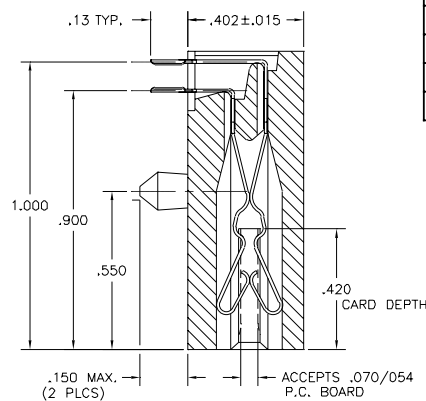
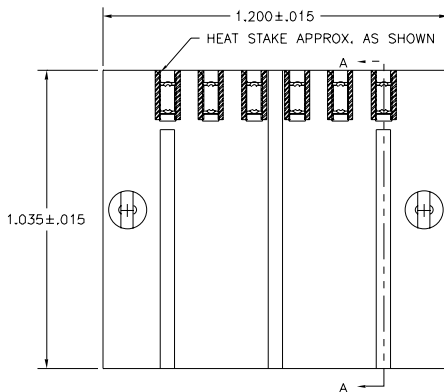
Insulator Material: Polyester glass filled, 94V-0 rated per MIL-M-24519, black

NOTES:

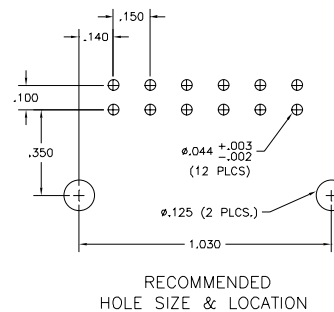
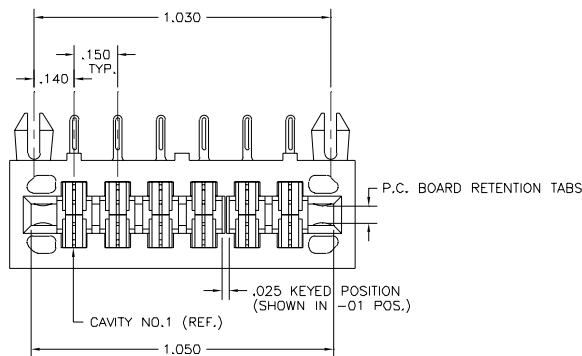
- 1) INSULATOR MATERIAL: GLASS FILLED POLYESTER BLACK, 94 VO.
- 2) CONTACT MATERIAL: PHOS. BRONZE, ALLOY 521.

TABLE 1

186-469-10-XX	4 / 5	WITH
186-469-08-XX	2 / 3	WITH
186-469-06-XX	W / OUT KEY	W / OUT
186-469-04-XX	4 / 5	W / OUT
186-469-02-XX	W / OUT KEY	WITH
PART NO.	KEY LOCATIONS (BET. CAVITIES)	BIFUR SLOT



SECTION A-A



North and South America:

Methode Electronics, Inc. Connector Products

1700 Hicks Road • Rolling Meadows, IL 60008 USA
847-392-3500 • Toll Free: 800-323-6864 • Fax: 847-392-9404

Europe:

Methode Electronics Ireland, Ltd.

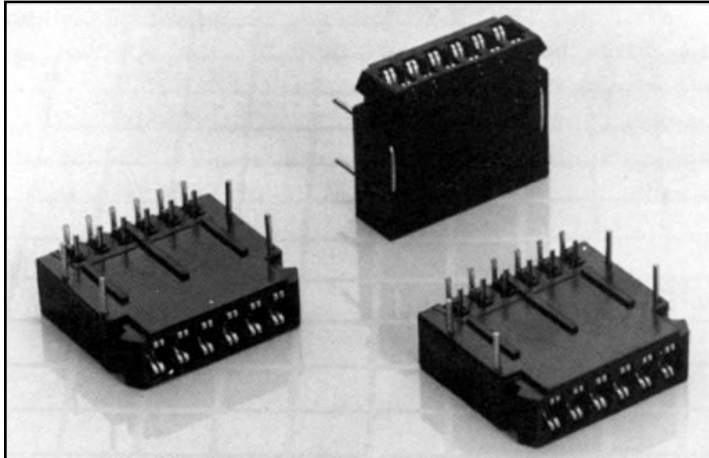
11 Annacotty Business Park • Limerick, Ireland
353 61 330013 • Fax: 353 61 330803

Far East:

Methode Electronics Far East, Pte. Ltd.

1 Tuas Lane, Jurong Town • Singapore 638610
65-68615444 • Fax: 65-68614777

.150" (3.81mm) Series 186 - 445 Right Angle Connector



CARD EDGE "MAKE BEFORE BREAK" RIGHT ANGLE 12 POSITION DUAL READOUT

PART NUMBER LEGEND

186-445-XX

PLATING OPTIONS

- 20 = 10 SEL GOLD OVER 50/70 NICKEL WITH TIN LEAD TAILS
- 23 = 30 SEL GOLD OVER 50/70 NICKEL WITH TIN LEAD TAILS
- 27 = 15 SEL GOLD OVER 50/70 NICKEL WITH TIN LEAD TAILS
- 442 = SEL FLASH GOLD OVER 50/70 NICKEL WITH TIN LEAD TAILS

Specifications

Operating Voltage: 500 VAC RMS at sea level

Current Rating: 3 Amp continuous

Contact Resistance: 6 milliohms, 30 millivolts at rated current

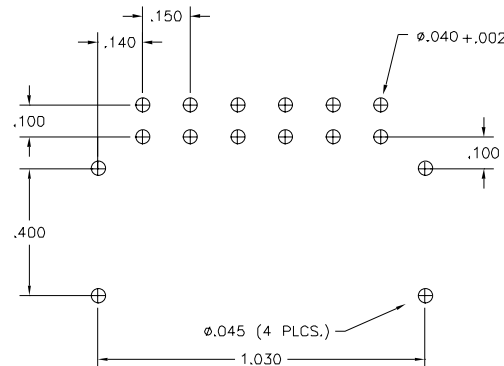
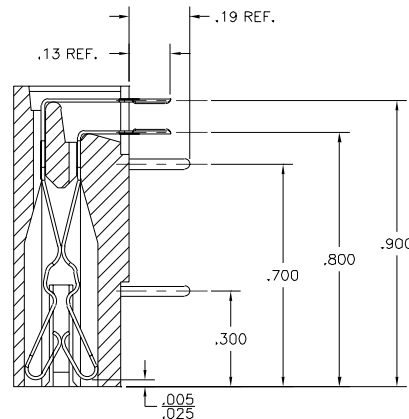
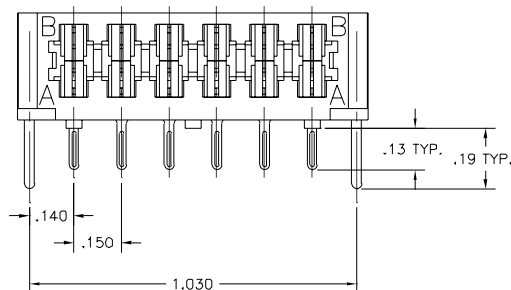
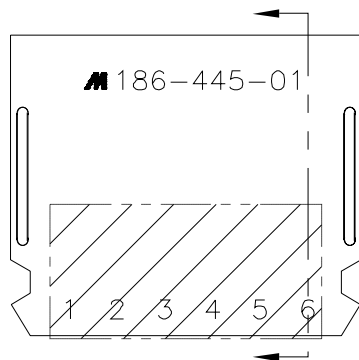
Contact Material: Copper alloy

Insulator Material: Polyester glass filled, 94V-0 rated per MIL-M-24519, black

NOTES:

1) INSULATOR MATERIAL: GLASS FILLED POLYESTER BLACK, 94 VO.

2) CONTACT MATERIAL: PHOS. BRONZE, ALLOY 521



RECOMMENDED
HOLE SIZE & LOCATION



North and South America:

Methode Electronics, Inc. Connector Products

1700 Hicks Road • Rolling Meadows, IL 60008 USA
847-392-3500 • Toll Free: 800-323-6864 • Fax: 847-392-9404

Email: info@methode.com • Web: www.methode.com/connector/index.html

Europe:

Methode Electronics Ireland, Ltd.

11 Annacotty Business Park • Limerick, Ireland
353 61 330013 • Fax: 353 61 330803

Email: info@methode.ie • Web: ireland.methode.com/main.html

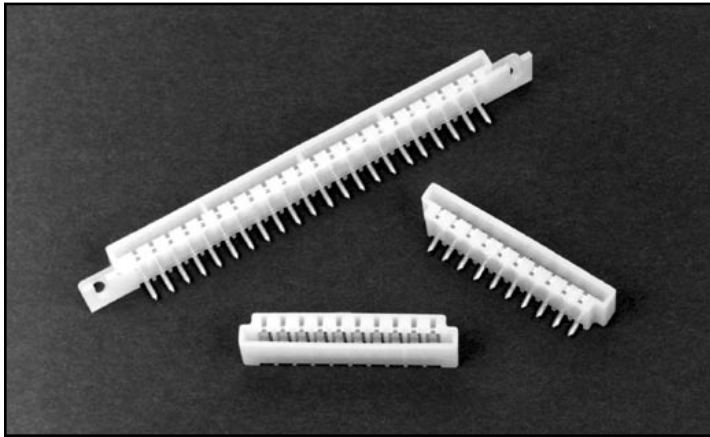
Far East:

Methode Electronics Far East, Pte. Ltd.

1 Tuas Lane, Jurong Town • Singapore 638610
65-68615444 • Fax: 65-68614777

Email: sales@methode.com.sg • Web: www.methode.com/mefe/index.html

.156" (3.96mm) Series 3200 Card Edge Connector



3200 SERIES CARD EDGE

PART NUMBER LEGEND

320X-0XX-21XX-XX-X

POLARIZING RIB LOCATION (SEE TABLE PAGE 1)

MOUNTING STYLE

- 01 = WITHOUT EARS
- 02 = WITH EARS

CONTACT TAIL (SEE TABLE 2)

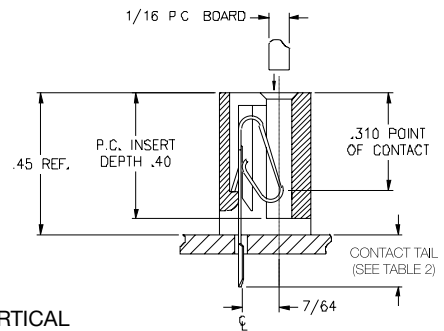
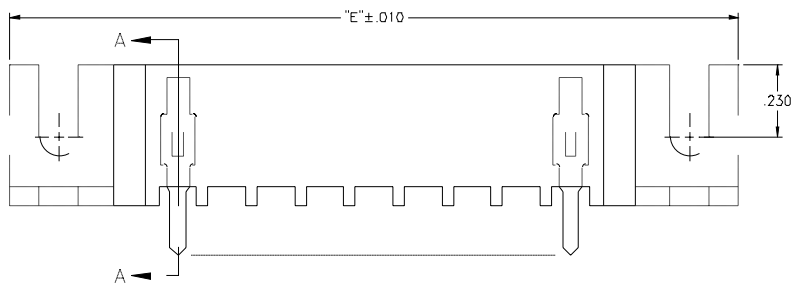
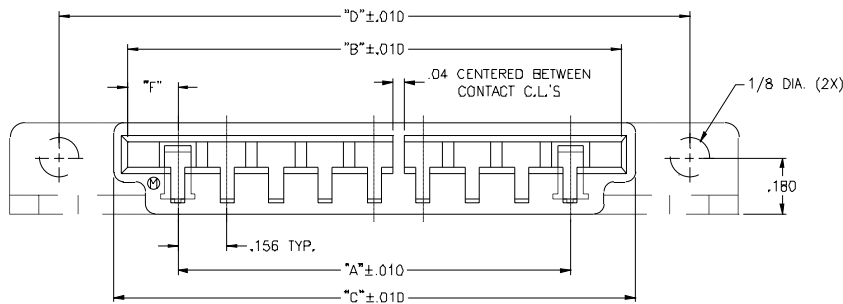
NUMBER OF CONTACTS (SEE TABLE 1)

PLATING

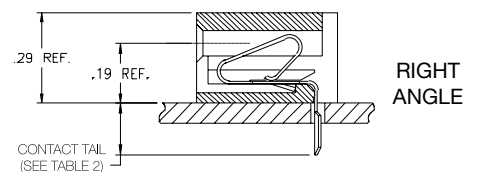
- 0 = TIN PLATE
- 2 = .000015 GOLD OVER NICKEL
- 8 = SELECTIVE GOLD .000020 OVER NICKEL (MATING AREA). TIN OVER NICKEL (SOLDER TAIL)

NOTE:

- 1) MATERIAL: INSULATOR - NYLON 6/6 94V-2 (PAM-001)
CONTACT - BRASS

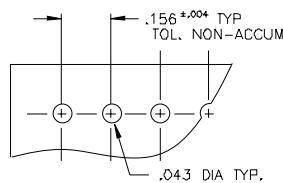


VERTICAL



RIGHT ANGLE

SECTION A-A



RECOMMENDED P.C. BOARD LAYOUT

TAIL No.	LENGTH	STYLE
01	.125	VERTICAL
02	.165 ± .020	VERTICAL
03	.125	PARALLEL
04	.165 ± .020	PARALLEL

TABLE 2

PART NO.	No. OF POS.	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "F"	POLARIZING RIB BETWEEN CIRCUITS
32XX-004-21XX-XX	4	.468	.788	.878	1.224	1.537	.160	NONE
↑-005	5	.624	.944	1.034	1.380	1.693	.160	NONE
↑-006	6	.780	1.100	1.190	1.536	1.849	.160	NONE
-006	-1	.780	1.100	1.190	1.536	1.849	.160	2&3, 4&5
-007	7	.936	1.256	1.346	1.536	2.005	.160	NONE
-008	-0	1.092	1.412	1.502	1.848	2.161	.160	NONE
-008	-1	1.092	1.412	1.502	1.848	2.161	.160	2&3
-009	9	1.248	1.568	1.658	2.004	2.317	.160	5&6
-009	-1	1.248	1.568	1.658	2.004	2.317	.160	2&3, 5&6, 7&8
-009	-2	1.248	1.568	1.658	2.004	2.317	.160	NONE
-010	-0	1.404	1.724	1.814	2.160	2.473	.160	NONE
-010	-1	1.404	1.724	1.814	2.160	2.473	.160	4&5, 7&8
-010	-2	1.404	1.724	1.814	2.160	2.473	.160	5&6, 7&8
-012	12	1.716	2.036	2.126	2.472	2.785	.160	6&7
-012	-1	1.716	2.036	2.126	2.472	2.785	.160	2&3, 5&6, 7&8, 9&10
-015	-0	2.184	2.504	2.594	2.940	3.253	.160	NONE
-015	-1	2.184	2.504	2.594	2.940	3.253	.160	4&5, 8&9, 11&12
-015	-2	2.184	2.504	2.594	2.940	3.253	.160	4&5, 7&8, 11&12
-018	18	2.652	2.972	3.062	3.408	3.721	.160	6&7, 12&13
-020	20	2.964	3.284	3.374	3.720	4.033	.160	6&7, 14&15
-022	22	3.276	3.596	3.686	4.032	4.345	.160	5&6, 11&12, 16&17
↓-024	24	3.588	3.784	3.874	4.220	4.532	.098	7&8, 13&14, 19&20
32XX-024-21XX-XX-1	24	3.588	3.784	3.874	4.220	4.532	.098	NONE