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				PCB THICKNESS RANGE ACCOMMODATED BY PIN'S TAIL LENGTH										
	PIN NO.	DIM A MATING LENGTH	DIM B TAIL LENGTH	WHEN MATING 1 84688 SERIES			TING TO A 52057 RAL 4000 RECEPT.							
				ROWS A,B,C,D,E	GROUND ROW	ROWS:A,B,D, E	ROW C	GROUND ROW						
	0 *		4.30	I.60 MIN	I.60 MIN	I.60 MIN	I.60 MIN	1.60 MIN						
	54*		11.55	I.60 MIN	I.60 MIN	I.60 MIN	I.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	5 00	13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70						
	35	5.00	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*		4.30	I.60 MIN	I.60 MIN	I.60 MIN	I.60 MIN	1.60 MIN						
	55*		11.55	I.60 MIN	I.60 MIN	I.60 MIN	I.60 MIN	I.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	5.75	13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70						
А	36	3.73	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						
4	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						
Un	03*		4.30	I.60 MIN	I.60 MIN	I.60 MIN	I.60 MIN	1.60 MIN						
L	56*		11.55	I.60 MIN	I.60 MIN	I.60 MIN	I.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						
ë	07	6.50	13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70						
0f F	37	1 0.00	14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45						
dies ion (	50		15.20	3.80 - 6.80	5.50 - 7.20	4.80 - 6.80	3.80 - 6.80	5.50 - 7.20						
mboo mati s s lisclo	4		15.70	4.30 - 7.30	6.00 - 7.70	5.30 - 7.30	4.30 - 7.30	6.00 - 7.70						
informit of the control of the contr	24		16.40	5.00 - 8.00	6.70 - 8.40	6.00 - 8.00	5.00 - 8.00	6.70 - 8.40						
of ar ARY In or Nay Nsen	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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rope tion in c	*	STUB F	PINS -	NO REAR PLUC	G - UP			otherwise specified						
he particular properties of the particular pr		T		T B		Itr ecn no.	dr date linear	0.X ±0.3 0.XX ±0.10						
and inferior	* *			T RANGE OCCUP			linedi	0.XXX ±.050						
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ocum DENT + of ent r ers v		SIZE :	PHOKIF	R THAN THE OT	IHEK PINS.		dr	T. BRUNGARD 2004-08-12						
is d NNFII par cume othe pyrig							engr chr	J. VOLSTORF 2004-08-12 J. VOLSTORF 2004-08-12						
F08850								J. VOLSTORF 2004-08-12						

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mot'l code SEE NOTE 5 tolerances unless CUSTOMER otherwise specified ltr ecn no. dr date 0.X ±0.3 COPY www.fciconnect.com projection title VERTICAL SIGNAL HDR 5 ROW P.F. 30 POS. SELECT LOAD STD. 0.XX ±0.10 linear 0.XXX ±.050 0° ±2° product family METRAL 1000/4000 code BRUNGARD 2004-08-12 dr MM VOLSTORF 2004-08-12 engr size dwg no VOLSTORF 2004-08-12 scale sheet 0043968 appd J. VOLSTORF 2004-08-12 sheet revision

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						B THICKNESS RANG MODATED BY PIN L		
	PIN NO.	DIM A MATING LENGTH	DIM B TAIL LENGTH	WHEN MATING 1 84688 SERIES			TING TO A 52057 RAL 4000 RECEPTA	
				ROWS A,B,C,D,E	GROUND ROW	ROWS:A,B,D, E	ROW C	GROUND ROW
	04*		4.30	I.60 MIN	I.60 MIN	I.60 MIN	I.60 MIN	I.60 MIN
	57*		11.55	I.60 MIN	I.60 MIN	I.60 MIN	I.60 MIN	I.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	7.25	13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
	38	1.23	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	I.60 MIN	I.60 MIN	I.60 MIN	I.60 MIN	I.60 MIN
	58*		11.55	I.60 MIN	I.60 MIN	I.60 MIN	I.60 MIN	I.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	8.00	13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
	39	] 0.00	14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45
4	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

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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 THAN THE OTHER PINS.

mot'l	code						toloro	inces u	nloce						_								
mat 'I	SI	EE N	OTE	5				ise spe			CUSTOMER				F	Sj							
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G						linear					projec	tion		title,	title VERTICAL SIGNAL HDR 5 ROW								
								0.XXX ±.050						IP.F. 30 POS. SELECT LOAD STD									
						angles		0° ±2°						г.г	. 30	rus	). S	ELEC	I LU	AU SIU.			
						dr	T. BR	BRUNGARD 2004-08-12			I MM I			produ	ct fam	ily Mi	ETRAL	1000/	4000	code			
						engr	J. VO	LSTORF	2004-	08-12	<b>→</b> · · · · · · · · · · · · · · · · · · ·			size	dwg	no				213			
						chr	J. VO	LSTORF	2004-	08-12	scale			_ \		$\cap \cap$	13	96	8	sheet			
						appd	J. VO	LSTORF	2004-	08-12		<u>  :  </u>		$\mid A \mid$		0 0	40	J (	<u> </u>	3			
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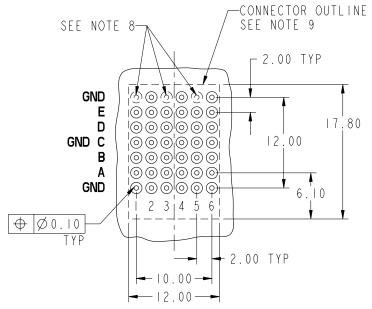
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PRODUCT NUMBER
SEE SHEET I

PRESS-FIT HOLES	TYPE I	TYPE 2
HOLE DIAMETER AFTER PLATING	0.65-0.80	0.45-0.55
DRILLED HOLE	0.81-0.86 (0.85 DRILL)	0.58-0.62 (0.60 DRILL)
COPPER PLATING	0.025 MIN	0.025 MIN-0.050 MAX
SnPb PLATING	0.005-0.015	0.005-0.015



## DIM B SHROUD (ORDER SEPARATELY) 3.42 REAR PLUG-UP DIM C

RECOMMENDED PCB HOLE PATTERN (COMPONENT SIDE)

mat 'I	EE N		tolerances unless otherwise specified						CUSTOMER			F	<u>Cj</u>								
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						dr	T. BRUNGARD 2004-08-12			MM		produ	ct fan	nily M	ETRAL	1000/	4000	code			
						engr	J. VC	LSTORF	2004	08-12	-	- IVIIVI		size	dwg					21	3
						chr	J. VOLSTORF 2004-08-12			scale		$ $		$\cap \cap$	43	96	8	shee	et		
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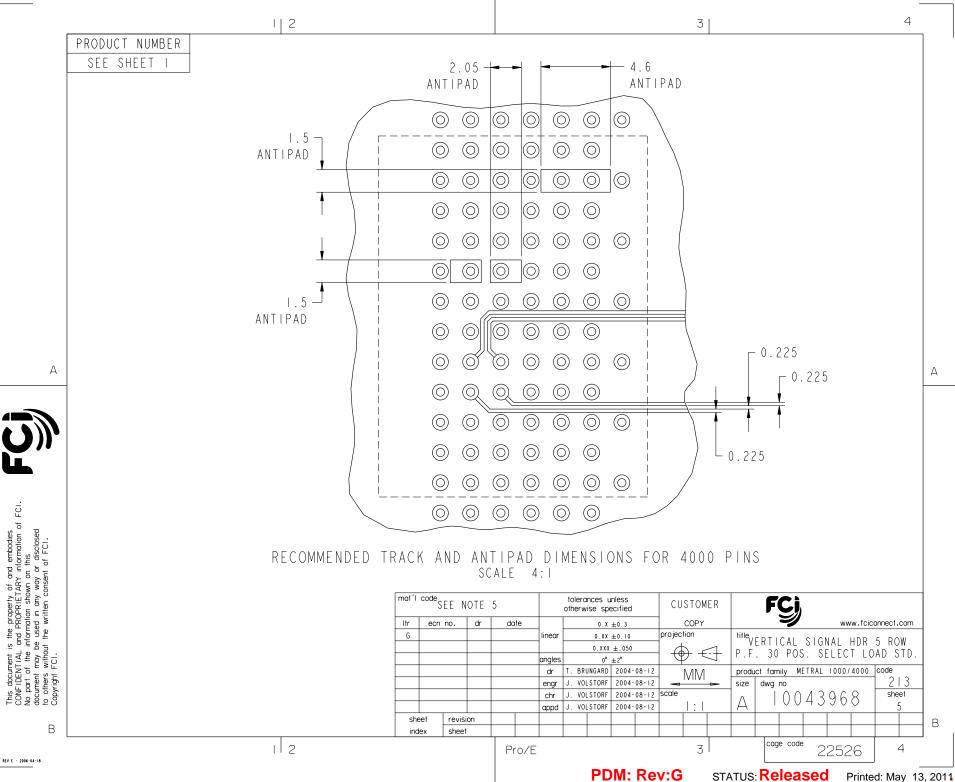
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PIN TYPE

METRAL 4000

METRAL 1000/2000

N/A

PIN CODE

02

55

GND

VIA HOLE TYPE REQUIRED

SEE SHEET 4

TYPE 2

TYPE I

TYPE 2

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PRODUCT NUMBER			SELE(	CT LOA	AD PA	FTERN					
PRODUCT NUMBER	ROW		2	3	4	5	6				
	GND	GND	GND	GND	GND	GND	GND				
10043968-X001	E	02	02	02	02	55	55				
* * *	D	02	02	02	02	55	55				
1. 1. 1.	С	02	02	02	02	55	55				
SEE NOTE 16	В	02	02	02	02	55	55				
LEAD FREE	А	02	02	02	02	55	55				
OPTION	GND	02	02	02	02	55	55				
	STRIPLINE SHIELD	YES	NO	YES	NO	NO	NO				
		CELECT LOAD DATTEDN									

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SELECT LOAD PATTERN PRODUCT NUMBER ROW 3 4 6 GND GND GND GND GND  $\mathsf{GND}$ GND 55 55 02 02 02 02 10043968-X002 D 55 55 02 02 02 02 \* \* \* 55 55 02 02 02 02 SEE NOTE 16 LEAD FREE 55 55 02 02 02 02 55 55 Α 02 02 02 02 OPTION GND 55 55 02 02 02 02 STRIPLINE SHIELD NO NO YES NO YES NO

PRODUCT NUMBER			SELEC	CT LO	AD PA	TTERN	
PRODUCT NUMBER	ROW		2	3	4	5	6
	GND	GND	GND	GND	GND	GND	GND
10043968-X003	E	55	02	02	02	02	55
* * *	D	55	02	02	02	02	55
	С	55	02	02	02	02	55
SEE NOTE 16	В	55	02	02	02	02	55
LEAD FREE	А	55	02	02	02	02	55
OPTION	GND	55	02	02	02	02	55
	STRIPLINE SHIELD	YES	NO	YES	NO	YES	NO

\*\*\* REAR PLUG-UP PART NUMBERS WITHOUT PIN ALIGNER.

	02	55																		
	02	55																		
	YES	NO																		
	mat 'l	code SEE	NOTE	5				nces u ise spe			CU	STOM	ΕR		F	<u>Cj</u>				
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						angles		0°	±2°		7	ナ て	7	۲.۲	. 30	PUS	). St	LLEC	I LU	AD STD.
ĺ						dr	T. BRUNGARD 2004-08-12			MM			produ	ct fam	nily MI	TRAL	1000/	4000	code	
						engr	J. V0I	08-12	-	1 1 11 1	-	size	dwg	no				213		
						chr	J. V0I	STORF	2004-	08-12	scale			_ \		$\cap \cap$	43	96	Я	sheet
						appd	J. V0I	STORF	2004-	08-12		1:1		A	'	00	4 0	J V		6
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## NOTES:

- I. SEE APPLICATION SPECIFICATIONS GS-20-010 AND GS-20-014 FOR INFORMATION ON AVAILABLE TOOLING. CIRCUIT BOARD DESIGN CONSIDERATIONS. REPAIR PROCEDURES AND PRODUCT OFFERINGS. SEE PRODUCT SPECIFICATION: GS-12-110 GS-12-184
- 2. SEE FCI PUBLICATION 95011-028 FOR "ELECTRICAL PERFORMANCE DATA FOR DIFFERENTIAL APPLICATIONS."
- 3. SEE FCI PUBLICATION 95011-029 FOR "ELECTRICAL PERFORMANCE DATA FOR SINGLE-ENDED APPLICATION."
- 4. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS AND TOLERANCES ARE IN ACCORDANCE WITH ASME YI4.5, 1994
- HOUSING MATERIAL: LIQUID CRYSTAL POLYMER. 30% GLASS FILLED. FLAME RETARDANT PER UL 94-VO.

PIN MATERIAL: PHOSPHER BRONZE GROUND SPRING MATERIAL: PHOSPHER BRONZE

6. DIMENSIONAL RESTRICTIONS OF PINS IN HEADERS.

FOR MATING WITH METRAL 1000 RECEPTACIFS 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 &E

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

7. 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.

- THESE HOLES ARE NEEDED FOR REAR PLUG-UP DESIGNS USING A SHROUD AND MAY BE OMITTED FOR FRONT PLUG-UP ONLY DESIGNS.
- 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.
- IO. CURRENT RATING: I AMP PER PIN
- II. TEMPERATURE RANGE: -55°C TO +105°C
- 12. P/N 10043968-XYYYLF -LEAD FREE (OPTIONAL) -SELECT LOAD PATTERN -PLATING CODE
- 13. WE CURRENTLY HAVE NO INSPECTION METHOD TO CHECK TP OF CONTACT PIN TIP ON BOTTOM SIDE OF HEADER.
- AFTER INSERTION INTO CIRCUIT BOARD WITH QUALIFIED TOOL.
- 15. PRODUCTS WHERE THE PART NUMBER ENDS IN LF MEET EUROPEAN 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.

- FOR LEAD FREE PART NUMBERS, ADD AN "LF" SUFFIX. EXAMPLE: 10043968-X001LF
- 17. EQUIVALENT PRECIOUS METAL PLATINGS MAY BE SUBSTITUTED.

mat 'I	code S E	E N	OTE :	5				nces u ise spe			CU	STOM	ER		F	Sj					
ltr	ecn r	no.	dr	da	te			0.X	±0.3			COPY				=		ww	w.fcic	onnect.	com
G						linear	0.XXX ±.050				project	\ _	1	title VERTICAL SIGNAL HDR 5 ROW P.F. 30 POS. SELECT LOAD STD.							
						angles		0°	±2°					17.1	. 30	P03	). St	LLEC	I LO	AD 5	Ιυ.
						dr	T. BRUNGARD 2004-08-12			MM		produ	ct fam	ily Mi	TRAL	1000/	4000	code			
						engr	J. V0I	STORF	2004-	08-12	- 101101			size	dwg					21	3
						chr	J. V0I	STORF	2004-08-12		scale			_ \		$\cap \cap$	43	96	8	she	et
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