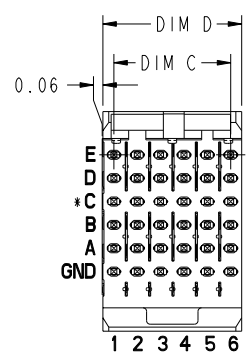
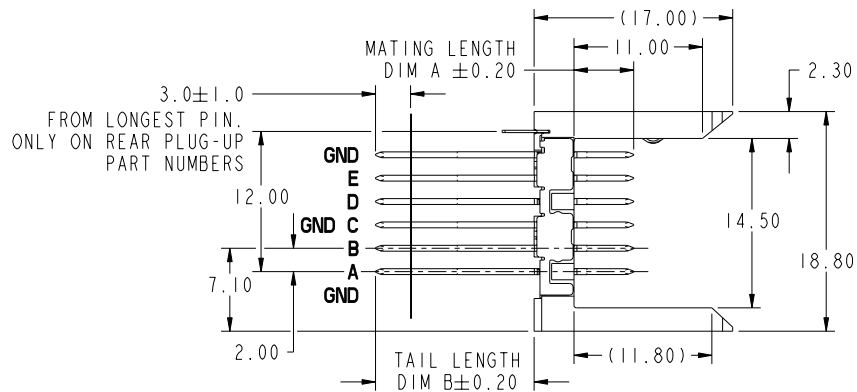
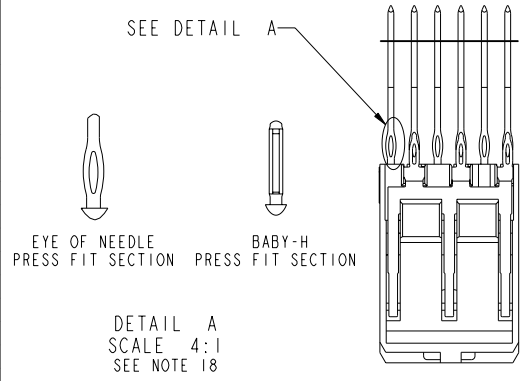




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PRODUCT NUMBER	PLATING PERFORMANCE LEVEL	DIM C	DIM D	PRESS FIT TAIL PLATING	SHROUD P/N FOR REAR PLUG UP APPLICATIONS
84809-101ZZZ	TELCORDIA CO	10.00	11.88	STANDARD	84811-101
84809-101ZZZLF				LEAD-FREE	84811-101LF
84809-102ZZZ		22.00	23.88	STANDARD	84811-102
84809-102ZZZLF				LEAD-FREE	84811-102LF
84809-103ZZZ		34.00	35.88	STANDARD	84811-103
84809-103ZZZLF				LEAD-FREE	84811-103LF
84809-104ZZZ	46.00	47.88	STANDARD	84811-104	
84809-104ZZZLF			LEAD-FREE	84811-104LF	
84809-501ZZZ	TELCORDIA UE	10.00	11.88	STANDARD	84811-501
84809-501ZZZLF				LEAD-FREE	84811-501LF
84809-502ZZZ		22.00	23.88	STANDARD	84811-502
84809-502ZZZLF				LEAD-FREE	84811-502LF
84809-503ZZZ		34.00	35.88	STANDARD	84811-503
84809-503ZZZLF				LEAD-FREE	84811-503LF
84809-504ZZZ	46.00	47.88	STANDARD	84811-504	
84809-504ZZZLF			LEAD-FREE	84811-504LF	



**\*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 15

mat'l code SEE NOTE 5				tolerances unless otherwise specified		CUSTOMER		FCI www.fciconnect.com	
ltr	ecm no.	dr	date	linear	0.X ± 0.3	COPY		title	
P	V06-0569	DCH	2006-06-12		0.XX ± 0.13	projection		VERTICAL SIGNAL HDR. 5 ROW	
R	V07-0501	DCH	2007-07-31		.XXX ± .051	MM		P.F. SPECIAL LOAD EXT.	
S	V08-0057	HTB	2008-02-04	angles	0° ± 2°	MM		product family METRAL 2000	
T	V08-0065	LP	2008-03-19	dr	E. KROPER. 2001-06-20	scale		size	
-	-	-	-	engr	J. VOLSTORF 2001-06-20	1:1		dwg no	
M	V03-1156	TAB	2003-11-03	chr	J. VOLSTORF 2001-06-20	A		84809	
N	V05-0814	VS	2005-09-21	oppd	J. VOLSTORF 2001-06-20			code	
sheet index	revision sheet	T	T	T	T	T	T	213	
		1	2	3	4	5	6	sheet 1 of 6	

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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, AND E	GROUND ROW	ROWS: A, B, D, AND 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
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
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



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\* STUB PINS - NO REAR PLUG-UP  
 \*\* THE GREATEST RANGE OCCURS WHEN THE B DIMENSION OF PIN 'GND' IS ONE SIZE SHORTER THEN THE OTHER PINS.

mat'l code: SEE NOTE 5		tolerances unless otherwise specified		CUSTOMER		FCI		www.fciconnect.com	
litr	ecm no.	dr	date	linear	0.X ± 0.3	projection	title: VERTICAL SIGNAL HDR. 5 ROW P.F. SPECIAL LOAD EXT.		
				angles	.xxx ± .051				
					0° ± 2"				
				dr	E. KROPER. 2001-06-20	scale	product family: METRAL 2000 code: 213		
				enr	J. VOLSTORF 2001-06-20	size	dwg no: 84809 sheet: 2		
				chr	J. VOLSTORF 2001-06-20	A			
				oppd	J. VOLSTORF 2001-06-20	1:1			
sheet index	revision sheet						cage code: 22526		

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REV E - 2004-04-18

Pro/E

PDM: Rev:T STATUS:Released Printed: Dec 17, 2009



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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, AND E	GROUND ROW	ROWS: A, B, D, AND 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 - 3.80	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*		8.00	4.30	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN
47	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 PINS - NO REAR PLUG-UP  
 \*\* THE GREATEST RANGE OCCURS WHEN THE B DIMENSION OF PIN 'GND' IS ONE SIZE SHORTER THEN THE OTHER PINS.

mat'l code: SEE NOTE 5				tolerances unless otherwise specified		CUSTOMER		FCJ www.fcjconnect.com	
lfr	ecm no.	dr	date	linear	0.X ± 0.3	projection	COPY		
T				angles	0.XX ± 0.13		title VERTICAL SIGNAL HDR. 5 ROW P.F. SPECIAL LOAD EXT.		
				dr	.XXX ± .051		product family METRAL 2000		code 213
				enr	0° ± 2°	scale	size A	dwg no 84809	sheet 3
				chr	E. KROPER. 2001-06-20	1:1			
				oppd	J. VOLSTORF 2001-06-20				
sheet index	revision sheet								

REV E - 2004-04-18

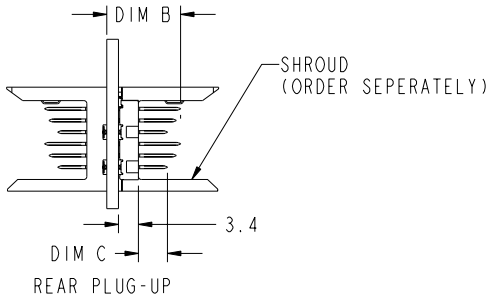
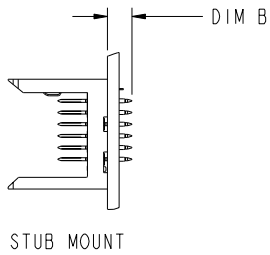
1 | 2 Pro/E 3 | cage code 22526 4

PDM: Rev:T STATUS:Released Printed: Dec 17, 2009



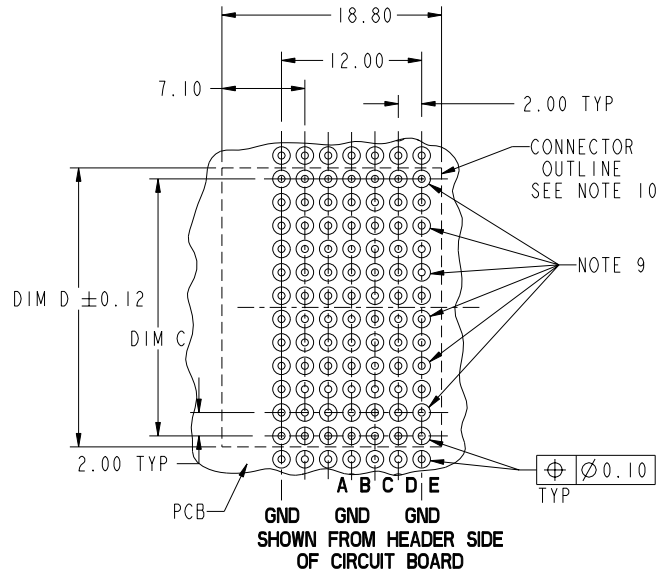
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PRODUCT NUMBER  
SEE SHEET 1



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

SEE PRINT 58351 FOR ADDITIONAL PCB INFORMATION.



mat'l code: SEE NOTE 5				tolerances unless otherwise specified		CUSTOMER		FCJ		www.fcjconnect.com	
ltr	ecm no.	dr	date	linear	0.X ±0.3	projection	COPY		title		
					0.XX ±0.13	MM	VERTICAL SIGNAL HDR. 5 ROW P.F. SPECIAL LOAD EXT.				
				angles	.XXX ±.051	scale	product family		METRAL 2000		code
				dr	0° ±2°	1:1	size		dwg no		213
				eng	E. KROPER. 2001-06-20		A		84809		sheet
				chr	J. VOLSTORF 2001-06-20						4
				appd	J. VOLSTORF 2001-06-20						
sheet index	revision sheet										

cage code 22526

Pro/E

PDM: Rev:T

STATUS: Released

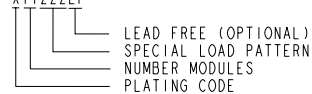
Printed: Dec 17, 2009

PRODUCT NUMBER  
SEE SHEET 1

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 Y14.5M, 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 SHOWN IN TABLE ON SHEET 1. PLATING ON "LF" TAILS IS Sn. PLATING ON ALL OTHER TAILS IS SnPb.

11. CURRENT RATING : 1 AMP PER PIN
12. TEMPERATURE RANGE : -55°C TO +105°C
13. P/N 84809-XYZZZLF



14. P/N 84809-XYZZZ SHOWN.
15. 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.
16. 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

17. FOR LEAD FREE PART NUMBERS ADD 'LF' SUFFIX. EXAMPLE: 84809-XYZZLF
18. PIN TYPE IS AT THE MANUFACTURE'S OPTION AND CAN EITHER BABY-H OR EYE OF THE NEEDLE STYLE.

7. DIMENSIONAL RESTRICTIONS OF PINS IN HEADERS.  
FOR MATING WITH METRAL 1000 RECEPTACLES  
DIM A : 5.00mm MIN, 8.00mm MAX FOR ROWS A-E  
DIM A : 5.00mm MIN, 5.75mm MAX FOR ROW GND NEXT TO ROW A  
DIM C : 5.00mm MIN, 8.00mm MAX FOR ROWS A-E  
DIM C : 4.60mm MIN, 6.30mm MAX FOR ROW GND NEXT TO ROW A  
FOR MATING WITH METRAL 4000 RECEPTACLES  
DIM A : 5.00mm MIN, 6.50mm MAX FOR ROWS A, B, D & E  
DIM A : 5.00mm MIN, 8.00mm MAX FOR ROW C  
DIM A : 5.00mm MIN, 5.75mm MAX FOR ROW GND NEXT TO ROW A  
DIM C : 5.00mm MIN, 7.00mm MAX FOR ROWS A, B, D 0.000  
DIM C : 5.00mm MIN, 8.00mm MAX FOR ROW C  
DIM C : 4.60mm MIN, 6.30mm MAX FOR ROW GND NEXT TO ROW A
8. THE MIN PCB THICKNESS FOR REAR PLUG-UP APPLICATIONS IS 2.9mm SINCE THE COMPLIANT 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.

mat'l code SEE NOTE 5				tolerances unless otherwise specified		CUSTOMER		FCI www.fciconnect.com	
ltr	ecn no.	dr	date	linear	0.X ±0.3	projection	COPY		
T					0.XX ±0.13		title VERTICAL SIGNAL HDR. 5 ROW P.F. SPECIAL LOAD EXT.		
				angles	.XXX ±.051		product family METRAL 2000 code 213		
				dr	0° ±2°	MM	size dwg no 84809 sheet 5		
				eng	E. KROPER. 2001-06-20	scale	A		
				ctr	J. VOLSTORF 2001-06-20	1:1			
				appd	J. VOLSTORF 2001-06-20				
sheet index	revision sheet								



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SPECIAL LOAD PATTERNS

PRODUCT #	ROW	PIN CODES
84809-XXX001 SEE NOTE 17 LEAD FREE OPTION	E	01
	D	
	C	
	B	
	A	
84809-XXX007 *RPU SEE NOTE 17 LEAD FREE OPTION	E	40
	D	
	C	
	B	
	A	
84809-XXX011 SEE NOTE 17 LEAD FREE OPTION	E	02
	D	
	C	
	B	
	A	
84809-XXX050 SEE NOTE 17 LEAD FREE OPTION	E	01
	D	02
	C	01
	B	
	A	
84809-XXX051 *RPU SEE NOTE 17 LEAD FREE OPTION	E	31
	D	
	C	
	B	
	A	
84809-XXX052 SEE NOTE 17 LEAD FREE OPTION	E	03
	D	
	C	
	B	
	A	
	GND	01
	GND	02

PCB THICKNESS  
RANGE FOR REAR  
PLUG UP  
APPLICATIONS:  
6.00mm - 7.30 mm

PCB THICKNESS  
RANGE FOR REAR  
PLUG UP  
APPLICATIONS:  
2.95mm - 4.20mm

mat'l code		SEE NOTE 5		tolerances unless otherwise specified		CUSTOMER		FCJ		www.fcjconnect.com	
litr	ecm no.	dr	date	linear	0.X ± 0.3	projection	COPY	title			
T					0.XX ± 0.13			VERTICAL SIGNAL HDR. 5 ROW			
				angles	.XXX ± .051			P.F. SPECIAL LOAD EXT.			
					0° ± 2°			product family	METRAL 2000	code	213
				dr	E. KROPER. 2001-06-20	MM		size	dwg no	84809	sheet
				eng	J. VOLSTORF 2001-06-20	scale		A			6
				chr	J. VOLSTORF 2001-06-20	1:1					
				oppd	J. VOLSTORF 2001-06-20						
sheet index	revision sheet										

\*REAR PLUG-UP PART NUMBER

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Pro/E

cage code 22526

PDM: Rev:T

STATUS: Released

Printed: Dec 17, 2009



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