

Series image - Reference only

EU RoHS

China RoHS

ELV and RoHS Compliant



Duration at Max. Process Temperature (seconds)

5

Lead-free Process Capability

SMC & Wave Capable (TH only)

Max. Cycles at Max. Process Temperature

1

Process Temperature max. C

260

Search Parts in this Series

[70280 Series](#)

Part Number: 0010897142

Status: Active

Description: 2.54mm (.100") Pitch C-Grid Breakaway Header, Dual Row, Vertical, High Temperature, 14 Circuits, 0.38 μ m (15 μ) Gold (Au) Selective Plating, Tin (Sn) PC Tail Plating, 2.72mm (.107") PC Tail

Documents:

- [Drawing \(PDF\)](#)
- [Product Specification PS-70280 \(PDF\)](#)
- [3D Model](#)
- [Related Catalog Page \(PDF\)](#)

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o

Part Detail: [\(show all\)](#)

o **General**

o **Physical**

o **Electrical**

o **Material Info**

o **Reference - Drawing Numbers**

General

Product Family	PCB Headers
Series	<u>70280</u>
Application	Board-to-Board
Application	Wire-to-Board
Product Name	C-Grid®

Physical

Breakaway	Yes
Circuits (Loaded)	14
Circuits (maximum)	14
Color - Resin	Black
Durability (mating cycles) min	50 cycles
First Mate / Last Break	No
Flammability	94V-0
Guide to Mating Part	No
Keying to mating part	None
Lock to Mating Part	None
Material - Metal	Brass
Material - Plating Mating	Gold
Material - Plating Termination	Tin
Material - Resin	High Temperature Thermoplastic
Number of Rows	2
Orientation	Vertical
PC Tail Length (in)	0.110 In
PC Tail Length (mm)	2.79 mm
PCB Locator	No
PCB Retention	None
PCB Thickness Recommended (in)	0.062 In
PCB Thickness Recommended (mm)	1.60 mm
Packaging Type	Bag
Pitch - Mating Interface (in)	0.100 In
Pitch - Mating Interface (mm)	2.54 mm
Plating min: Mating (uin)	15.2
Plating min: Mating (um)	0.38

Plating min: Termination (uin)	80
Plating min: Termination (um)	2
Polarized to Mating Part	No
Polarized to PCB	No
Robotic Placement	None
Shrouded	No
Stackable	Yes
Temperature Range - Operating	-40°C to +105°C
Termination Interface: Style	Through Hole

Electrical

CSA	LR19980
Current - Maximum	3.000 Amp
UL	E29179
Voltage - Maximum	250V

Material Info

Old Part Number	70280-0047
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Reference - Drawing Numbers

Product Specification	PS-70280
Sales Drawing	SDA-70280-0001-4000

CKT. SIZE	DIM. A REF.		DIM. B REF.	
	(MM)	INCH	(MM)	INCH
4	(5.08)	.200	(2.54)	.100
6	(7.62)	.300	(5.08)	.200
8	(10.16)	.400	(7.62)	.300
10	(12.70)	.500	(10.16)	.400
12	(15.24)	.600	(12.70)	.500
14	(17.78)	.700	(15.24)	.600
16	(20.32)	.800	(17.78)	.700
18	(22.86)	.900	(20.32)	.800
20	(25.40)	1.000	(22.86)	.900
22	(27.94)	1.100	(25.40)	1.000
24	(30.48)	1.200	(27.94)	1.100
26	(33.02)	1.300	(30.48)	1.200
28	(35.56)	1.400	(33.02)	1.300
30	(38.10)	1.500	(35.56)	1.400
32	(40.64)	1.600	(38.10)	1.500
34	(43.18)	1.700	(40.64)	1.600
36	(45.72)	1.800	(43.18)	1.700
38	(48.26)	1.900	(45.72)	1.800
40	(50.80)	2.000	(48.26)	1.900
42	(53.34)	2.100	(50.80)	2.000
44	(55.88)	2.200	(53.34)	2.100
46	(58.42)	2.300	(55.88)	2.200
48	(60.96)	2.400	(58.42)	2.300
50	(63.50)	2.500	(60.96)	2.400
52	(66.04)	2.600	(63.50)	2.500
54	(68.58)	2.700	(66.04)	2.600
56	(71.12)	2.800	(68.58)	2.700
58	(73.66)	2.900	(71.12)	2.800
60	(76.20)	3.000	(73.66)	2.900
62	(78.74)	3.100	(76.20)	3.000
64	(81.28)	3.200	(78.74)	3.100
66	(83.82)	3.300	(81.28)	3.200
68	(86.36)	3.400	(83.82)	3.300
70	(88.90)	3.500	(86.36)	3.400
72	(91.44)	3.600	(88.90)	3.500
74	(93.98)	3.700	(91.44)	3.600
76	(96.52)	3.800	(93.98)	3.700
78	(99.06)	3.900	(96.52)	3.800
80	(101.06)	4.000	(99.06)	3.900
82	(104.14)	4.100	(101.06)	4.000
84	(106.68)	4.200	(104.14)	4.100
86	(109.22)	4.300	(106.68)	4.200
88	(111.76)	4.400	(109.22)	4.300
90	(114.30)	4.500	(111.76)	4.400
92	(116.84)	4.600	(114.30)	4.500
94	(119.38)	4.700	(116.84)	4.600
96	(121.92)	4.800	(119.38)	4.700
98	(124.46)	4.900	(121.92)	4.800
100	(127.00)	5.000	(124.46)	4.900

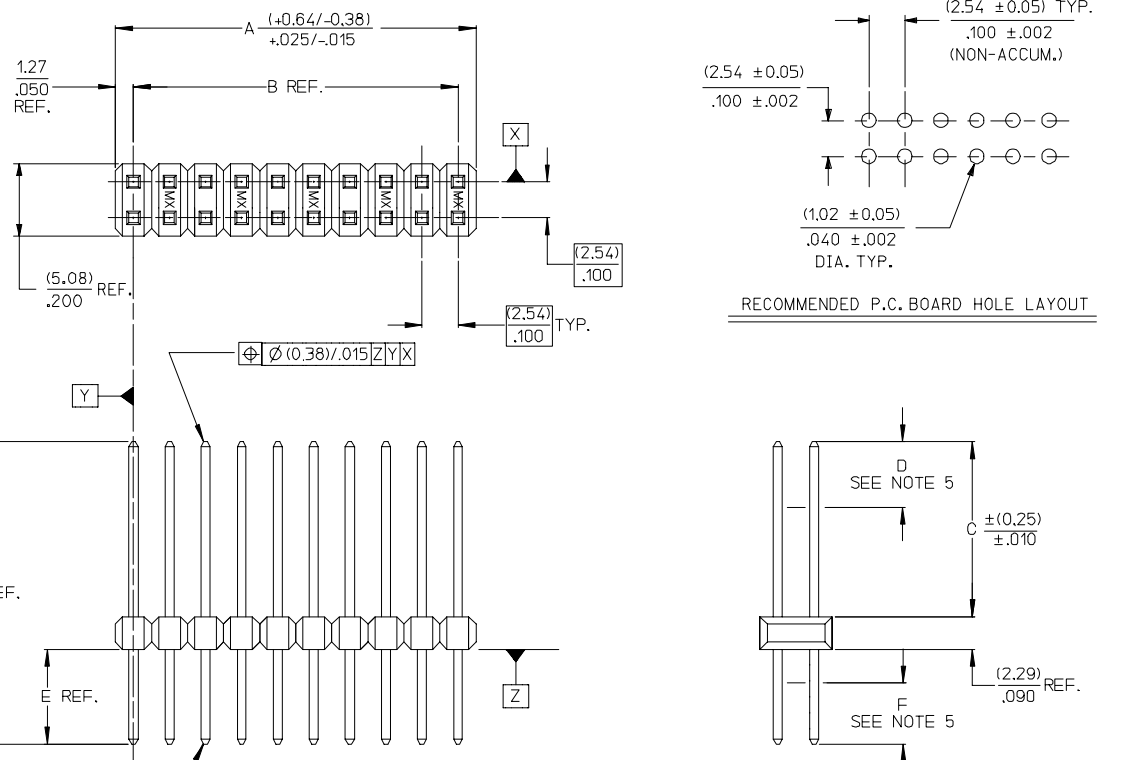
NOTES:

- MATERIAL:
PIN: COPPER ALLOY
WAFER: GLASS FILLED LCP (LIQUID CRYSTAL POLYMER, UL 94V-0, COLOR: BLACK.
- FINISH:
TIN = (0.00380)/.000150 MINIMUM TIN PLATE OVER (0.00127)/.000050 MINIMUM NICKEL PLATE.
15 GOLD = (0.00038)/.000015 MINIMUM GOLD PLATE IN SELECT AREA, (0.00190)/.000075 MINIMUM TIN PLATE IN SELECT AREA.
30 GOLD = (0.00076)/.000030 MINIMUM GOLD PLATE IN SELECT AREA, (0.00190)/.000075 MINIMUM TIN PLATE IN SELECT AREA.
GT15 = (0.00038)/.000015 MINIMUM GOLD PLATE IN SELECT AREA, (0.00254)/.000100 MINIMUM TIN PLATE IN SELECT AREA, OVER (0.00127)/.000050 MINIMUM NICKEL PLATE OVERALL.

- PRODUCT SPECIFICATION: NONE
- PACKAGING INFORMATION: (UNLESS OTHERWISE NOTED IN TABLES) BULK PACK PER PK-70873-0353.
- MEASURE POINT FOR PLATING THICKNESS.
- FOR ASSEMBLIES WITH VOIDED PINS, REFER TO DRAWING NO. SDA-70280-5001-9999.
- PIN PUSHOUT FORCE: 3 POUNDS MINIMUM IN EITHER DIRECTION.
- FOR ILLUSTRATION PURPOSES, 20 (DUAL 10) CIRCUIT SIZE IS SHOWN.
- PINS MEET SOLDERABILITY SPEC SMES-152. ABSENCE OF PLATING PERMISSIBLE AT BANDOLIER PIN FAYING SURFACE. (APPROXIMATELY (0.64)/.025 INCH LONG BY (0.15)/.006 INCH WIDE AT 2 LOCATIONS)
- PARTS CONFORM TO CLASS B OF COSMETIC SPECIFICATION PS-45499-002

* THE PRIMARY SHIPPING CARTON WILL BE LABELED "COMPLIANT TO RoHS DIRECTIVE 2002/95/EC AND ELV ANNEX II OF DIRECTIVE 2000/53/EC". CARTONS WITHOUT THIS LABEL MAY CONTAIN PRODUCT WITH LEAD PLATING.

ADD P/N 70280-1218 EC NO: UCP2008-0305 DRAWN: ADRR 2007/08/13 CHKD: IBELL 2007/08/14 APPR: FSM TH 2007/08/15 G5	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION		
		mm	INCH	MM/IN		4:1	INCH			
		4 PLACES ±.005	±.005	DRAWN BY	DATE	TITLE				
		3 PLACES ±.005	±.005	SMR	04/19/1993	SALES ASSY-HIGH TEMP. DUAL ROW WAFER W/BREAK-OFF OPT. .025 SQ PINS				
2 PLACES ±0.13	±.01	CHECKED BY		DATE	APPROVED BY					
1 PLACE ±0.25	±.01	APPROVED BY		DATE	DATE					
ANGULAR ±1/2°		MATERIAL NO.		DOCUMENT NO.		MOLEX INCORPORATED				
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE		SDA-70280-0001-4000		SHEET NO. 1 OF 8				
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION										

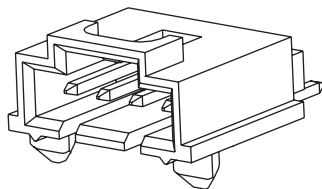


13		12		11		10		9		8		7		6		5		4		3		2		1	
J	ENGINEERING NUMBER A-70280-	RELEASE FOR MANUFACTURE	E REF.		J REF.		C ±(0.25) .010		CONNECTOR END PLATING		P.C. BOARD END PLATING		FOR PACKAGING INFORMATION, SEE NOTE 4, SHEET 1 (UNLESS OTHERWISE SPECIFIED BELOW)												
			TYPE	D MEAS.	TYPE	F MEAS.																			
	-0001/-0040	R.F.M.	(2.72) .107	(11.10) .437	(6.10) .240				TIN	(2.54) .100	TIN	(1.27) .050													
	-0041/-0080	R.F.M.	(2.72) .107	(11.10) .437	(6.10) .240				15 GOLD	(2.54) .100	TIN	(1.27) .050													
I	-0081/-0120	R.F.M.	(2.72) .107	(11.10) .437	(6.10) .240				30 GOLD	(2.54) .100	TIN	(1.27) .050													
	-0121/-0160	R.F.M.	(2.79) .110	(13.21) .520	(8.13) .320				TIN	(4.57) .180	TIN	(1.27) .050													
	-0161/-0200	R.F.M.	(2.79) .110	(13.21) .520	(8.13) .320				15 GOLD	(4.57) .180	TIN	(1.27) .050													
	-0201/-0240	R.F.M.	(2.79) .110	(13.21) .520	(8.13) .320				30 GOLD	(4.57) .180	TIN	(1.27) .050													
H	-0241/-0280	R.F.M.	(3.94) .155	(12.32) .485	(6.10) .240				30 GOLD	(2.54) .100	TIN	(1.27) .050													

CKTS	EDP NUMBER	ENG NUMBER	EDP NUMBER	ENG NUMBER	EDP NUMBER	ENG NUMBER	EDP NUMBER	ENG NUMBER	EDP NUMBER	ENG NUMBER	EDP NUMBER	ENG NUMBER	EDP NUMBER	ENG NUMBER	EDP NUMBER	ENG NUMBER	EDP NUMBER	ENG NUMBER	EDP NUMBER	ENG NUMBER	EDP NUMBER	ENG NUMBER	EDP NUMBER	ENG NUMBER	CKTS
	N.A.	AX-70280-0001	N.A.	AX-70280-0041	N.A.	AX-70280-0081	N.A.	AX-70280-0121	N/A	AX-70280-0161	N/A	AX-70280-0201	N/A	AX-70280-0241											
04	010-89-7041	A-70280-0002	010-89-7042	A-70280-0042	010-89-7043	A-70280-0082	010-97-7045	A-70280-0122	010-97-7046	A-70280-0162	010-89-7043	A-70280-0202	010-87-9045	A-70280-0242	04										04
06	010-89-7061	A-70280-0003	010-89-7062	A-70280-0043	010-89-7063	A-70280-0083	010-97-7065	A-70280-0123	010-97-7066	A-70280-0163	010-89-7063	A-70280-0203	010-87-9065	A-70280-0243	06										06
08	010-89-7081	A-70280-0004	010-89-7082	A-70280-0044	010-89-7083	A-70280-0084	010-97-7085	A-70280-0124	010-97-7086	A-70280-0164	010-89-7083	A-70280-0204	010-87-9085	A-70280-0244	08										08
10	010-89-7101	A-70280-0005	010-89-7102	A-70280-0045	010-89-7103	A-70280-0085	010-97-7105	A-70280-0125	010-97-7106	A-70280-0165	010-89-7103	A-70280-0205	010-87-9105	A-70280-0245	10										10
12	010-89-7121	A-70280-0006	010-89-7122	A-70280-0046	010-89-7123	A-70280-0086	010-97-7125	A-70280-0126	010-97-7126	A-70280-0166	010-89-7123	A-70280-0206	010-87-9125	A-70280-0246	12										12
14	010-89-7141	A-70280-0007	010-89-7142	A-70280-0047	010-89-7143	A-70280-0087	010-97-7145	A-70280-0127	010-97-7146	A-70280-0167	010-89-7143	A-70280-0207	010-87-9145	A-70280-0247	14										14
16	010-89-7161	A-70280-0008	010-89-7162	A-70280-0048	010-89-7163	A-70280-0088	010-97-7165	A-70280-0128	010-97-7166	A-70280-0168	010-89-7163	A-70280-0208	010-87-9165	A-70280-0248	16										16
18	010-89-7181	A-70280-0009	010-89-7182	A-70280-0049	010-89-7183	A-70280-0089	010-97-7185	A-70280-0129	010-97-7186	A-70280-0169	010-89-7183	A-70280-0209	010-87-9185	A-70280-0249	18										18
20	010-89-7201	A-70280-0010	010-89-7202	A-70280-0050	010-89-7203	A-70280-0090	010-97-7205	A-70280-0130	010-97-7206	A-70280-0170	010-89-7203	A-70280-0210	010-87-9205	A-70280-0250	20										20
22	010-89-7221	A-70280-0011	010-89-7222	A-70280-0051	010-89-7223	A-70280-0091	010-97-7225	A-70280-0131	010-97-7226	A-70280-0171	010-89-7223	A-70280-0211	010-87-9225	A-70280-0251	22										22
24	010-89-7241	A-70280-0012	010-89-7242	A-70280-0052	010-89-7243	A-70280-0092	010-97-7245	A-70280-0132	010-97-7246	A-70280-0172	010-89-7243	A-70280-0212	010-87-9245	A-70280-0252	24										24
26	010-89-7261	A-70280-0013	010-89-7262	A-70280-0053	010-89-7263	A-70280-0093	010-97-7265	A-70280-0133	010-97-7266	A-70280-0173	010-89-7263	A-70280-0213	010-87-9265	A-70280-0253	26										26
28	010-89-7281	A-70280-0014	010-89-7282	A-70280-0054	010-89-7283	A-70280-0094	010-97-7285	A-70280-0134	010-97-7286	A-70280-0174	010-89-7283	A-70280-0214	010-87-9285	A-70280-0254	28										28
30	010-89-7301	A-70280-0015	010-89-7302	A-70280-0055	010-89-7303	A-70280-0095	010-97-7305	A-70280-0135	010-97-7306	A-70280-0175	010-89-7303	A-70280-0215	010-87-9305	A-70280-0255	30										30
32	010-89-7321	A-70280-0016	010-89-7322	A-70280-0056	010-89-7323	A-70280-0096	010-97-7325	A-70280-0136	010-97-7326	A-70280-0176	010-89-7323	A-70280-0216	010-87-9325	A-70280-0256	32										32
34	010-89-7341	A-70280-0017	010-89-7342	A-70280-0057	010-89-7343	A-70280-0097	010-97-7345	A-70280-0137	010-97-7346	A-70280-0177	010-89-7343	A-70280-0217	010-87-9345	A-70280-0257	34										34
36	010-89-7361	A-70280-0018	010-89-7362	A-70280-0058	010-89-7363	A-70280-0098	010-97-7365	A-70280-0138	010-97-7366	A-70280-0178	010-89-7363	A-70280-0218	010-87-9365	A-70280-0258	36										36
38	010-89-7381	A-70280-0019	010-89-7382	A-70280-0059	010-89-7383	A-70280-0099	010-97-7385	A-70280-0139	010-97-7386	A-70280-0179	010-89-7383	A-70280-0219	010-87-9385	A-70280-0259	38										38
40	010-89-7401	A-70280-0020	010-89-7402	A-70280-0060	010-89-7403	A-70280-0100	010-97-7405	A-70280-0140	010-97-7406	A-70280-0180	010-89-7403	A-70280-0220	010-87-9405	A-70280-0260	40										40
42	010-89-7421	A-70280-0021	010-89-7422	A-70280-0061	010-89-7423	A-70280-0101	010-97-7425	A-70280-0141	010-97-7426	A-70280-0181	010-89-7423	A-70280-0221	010-87-9425	A-70280-0261	42										42
44	010-89-7441	A-70280-0022	010-89-7442	A-70280-0062	010-89-7443	A-70280-0102	010-97-7445	A-70280-0142	010-97-7446	A-70280-0182	010-89-7443	A-70280-0222	010-87-9445	A-70280-0262	44										44
46	010-89-7461	A-70280-0023	010-89-7462	A-70280-0063	010-89-7463	A-70280-0103	010-97-7465	A-70280-0143	010-97-7466	A-70280-0183	010-89-7463	A-70280-0223	010-87-9465	A-70280-0263	46										46
48	010-89-7481	A-70280-0024	010-89-7482	A-70280-0064	010-89-7483	A-70280-0104	010-97-7485	A-70280-0144	010-97-7486	A-70280-0184	010-89-7483	A-70280-0224	010-87-9485	A-70280-0264	48										48
50	010-89-7501	A-70280-0025	010-89-7502	A-70280-0065	010-89-7503	A-70280-0105	010-97-7505	A-70280-0145	010-97-7506	A-70280-0185	010-89-7503	A-70280-0225	010-87-9505	A-70280-0265	50										50
52	010-89-7521	A-70280-0026	010-89-7522	A-70280-0066	010-89-7523	A-70280-0106	010-97-7525	A-70280-0146	010-97-7526	A-70280-0186	010-89-7523	A-70280-0226	010-87-9525	A-70280-0266	52										52
54	010-89-7541	A-70280-0027	010-89-7542	A-70280-0067	010-89-7543	A-70280-0107	010-97-7545	A-70280-0147	010-97-7546	A-70280-0187	010-89-7543	A-70280-0227	010-87-9545	A-70280-0267	54										54
56	010-89-7561	A-70280-0028	010-89-7562	A-70280-0068	010-89-7563	A-70280-0108	010-97-7565	A-70280-0148	010-97-7566	A-70280-0188	010-89-7563	A-70280-0228	010-87-9565	A-70280-0268	56										56
58	010-89-7581	A-70280-0029	010-89-7582	A-70280-0069	010-89-7583	A-70280-0109	010-97-7585	A-70280-0149	010-97-7586	A-70280-0189	010-89-7583	A-70280-0229	010-87-9585	A-70280-0269	58										58
60	010-89-7601	A-70280-0030	010-89-7602	A-70280-0070	010-89-7603	A-70280-0110	010-97-7605	A-70280-0150	010-97-7606	A-70280-0190	010-89-7603	A-70280-0230	010-87-9605	A-70280-0270	60										60
62	010-89-7621	A-70280-0031	010-89-7622	A-70280-0071	010-89-7623	A-70280-0111	010-97-7625	A-70280-0151	010-97-7626	A-70280-0191	010-89-7623	A-70280-0231	010-87-9625	A-70280-0271	62										62
64	010-89-7641	A-70280-0032	010-89-7642	A-70280-0072	010-89-7643	A-70280-0112	010-97-7645	A-70280-0152	010-97-7646	A-70280-0192	010-89-7643	A-70280-0232	010-87-9645	A-70280-0272	64										64
66	010-89-7661	A-70280-0033	010-89-7662	A-70280-0073	010-89-7663	A-70280-0113	010-97-7665	A-70280-0153	010-97-7666	A-70280-0193	010-89-7663	A-70280-0233	010-87-9665	A-70280-0273	66										66
68	010-89-7681	A-70280-0034	010-89-7682	A-70280-0074	010-89-7683	A-70280-0114	010-97-7685	A-70280-0154	010-97-7686	A-70280-0194	010-89-7683	A-70280-0234	010-87-9685	A-70280-0274	68										68
70	010-89-7701	A-70280-0035	010-89-77																						

2.54mm (.100") Pitch SL™ Wire-to-Board Shrouded Header

70634
Single Row, .120" Pocket
Right Angle, Low Profile
SMT with Tri Peg



Features and Benefits

- Sizes 2 to 25 circuits
- Press-fit peg maximizes retention to PCB during soldering process
- Locking crown secures positive latch to header
- Standoffs minimize flux interference

Reference Information

Product Specification: PS-70541
Packaging: Tube
UL File No.: E29179
CSA File No.: LR19980
Mates with: 70066G, 70066N, 70400G and 70430G
Designed in: Inches

Electrical

Voltage: 250V
Current: 3.0A
Contact Resistance: 15 milliohms max.
Dielectric Withstanding Voltage: 1500V
Insulation Resistance: 10,000 Megohms min.

Mechanical

Insertion force to PCB: 44.48N (10 lbs.)
Durability: Tin — 25 cycles; Gold — 50 cycles

Physical

Housing: Black polyester, UL 94V-0
Contact: Copper Alloy
Operating Temperature: -40 to +105°C

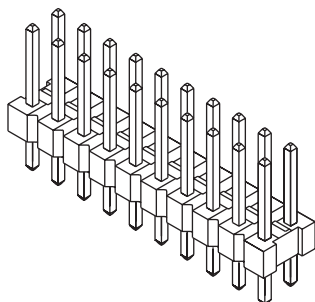
Circuits	Order No.			Lead-free
	Tin	15µm Gold	30µm Gold	
2	15-91-3024	15-91-2025	15-91-3023	Yes
3	15-91-3034	15-91-2035	15-91-3033	
4	15-91-3044	15-91-2045	15-91-3043	
5	15-91-3054	15-91-2055	15-91-3053	
6	15-91-3064	15-91-2065	15-91-3063	
7	15-91-3074	15-91-2075	15-91-3073	
8	15-91-3084	15-91-2085	15-91-3083	
9	15-91-3094	15-91-2095	15-91-3093	
10	15-91-3104	15-91-2105	15-91-3103	
11	15-91-3114	15-91-2115	15-91-3113	
12	15-91-3124	15-91-2125	15-91-3123	
13	15-91-3134	15-91-2135	15-91-3133	

Circuits	Order No.			Lead-free
	Tin	15µm Gold	30µm Gold	
14	15-91-3144	15-91-2145	15-91-3143	Yes
15	15-91-3154	15-91-2155	15-91-3153	
16	15-91-3164	15-91-2165	15-91-3163	
17	15-91-3174	15-91-2175	15-91-3173	
18	15-91-3184	15-91-2185	15-91-3183	
19	15-91-3194	15-91-2195	15-91-3193	
20	15-91-3204	15-91-2205	15-91-3203	
21	15-91-3214	15-91-2215	15-91-3213	
22	15-91-3224	15-91-2225	15-91-3223	
23	15-91-3234	15-91-2235	15-91-3233	
24	15-91-3244	15-91-2245	15-91-3243	
25	15-91-3254	15-91-2255	15-91-3253	

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2.54mm (.100") Pitch C-Grid® Breakaway Header

70280
Dual Row, Vertical
High-Temperature



Features and Benefits

- Sizes 4 to 100 circuits
- Stackable side-to-side and end-to-end (on unbroken edges)
- Easy breakaway to smaller sizes
- Drawn .025" square wire provides 4-sided smooth surface for quality interface

Reference Information

Product Specifications: PS-70280
Packaging: Bag
UL File No.: E29179
CSA File No.: LR19980
Mates With: 7859 Shunts, C-Grid Receptacles, SL Crimp, FFC and IDT Housings
Designed In: Inches

Electrical

Voltage: 250V
Current: 3.0A
Contact Resistance: 15 milliohms max.
Dielectric Withstanding Voltage: 1500V
Insulation Resistance: 1000 Megohms min.

Mechanical

Pin Retention to Header: 17.79N (4 lb)
Durability: Tin—25 cycles; Gold—50 cycles

Physical

Housing: Black high-temperature thermal plastic, UL 94V-0
Contact: Copper Alloy
Plating: See Table
Operating Temperature: -40 to +105°C

Not For Use With Molex C-Grid III™ Components

Plating Option	Order No.	Lead-free
150µm Tin	10-89-7XX1	Yes
15µm Gold	10-89-7XX2	
30µm Gold	10-89-7XX0	

Replace XX with no. of circuits, 04-80 (even only). See sales drawing for 82-100.