



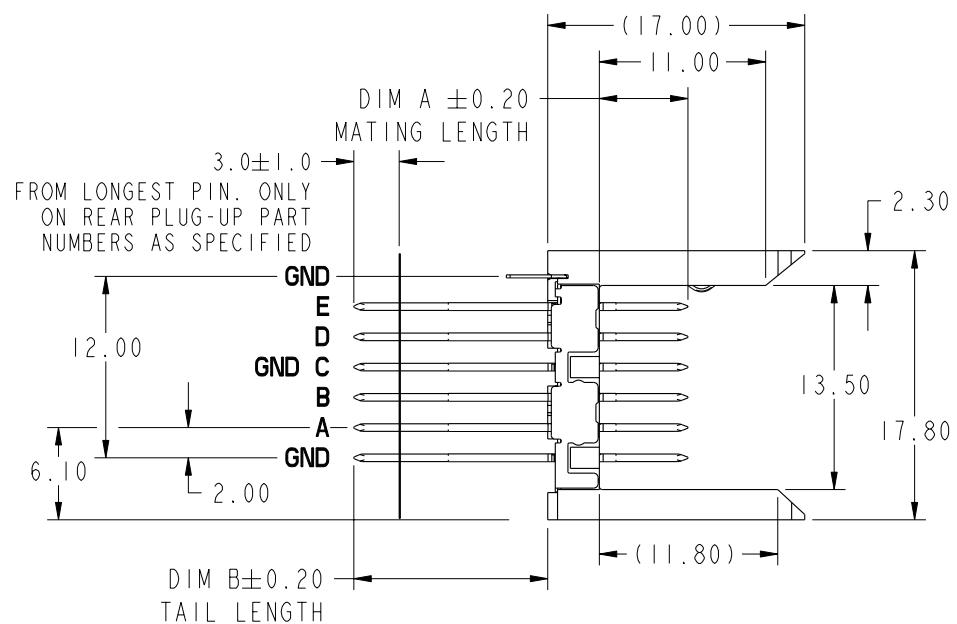
PRODUCT NUMBER

SEE BELOW AND TABLE ON SHEET 2

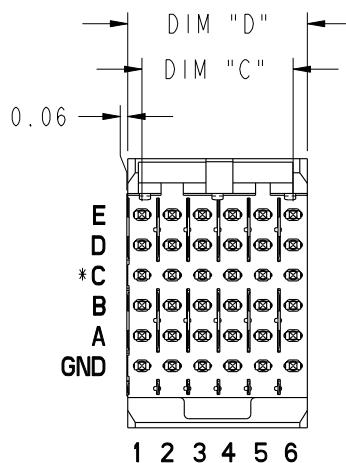
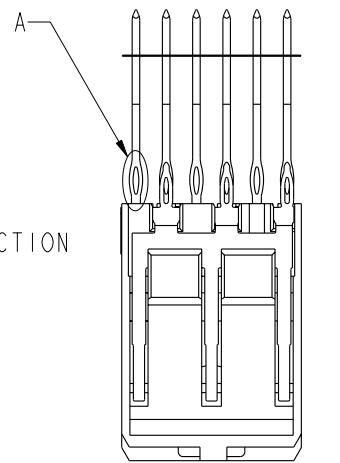
74977 - X YY ZZZ LF  
 BASE NUMBER  
 LEAD FREE (OPTIONAL)  
 SPECIAL LOAD PATTERN  
 SEE SHEETS 6-7  
 SIZE, SEE SHEET 2  
 PLATING PERFORMANCE  
 LEVEL, SEE SHEET 2

SEE DETAIL A  
 EYE OF NEEDLE  
 PRESS FIT SECTION  
 BABY-H  
 PRESS FIT SECTION

DETAIL A  
 SCALE 4:1  
 SEE NOTE 16



\*ROW C INFORMATION  
 ODD NUMBER COLUMNS WITHIN ROW C ARE COMMONED  
 TO GROUND INTERNALLY WITHIN THE HOUSING. THE  
 EVEN NUMBER COLUMNS WITHIN ROW C ARE NOT.  
 FOR MAXIMUM PERFORMANCE IT IS RECOMMENDED THESE  
 EVEN COLUMNS BE GROUND COMMONED WITHIN PCB.  
 SEE NOTE 13.



mat'l code				tolerances unless otherwise specified				CUSTOMER COPY	projection	title
ltr	ecn no.	dr	date							
Y	V06-0544	DCH	2006-06-09	linear	0. X ±0.1	0. XX ±.05	.XXX ±.020			VERTICAL SIGNAL HDR 5 ROW
AA	V07-0167	DCH	2007-03-19							PRESS-FIT, SPECIAL LOAD, STD.
AB	V07-0677	HTB	2007-11-14	angles	0° ±2°					
AC	V08-0008	LP	2008-1-22	dr	K. BELL	2000-03-29		MM	product family	METRAL 2000
-	-	-	-	engr	M. HAHN	2000-03-29				code
W	V05-0814	VS	2005-09-19	chr	M. HAHN	2000-03-29				213
X	V06-0048	DAI	2006-02-08	appd	M. HAHN	2000-03-29				sheet
										A
sheet	revision	AC	AC	AC	AC	AC	AC		cage code	74977
index	sheet	1	2	3	4	5	6	7		

3

4

1 | 2

Pro/E

3

4

PDM: Rev:AC

STATUS: Released

Printed: Dec 16, 2008

PRODUCT NUMBER	PLATING PERFORMANCE LEVEL	SHROUD TO USE FOR REAR PLUG-UP APPLICATIONS	LENGTH DIM D	PIN FIELD DIM C	CONNECTOR SIZE
74977-101ZZZ	TELCORDIA CO	84621-101	11.88	10.00	1 MOD
74977-101ZZZLF		84621-101LF			
74977-102ZZZ		84621-102	23.88	22.00	2 MOD
74977-102ZZZLF		84621-102LF			
74977-103ZZZ		84621-103	35.88	34.00	3 MOD
74977-103ZZZLF		84621-103LF			
74977-104ZZZ		84621-104	47.88	46.00	4 MOD
74977-104ZZZLF		84621-104LF			
74977-501ZZZ	TELCORDIA UE	84621-501	11.88	10.00	1 MOD
74977-501ZZZLF		84621-501LF			
74977-502ZZZ		84621-502	23.88	22.00	2 MOD
74977-502ZZZLF		84621-502LF			
74977-503ZZZ		84621-503	35.88	34.00	3 MOD
74977-503ZZZLF		84621-503LF			
74977-504ZZZ		84621-504	47.88	46.00	4 MOD
74977-504ZZZLF		84621-504LF			
74977-901ZZZ	TELCORDIA CO	84621-101	11.88	10.00	1 MOD
74977-901ZZZLF		84621-101LF			
74977-902ZZZ		84621-102	23.88	22.00	2 MOD
74977-902ZZZLF		84621-102LF			
74977-903ZZZ		84621-103	35.88	34.00	3 MOD
74977-903ZZZLF		84621-103LF			
74977-904ZZZ		84621-104	47.88	46.00	4 MOD
74977-904ZZZLF		84621-104LF			

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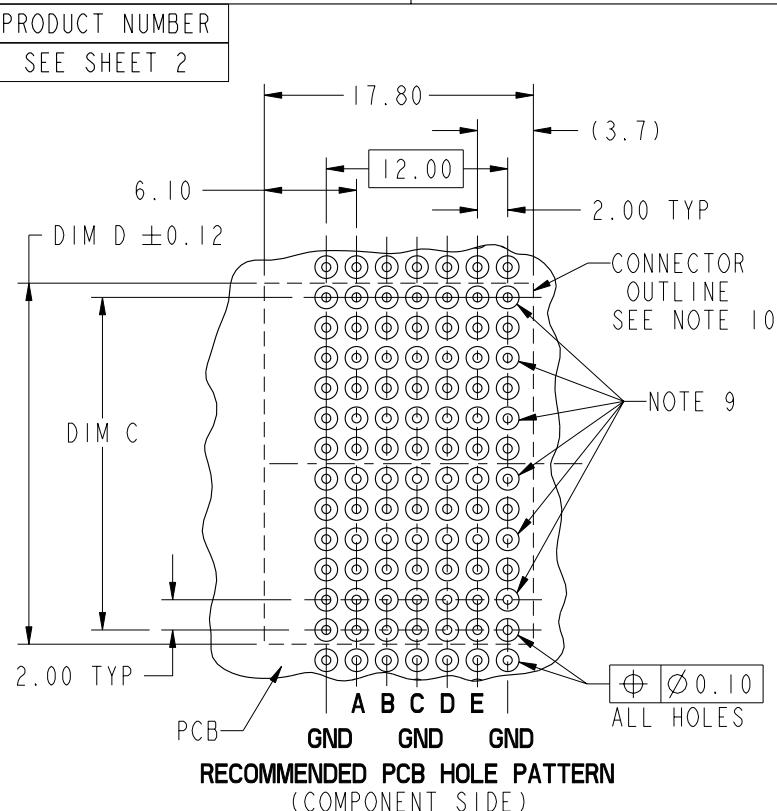
mat'l code	SEE NOTE 5				tolerances unless otherwise specified		CUSTOMER COPY	projection	title	product family	code
ltr	ecn no.	dr	date		0. X ± 0.1	0. XX ± 0.05				METRAL 2000	
AC				linear		.XXX ± .020					
				angles		0° ± 2°					
		dr	K. BELL		2000-03-29		MM	dwg no	A	74977	sheet
		engr	M. HAHN		2000-03-29						
		chr	M. HAHN		2000-03-29						
		appd	M. HAHN		2000-03-29						
	sheet	revision									
	index	sheet									



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PRESS-FIT HOLES	OPTION 1
HOLE DIAMETER AFTER PLATING	0.65-0.80
DRILLED HOLE	0.81-0.86 (0.85 DRILL)
COPPER PLATING	0.025 MIN
SnPb PLATING	0.005-0.015

SEE PRINT 58351 FOR ADDITIONAL  
PCB INFORMATION



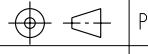
## NOTES:

1. SEE APPLICATION SPECIFICATION GS-20-010 FOR INFORMATION ON AVAILABLE TOOLING, CIRCUIT BOARD DESIGN CONSIDERATIONS, REPAIR PROCEDURES AND PRODUCT OFFERINGS.
2. SEE FCI PUBLICATION 950511-028 FOR "ELECTRICAL PERFORMANCE DATA FOR DIFFERENTIAL APPLICATIONS."
3. SEE FCI PUBLICATION 950511-029 FOR "ELECTRICAL PERFORMANCE DATA FOR SINGLE-ENDED APPLICATION."
4. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS AND TOLERANCES ARE IN ACCORDANCE WITH ASME Y14.5, 1994
5. HOUSING MATERIAL: LIQUID CRYSTAL POLYMER, 30% GLASS FILLED, FLAME RETARDANT PER UL 94-V0.  
PIN MATERIAL: PHOSPHER BRONZE  
GROUND SPRING MATERIAL: PHOSPHER BRONZE  
STRIPLINE SHIELD MATERIAL: PHOSPHER BRONZE
6. PLATING INFORMATION: PLATING ON CONTACT AREA MEETS THE PERFORMANCE LEVELS AS SHOWN IN TABLE ON SHEET 1. PLATING ON "LF" TAILS IS Sn. PLATING ON ALL OTHER TAILS IS SnPb.
7. DIMENSIONAL RESTRICTIONS OF PINS IN HEADERS.
 

DIM A :	5.0mm MIN, 8.0mm MAX FOR ROWS A-E
DIM A :	5.0mm MIN, 6.3mm MAX FOR ROW GND NEXT TO ROW A
DIM C :	5.0mm MIN, 8.0mm MAX FOR ROWS A-E
DIM C :	4.6mm MIN, 6.3mm MAX FOR ROW GND NEXT TO ROW A
8. THE MIN PCB THICKNESS FOR REAR PLUG-UP APPLICATIONS IS 2.9mm SINCE THE COMPLAINT SECTIONS OF THE GROUND SPRING OF THE HEADER DIRECTLY OPPOSE THE GROUND SPRING OF THE SHROUD. THE MIN PCB THICKNESS FOR FRONT PLUG-UP ONLY APPLICATIONS IS 1.6mm.
9. THESE HOLES ARE NEEDED FOR REAR PLUG-UP DESIGNS USING A SHROUD AND MAY BE OMITTED FOR FRONT PLUG-UP ONLY DESIGNS.
10. THE 'CONNECTOR OUTLINE' IS THE MIN OUTLINE REQUIRED. TO DETERMINE THE OUTLINE NECESSARY TO PERMIT THE VARIOUS TYPES OF REPAIR OPERATIONS, SEE APPLICATION SPECIFICATION GS-20-010.
11. CURRENT RATING : 1 AMP PER PIN
12. TEMPERATURE RANGE : -55°C TO +105°C
13. FOR FRONT PLUG-UP APPLICATIONS, THE EVEN NUMBERED PINS IN ROW 'C' CAN BE USED FOR POWER AS WELL AS FOR GROUND. IF THE SURROUNDING PINS ARE NOT USED FOR POWER, THEN EACH PIN CAN CARRY 3 AMPS. IF THE SURROUNDING PINS ARE USED FOR POWER, THEN EACH PIN CAN CARRY 1 AMP. WHEN THE SURROUNDING PINS ARE USED ONLY FOR LOW SPEED SIGNALS, THEN THE EVEN NUMBERED 'C' ROW PINS CAN ALSO BE USED FOR LOW SPEED SIGNALS. THIS IS NOT TRUE FOR REAR PLUG-UP APPLICATIONS USING METRAL 2000 SHROUD AS IN THIS CASE ALL 'C' ROW PINS ARE COMMON TO GROUND.
14. THE PRODUCTS WHERE THE PART NUMBERS ENDS IN LF MEET EUROPEAN UNION DIRECTIVES AND OTHER COUNTRY REGULATIONS AS DESCRIBED IN GS-22-008.  
ALL PRODUCTS WILL WITHSTAND EXPOSURE TO 260°C FOR 60 SECONDS IN A CONVECTION, INFRA-RED OR VAPOR PHASE REFLOW OVEN
15. FOR LEAD FREE PART NUMBERS ADD 'LF' SUFFIX, EXAMPLE: 74977-XYZZZLF
16. PIN TYPE IS AT THE MANUFACTURERS OPTION AND CAN BE EITHER BABY-H OR EYE OF THE NEEDLE STYLE

mat'l code SEE NOTE 5				tolerances unless otherwise specified		CUSTOMER		www.fciconnect.com			
ltr	ecn no.	dr	date	linear	0. X ± 0.1 0. XX ± 0.05 .XXX ± .020 0° ± 2°				COPY projection		
AC				angles			title VERTICAL SIGNAL HDR 5 ROW PRESS-FIT, SPECIAL LOAD, STD.				
				dr	K. BELL 2000-03-29	MM scale	product family METRAL 2000		code		
				engr	M. HAHN 2000-03-29		size	dwg no		213	
				chr	M. HAHN 2000-03-29			A		74977	sheet
				oppd	M. HAHN 2000-03-29			:			3
sheet		revision									
index		sheet									

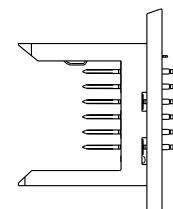
PIN NO.	DIM A MATING LENGTH	DIM B TAIL LENGTH	PCB THICKNESS RANGE ACCOMMODATED BY PIN'S TAIL LENGTH				
			WHEN MATING TO A 73981 OR 84688 SERIES RECEPTACLE		WHEN MATING TO A 52057 SERIES METRAL 4000 RECEPTACLE		
			ROWS A,B,C,D,E	GROUND ROW	ROWS A,B,D,E	ROW C	GROUND ROW
01*	5.00	4.30	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN
22		12.20	2.95 - 3.80	2.95 - 4.20	2.95 - 3.80	2.95 - 3.80	2.95 - 4.20
30		12.95	2.95 - 4.55	3.25 - 4.95	2.95 - 4.55	2.95 - 4.55	3.25 - 4.95
05		13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
35		14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45
48		15.20	3.80 - 6.80	5.50 - 7.20	4.80 - 6.80	3.80 - 6.80	5.50 - 7.20
40		15.70	4.30 - 7.30	6.00 - 7.70	5.30 - 7.30	4.30 - 7.30	6.00 - 7.70
65		16.40	5.00 - 8.00	6.70 - 8.40	6.00 - 8.00	5.00 - 8.00	6.70 - 8.40
09		17.10	5.70 - 8.70	7.40 - 9.10	6.70 - 8.70	5.70 - 8.70	7.40 - 9.10
02*	5.75	4.30	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN
44		12.20	2.95 - 3.80	2.95 - 4.20	2.95 - 3.80	2.95 - 3.80	2.95 - 4.20
31		12.95	2.95 - 4.55	3.25 - 4.95	2.95 - 4.55	2.95 - 4.55	3.25 - 4.95
06		13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
36		14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45
49		15.20	3.80 - 6.80	5.50 - 7.20	4.80 - 6.80	3.80 - 6.80	5.50 - 7.20
25		15.70	4.30 - 7.30	6.00 - 7.70	5.30 - 7.30	4.30 - 7.30	6.00 - 7.70
66		16.40	5.00 - 8.00	6.70 - 8.40	6.00 - 8.00	5.00 - 8.00	6.70 - 8.40
10		17.10	5.70 - 8.70	7.40 - 9.10	6.70 - 8.70	5.70 - 8.70	7.40 - 9.10
03*	6.50	4.30	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN
45		12.20	2.95 - 3.80	2.95 - 4.20	2.95 - 3.80	2.95 - 3.80	2.95 - 4.20
32		12.95	2.95 - 4.55	3.25 - 4.95	2.95 - 4.55	2.95 - 4.55	3.25 - 4.95
07		13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
37		14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45
50		15.20	3.80 - 6.80	5.50 - 7.20	4.80 - 6.80	3.80 - 6.80	5.50 - 7.20
41		15.70	4.30 - 7.30	6.00 - 7.70	5.30 - 7.30	4.30 - 7.30	6.00 - 7.70
24		16.40	5.00 - 8.00	6.70 - 8.40	6.00 - 8.00	5.00 - 8.00	6.70 - 8.40
11		17.10	5.70 - 8.70	7.40 - 9.10	6.70 - 8.70	5.70 - 8.70	7.40 - 9.10

mat'l code				SEE NOTE 5			tolerances unless otherwise specified		CUSTOMER COPY	 www.fciconnect.com
ltr	ecn no.	dr	date				0. X ± 0.1			
AC							0. XX ± 0.05	projection		
							.XXX ± .020			
							0° ± 2°	MM	product family METRAL 2000 code	
							dr K. BELL 2000-03-29			
							engr M. HAHN 2000-03-29	scale	size dwg no	
							chr M. HAHN 2000-03-29			
							appd M. HAHN 2000-03-29	A	74977	
sheet	revision									
index	sheet									

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B

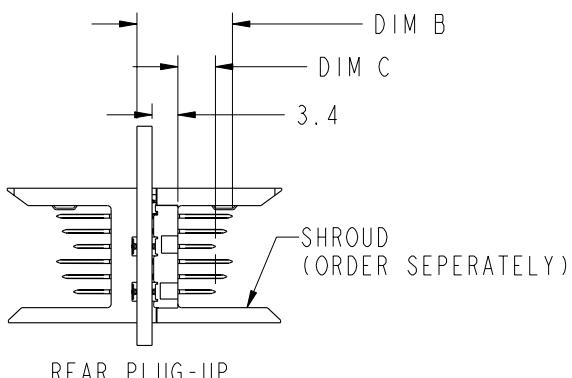
PIN NO.	DIM A MATING LENGTH	DIM B TAIL LENGTH	PCB THICKNESS RANGE ACCOMMODATED BY PIN LENGTH				
			WHEN MATING TO A 73981 OR 84688 SERIES RECEPTACLE		WHEN MATING TO A 52057 SERIES METRAL 4000 RECEPTACLE		
			ROWS A,B,C,D,E	GROUND ROW	ROWS:A,B,D,E	ROW C	GROUND ROW
04*	7.25	4.30	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN
46		12.20	2.95 - 3.80	2.95 - 4.20	2.95 - 3.80	2.95 - 4.20	2.95 - 4.20
33		12.95	2.95 - 4.55	3.25 - 4.95	2.95 - 4.55	2.95 - 4.55	3.25 - 4.95
08		13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
38		14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45
51		15.20	3.80 - 6.80	5.50 - 7.20	4.80 - 6.80	3.80 - 6.80	5.50 - 7.20
42		15.70	4.30 - 7.30	6.00 - 7.70	5.30 - 7.30	4.30 - 7.30	6.00 - 7.70
67		16.40	5.00 - 8.00	6.70 - 8.40	6.00 - 8.00	5.00 - 8.00	6.70 - 8.40
12		17.10	5.70 - 8.70	7.40 - 9.10	6.70 - 8.70	5.70 - 8.70	7.40 - 9.10
19*		4.30	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN
47	8.00	12.20	2.95 - 3.80	2.95 - 4.20	2.95 - 3.80	2.95 - 3.80	2.95 - 4.20
34		12.95	2.95 - 4.55	3.25 - 4.95	2.95 - 4.55	2.95 - 4.55	3.25 - 4.95
20		13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
39		14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45
52		15.20	3.80 - 6.80	5.50 - 7.20	4.80 - 6.80	3.80 - 6.80	5.50 - 7.20
43		15.70	4.30 - 7.30	6.00 - 7.70	5.30 - 7.30	4.30 - 7.30	6.00 - 7.70
68		16.40	5.00 - 8.00	6.70 - 8.40	6.00 - 8.00	5.00 - 8.00	6.70 - 8.40
21		17.10	5.70 - 8.70	7.40 - 9.10	6.70 - 8.70	5.70 - 8.70	7.40 - 9.10



STUB MOUNT



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mat'l code				tolerances unless otherwise specified			CUSTOMER	COPY	projection	title	product family	code
ltr	ecn no.	dr	date	linear	0. X ± 0.1	angles	0. XX ± 0.05	.XXX ± .020	0° ± 2°	MM	dwg no	
AC						dr	K. BELL	2000-03-29				
						engr	M. HAHN	2000-03-29				
						chr	M. HAHN	2000-03-29				
						appd	M. HAHN	2000-03-29				
						scale						
						sheet						
						revision						
						sheet						
						index						

PDM: Rev:AC

STATUS: Released

Printed: Dec 16, 2008



SPECIAL LOAD PATTERNS		
PRODUCT #	ROW	PIN CODES
74977-XYY001 SEE NOTE 15 LEAD FREE OPTION	01	E
		D
		C
		B
		A
		GND
74977-XYY002 *RPU SEE NOTE 15 LEAD FREE OPTION	22	E
		D
		C
		B
		A
		GND
74977-XYY003 *RPU SEE NOTE 15 LEAD FREE OPTION	30	E
		D
		C
		B
		A
		GND
74977-XYY011 SEE NOTE 15 LEAD FREE OPTION	02	E
		D
		C
		B
		A
		GND
74977-XYY012 *RPU SEE NOTE 15 LEAD FREE OPTION	44	E
		D
		C
		B
		A
		GND

\* REAR PLUG-UP PART NUMBER

SPECIAL LOAD PATTERNS		
PRODUCT #	ROW	PIN CODES
74977-XYY013 *RPU SEE NOTE 15 LEAD FREE OPTION	06	E
		D
		C
		B
		A
		GND
74977-XYY021 SEE NOTE 15 LEAD FREE OPTION	03	E
		D
		C
		B
		A
		GND
74977-XYY050 SEE NOTE 15 LEAD FREE OPTION	02	E
		D
		C
		B
		A
		GND
74977-XYY051 *RPU SEE NOTE 15 LEAD FREE OPTION	25	E
		D
		C
		B
		A
		GND

PCB THICKNESS RANGE  
FOR REAR PLUG UP  
APPLICATIONS 2.95 TO 3.80mm

mat'l code	SEE NOTE 5			tolerances unless otherwise specified			CUSTOMER COPY	FCI	www.fciconnect.com
ltr	ecn no.	dr	date	linear	0. X ± 0.1	projection			
AC					0. XX ± 0.05				
					.XXX ± .020				
				angles	0° ± 2°				
						MM			
				dr	K. BELL	2000-03-29			product family METRAL 2000
				engr	M. HAHN	2000-03-29			code 213
				chr	M. HAHN	2000-03-29			size dwg no
				oppd	M. HAHN	2000-03-29			74977
							scale		sheet 6
							1 : 1		
sheet	revision								
index	sheet								



SPECIAL LOAD PATTERNS		
PRODUCT #	ROW	PIN CODES
74977-XYY052 SEE NOTE 15 LEAD FREE OPTION	E	01
	D	
	C	03
	B	
	A	01
	GND	
74977-XYY053 SEE NOTE 15 LEAD FREE OPTION	E	
	D	
	C	02
	B	
	A	
	GND	-
74977-XYY054 *RPU SEE NOTE 15 LEAD FREE OPTION	E	
	D	
	C	25
	B	
	A	
	GND	-
74977-XYY055 *RPU SEE NOTE 15 LEAD FREE OPTION	E	
	D	
	C	06
	B	
	A	
	GND	02

\*REAR PLUG-UP PART NUMBER  
WITH PIN ALIGNER

\*\*\*REAR PLUG-UP PART NUMBER  
WITHOUT PIN ALIGNER

SPECIAL LOAD PATTERNS		
PRODUCT #	ROW	PIN CODES
74977-XYY056 *RPU SEE NOTE 15 LEAD FREE OPTION	E	22
	D	
	C	45
	B	
	A	22
	GND	
74977-XYY057 SEE NOTE 15 LEAD FREE OPTION	E	
	D	
	C	02
	B	
	A	01
	GND	02
74977-XYY058 ***RPU SEE NOTE 15 LEAD FREE OPTION	E	22
	D	
	C	45
	B	
	A	22
	GND	
74977-XYY059 SEE NOTE 15 LEAD FREE OPTION	E	03
	D	
	C	19
	B	
	A	03
	GND	02

PCB THICKNESS  
RANGE FOR REAR  
PLUG UP  
APPLICATIONS  
2.95 TO 3.80mm

mat'l code	SEE SHEET 5				tolerances unless otherwise specified		CUSTOMER COPY	projection	title
ltr	ecn no.	dr	date		0. X ± 0.1				
AC				linear	0. XX ± 0.05				
					.XXX ± .020				
				angles	0° ± 2°				
				dr	K. BELL	2000-03-29	MM	scale	product family
				engr	M. HAHN	2000-03-29			METRAL 2000
				chr	M. HAHN	2000-03-29			code
				appd	M. HAHN	2000-03-29			213
	sheet	revision							dwg no
	index	sheet							A 74977
									sheet
									7