

# .156" (3.96 mm) Breakaway Header



## 3100-29 Series Right Angle

.045" square pins preinserted into molded friction lock insulators. Designed for use when interconnection must be locked together. May be purchased in specific circuit size or in full 24 circuit sticks.

**Housing Material:** Polyester 94V-0

**Pins:** Copper Alloy

### PART NUMBER CODING

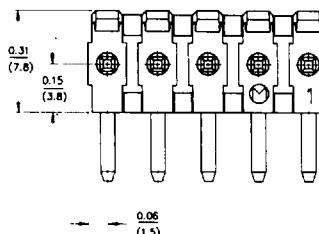
**310X-29-1XX-01**

NUMBER OF POSITIONS

PLATING CODE

0 = TIN

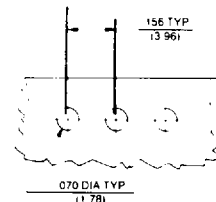
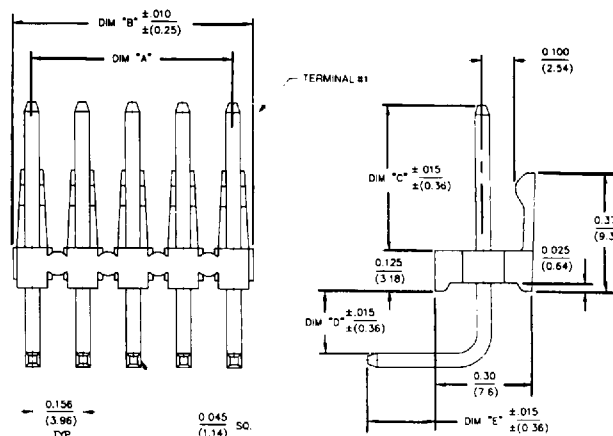
2 = .000015 GOLD



**Pin Chart**

PIN NUMBER	DIM C	DIM D	DIM E
01	.450 (11.43)	.191 (4.84)	.212 (5.38)

PART NUMBER	NO. OF POSITIONS	DIM A	DIM B
310X-29-102-01	2	.156 (3.96)	.276 (7.01)
310X-29-103-01	3	.312 (7.92)	.432 (10.97)
310X-29-104-01	4	.468 (11.89)	.588 (14.94)
310X-29-105-01	5	.624 (15.85)	.744 (18.90)
310X-29-106-01	6	.780 (19.81)	.900 (22.86)
310X-29-107-01	7	.936 (23.77)	1.056 (26.82)
310X-29-108-01	8	1.092 (27.74)	1.212 (30.78)
310X-29-109-01	9	1.248 (31.70)	1.368 (34.75)
310X-29-110-01	10	1.404 (35.66)	1.524 (38.71)
310X-29-111-01	11	1.560 (39.62)	1.680 (42.67)
310X-29-112-01	12	1.716 (43.59)	1.836 (46.63)
310X-29-113-01	13	1.872 (47.55)	1.992 (50.60)
310X-29-114-01	14	2.028 (51.51)	2.148 (54.56)
310X-29-115-01	15	2.184 (55.47)	2.304 (58.52)
310X-29-116-01	16	2.340 (59.44)	2.468 (62.69)
310X-29-117-01	17	2.496 (63.40)	2.616 (66.45)
310X-29-118-01	18	2.652 (67.36)	2.772 (70.41)
310X-29-119-01	19	2.808 (71.32)	2.928 (74.37)
310X-29-120-01	20	2.964 (75.29)	3.084 (78.33)
310X-29-121-01	21	3.120 (79.25)	3.240 (82.30)
310X-29-122-01	22	3.276 (83.21)	3.396 (86.26)
310X-29-123-01	23	3.432 (87.17)	3.552 (90.22)
310X-29-124-01	24	3.588 (91.14)	3.708 (94.18)



**RECOMMENDED P.C. BOARD LAYOUT**

D 03F ■ 6052557 0003778 031 ■

# Dimensional Reference Chart For Headers and Connectors

## .079" (2mm)

HEADERS				
NO. OF CIRCUITS	DIM. "A"		DIM. "B"	
	IN.	MM	IN.	MM
4	.079	2.00	.157	4.00
6	.158	4.00	.236	6.00
8	.236	6.00	.314	8.00
10	.315	8.00	.393	10.00
12	.394	10.00	.472	12.00
14	.472	12.00	.550	14.00
16	.551	14.00	.629	16.00
18	.630	16.00	.708	18.00
20	.709	18.00	.787	20.00
22	.787	20.00	.865	22.00
24	.866	22.00	.944	24.00
26	.945	24.00	1.023	26.00
28	1.024	26.00	1.102	28.00
30	1.102	28.00	1.180	30.00
32	1.181	30.00	1.259	32.00
34	1.260	32.00	1.338	34.00
36	1.330	34.00	1.417	36.00
38	1.417	36.00	1.495	38.00
40	1.496	38.00	1.574	40.00
42	1.575	40.00	1.653	42.00
44	1.654	42.00	1.732	44.00
46	1.732	44.00	1.810	46.00
48	1.811	46.00	1.889	48.00
50	1.890	48.00	1.968	50.00

## .079" (2mm)

CONNECTORS				
NO. OF CIRCUITS	DIM. "A"		DIM. "B"	
	IN.	MM	IN.	MM
4	.079	2.00	.157	4.00
6	.158	4.00	.236	6.00
8	.236	6.00	.314	8.00
10	.315	8.00	.393	10.00
12	.394	10.00	.472	12.00
14	.472	12.00	.550	14.00
16	.551	14.00	.629	16.00
18	.630	16.00	.708	18.00
20	.709	18.00	.787	20.00
22	.787	20.00	.865	22.00
24	.866	22.00	.944	24.00
26	.945	24.00	1.023	26.00
28	1.024	26.00	1.102	28.00
30	1.102	28.00	1.180	30.00
32	1.181	30.00	1.259	32.00
34	1.260	32.00	1.338	34.00
36	1.330	34.00	1.417	36.00
38	1.417	36.00	1.495	38.00
40	1.496	38.00	1.574	40.00
42	1.575	40.00	1.653	42.00
44	1.654	42.00	1.732	44.00
46	1.732	44.00	1.810	46.00
48	1.811	46.00	1.889	48.00
50	1.890	48.00	1.968	50.00

### Specifications

**Current Rating:** 1 amp

**Voltage Rating:** 200 VAC

**Contact Resistance:** 20 milliohms max.

**Operating Temperature:** -55° C to +125° C

**Insertion Force:** 10 iz. (287 grams) max.

**Withdrawal Force:** 2 oz. (57.1 grams) min.

**Contact Material:** Phosphor Bronze

**Contact Finish:** .0002 Tin plate or .000030 gold plate in contact area over nickel plate\*

\*Additional platings available

**Insulator Material:** Glass filled polyester UL 94V-0

**Pin Push-out Force:** 1.75 lbs.

(0.80 K grams) min. (headers only)

**Agency Approvals:**

UL Component Recognition File E-48567

**Note:** Dimensions and specifications are subject to change.

**DIM. "A" = DISTANCE BETWEEN END CONTACTS OF CONNECTOR OR HEADER TYPE**

**DIM. "B" = OVERALL LENGTH OF CONNECTOR OR HEADER HOUSING**



### .100" (2.54mm)

#### HEADERS

SINGLE ROW CIRCUITS	DUAL ROW CIRCUITS	DIM. "A"		DIM. "B"	
		IN.	MM	IN.	MM
1	2	—	—	0.090	2.29
2	4	0.100	2.54	0.190	4.83
3	6	0.200	5.08	0.290	7.37
4	8	0.300	7.62	0.390	9.91
5	10	0.400	10.16	0.490	12.45
6	12	0.500	12.70	0.590	14.99
7	14	0.600	15.24	0.690	17.53
8	16	0.700	17.78	0.790	20.07
9	18	0.800	20.32	0.890	22.61
10	20	0.900	22.86	0.990	25.15
11	22	1.000	25.40	1.090	27.69
12	24	1.100	27.94	1.190	30.23
13	26	1.200	30.48	1.290	32.77
14	28	1.300	33.02	1.390	35.31
15	30	1.400	35.56	1.490	37.85
16	32	1.500	38.10	1.590	40.39
17	34	1.600	40.64	1.690	42.93
18	36	1.700	43.18	1.790	45.47
19	38	1.800	45.72	1.890	48.01
20	40	1.900	48.26	1.990	50.55
21	42	2.000	50.80	2.090	53.09
22	44	2.100	53.34	2.190	55.63
23	46	2.200	55.88	2.290	58.17
24	48	2.300	58.42	2.390	60.71
25	50	2.400	60.96	2.490	63.25
26	52	2.500	63.50	2.590	65.79
27	54	2.600	66.04	2.690	68.33
28	56	2.700	68.58	2.790	70.87
29	58	2.800	71.12	2.890	73.41
30	60	2.900	73.66	2.990	75.95
31	62	3.000	76.20	3.090	78.49
32	64	3.100	78.74	3.190	81.03
33	66	3.200	81.28	3.290	83.57
34	68	3.300	83.82	3.390	86.11
35	70	3.400	86.36	3.490	88.65
36	72	3.500	88.90	3.590	91.19
37	74	3.600	91.44	3.690	93.73
38	76	3.700	93.98	3.790	96.27
39	78	3.800	96.52	3.890	98.81
40	80	3.900	99.06	3.990	101.35

### .100" (2.54mm)

#### CONNECTORS/RECEPTACLES

SINGLE ROW CIRCUITS	DUAL ROW CIRCUITS	DIM. "A"		DIM. "B"	
		IN.	MM	IN.	MM
1	2	—	—	0.100	2.54
2	4	0.100	2.54	0.200	5.08
3	6	0.200	5.08	0.300	7.62
4	8	0.300	7.62	0.400	10.16
5	10	0.400	10.16	0.500	12.70
6	12	0.500	12.70	0.600	15.24
7	14	0.600	15.24	0.700	17.78
8	16	0.700	17.78	0.800	20.32
9	18	0.800	20.32	0.900	22.86
10	20	0.900	22.86	1.000	25.40
11	22	1.000	25.40	1.100	27.94
12	24	1.100	27.94	1.200	30.48
13	26	1.200	30.48	1.300	33.02
14	28	1.300	33.02	1.400	35.56
15	30	1.400	35.56	1.500	38.10
16	32	1.500	38.10	1.600	40.64
17	34	1.600	40.64	1.700	43.18
18	36	1.700	43.18	1.800	45.72
19	38	1.800	45.72	1.900	48.26
20	40	1.900	48.26	2.000	50.80
21	42	2.000	50.80	2.100	53.34
22	44	2.100	53.34	2.200	55.88
23	46	2.200	55.88	2.300	58.42
24	48	2.300	58.42	2.400	60.96
25	50	2.400	60.96	2.500	63.50
26	52	2.500	63.50	2.600	66.04
27	54	2.600	66.04	2.700	68.58
28	56	2.700	68.58	2.800	71.12
29	58	2.800	71.12	2.900	73.66
30	60	2.900	73.66	3.000	76.20
31	62	3.000	76.20	3.100	78.74
32	64	3.100	78.74	3.200	81.28
33	66	3.200	81.28	3.300	83.82
34	68	3.300	83.82	3.400	86.36
35	70	3.400	86.36	3.500	88.90
36	72	3.500	88.90	3.600	91.44
37	74	3.600	91.44	3.700	93.98
38	76	3.700	93.98	3.800	96.52
39	78	3.800	96.52	3.900	99.06
40	80	3.900	99.06	4.000	101.60

#### Specifications

**Current Rating:** 3 amps

**Voltage Rating:** 250 VAC

**Contact Resistance:** 20 milliohms max.

**Operating Temperature:** -55° C to +125° C

**Insertion Force:** 10 oz. (287 grams) max.

**Withdrawal Force:** 2 oz. (57.1 grams) min.

**Contact Material:** Phosphor Bronze

**Contact Finish:** .0002 Tin plate or .000030 gold plate in contact area over nickel plate\*

\*Additional platings available

**Insulator Material:** High temperature glass filled thermoplastic UL 94V-0

**Pin Push-out Force:** 2 lbs. (0.91 K grams) min. (headers only)

#### Agency Approvals:

UL Component Recognition File E-48567

Canadian Standards Association File 52212

Note: Dimensions and specifications are subject to change.

**DIM. "A" = DISTANCE BETWEEN END CONTACTS OF CONNECTOR OR HEADER TYPE**

**DIM. "B" = OVERALL LENGTH OF CONNECTOR OR HEADER HOUSING**