Printed Circuit Board and Card Mounting Frame Applications. Contacts on .050(1.27) centers.

50-MIL STRIP microminiature connectors are designed for space and weight saving applications in a space conscious insdustry.The strip configuration provides an extremely dense and reliable interconnection device in a minimum profile package, giving great application flexibility.

These connectors are available in many combinations of length, contact spacing and terminations to give designers maximum latitude in their packaging and interconnection solutions. They have been used successfully on printed circuit boards and card mounting frames. Because of its configuration, the 50-MIL STRIP connector is particularly suited for mounting with high strength epoxy adhesive. In lengths over 2" (50.80) guides, rails or other systems should be used to assure alignment.

50-MIL STRIP connectors use either a flexible insulator of polyester that can be mounted on curved surfaces up to a radius of approximately eight inches, or a more rigid insulator of diallyl phthalate-giving the connector a higher temperature capability. Up to 120 micropin contacts can be held in a single strip on .050(1.27) centers. Guide pins and polarizing devices are available. Special termination with hookup wire is available to meet specific customer requirements. Crimping hookup wire to contacts before they are inserted is often desirable in high density contact arrangements. Color coded wires of any lenght in sizes #26 thru #30 AWG solid and #26 thru #30 AWG stranded can be harnessed by the factory.

How to Order

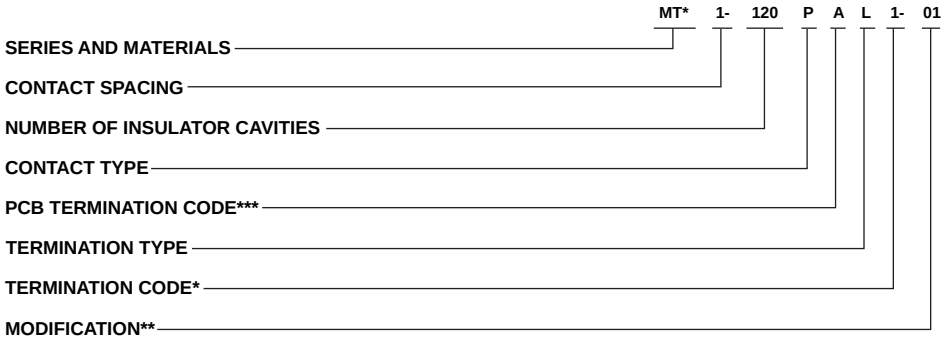
SERIES AND MATERIALS
MTB - Glass filled diallyl phthalate (149˚C)
MTV - Glass filled polyester (125˚C)

CONTACT SPACING
1 - .050 (1.27) centers, MTB1 and MTV1 only
2 - .100 (2.54) centers, MTB2 and MTV2 only

NUMBER OF INSULATOR CAVITIES
MTV1 - 120 Max.
MTV2 - 60 Max.
MTB1 - 81 Max.
MTB2 - 41 Max.

CONTACT TYPE
P - Pin
S - Socket

TERMINATION TYPE
L - Uninsulated solid pigtail
H - Insulated † *
S - Solder pots
AL - PCB pigtail termination ***
PCB termination code***



TERMINATION CODE*

(H) 001 -	18", 7/34 strand, #26 AWG, MIL-W-16878/4, Type E Teflon, yellow.
(H) 003 -	18", 7/34 strand, #26 AWG, MIL-W-16878/4, Type E Teflon, color coded to MIL-STD-681 System I.
(L) 1 -	1/2" uninsulated solid #25 AWG gold plated copper.
(L) 2 -	1" uninsulated solid #25 AWG gold plated copper.

MODIFICATION**

01 -	Guide posts each end of socket strip-blank cavities each end of pinstrips.

*See Termination Codes for additional length modificaiton codes.
**Consult factory for variations from standard not shown.
***PCB terminations preformed at 90˚ increments of .050' (1.27) to bend from rear of insulator on solid uninsulated leads aer available. Consult factory for proper ordering nomenclature.
†NOTE: MT Strips are not to be terminated with insulated wire in more than 41 cavities without added backpotting support on socket side.

Standard Wire Termination Codes

The following termination codes are listed for your information. For lengths not shown, consult factory for proper modification code. All wire lenghts are minimum.

Harness Type - (H)
#26 AWG per MIL-W-16878 Type E; Teflon Stranded

Length	All Yellow	Color Coded
3 (76.2)	H020	H027
6 (152.4)	H019	H016
8 (203.2)	H026	H034
10 (254.0)	H029	H025
12 (304.8)	H028	H002
18 (457.2)	H001	H003
20 (508.0)	H033	H023
24 (609.6)	H009	H004
30 (762.0)	H010	H005
36 (914.4)	H011	H006
48 (1219.2)	H013	H048
72 (1828.5)	H017	H046
120 (3048.0)	H042	H041

Solid Uninsulated Type - (L)
#25 AWG Gold Plated Copper

Termination Code	Length
L61	.125 (3.18)
L56	.150 (3.81)
L57	.190 (4.83)
L39	.250 (6.35)
L58	.375 (9.52)
L1	.500 (12.70)
L14	.750 (19.05)
L2	1.000 (25.40)
L7	1.500 (38.10)
L6	2.000 (50.80)
L16	2.500 (63.50)
L10	3.000 (76.20)

Performance and Material Specifications

WEIGHT

			lbs.	gms.
Contact (with std. 1/2" copper pigtails)		pin	.000088	.040
		socket	.000088	.040
Insulator (per contact cavity)	MTB	pin	.000046	.021
		socket	.000013	.006
	MTV	pin	.000031	.014
		socket	.000009	.004
Guide Post	Stainless Steel		.000079	.035

MATERIALS AND FINISHES

One-piece insulator:	MTB: glass-filled dially phthalate MTV:glass-filled polyester
Contacts:	Copper alloy, gold plate

MECHANICAL FEATURES

No. of Contacts;	MTV:120 max. MTB:81 max.
Wire Size:	Solid: #24 thru #30 AWG Stranded: #26 thru #30 AWG
Contact Termination:	Crimp Stationary
Size or Length:	MTV: 6.04" (153.42) max. "yardage" MTB: 4.09" (103.89) max. "yardage"
Coupling:	Friction
Polarization:	Guide posts
Contact Spacing Centers:	.050" (1.27) and .100" (2.54)

LENGTH

Contact cavities in 50-MIL STRIP connectors are in a single row and located on .050" (1.27) centers or increments thereof. MTV connectors can be supplied in lenghts up to 6.04 inches (157.42) with a maximum of 120 contacts on .050" (1.27) centers. MTB connectors can be supplied in lengths up to 4.09 inches (103.89) with a maximum of 81 contacts on .050" (1.27) centers. Lengths of connectors can be calculated as follows:

L=number of contacts times .050 (1.27) plus .020 (0.51)

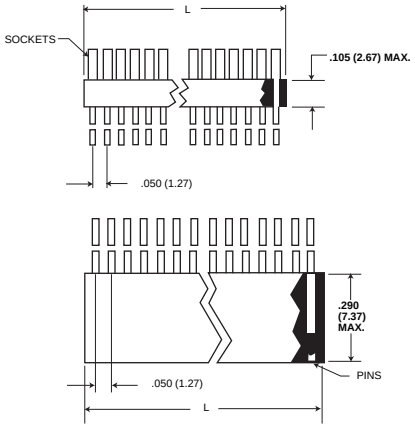
EXAMPLE:

50 contacts (installed in each cavity):

L=(50x.050") + .020" = 2.52" length of strip

L=(50x1.27mm) + (0.51mm) = (64.01mm) length of strip

NOTES: MT not to be terminated with insulated wire in more than 41 cavities without adding backpotting support on socket side.



Test Data

CONTACT RESISTANCE

Test give constant resistance readings from 10µa to 3 amps on individually mated contacts. The maximum allowable contact resistance, measured on the wire at the rear of the contact, is 8 milliohms. The average contact resistance is 6 milliohms.

Current Rating - 3 amps max.

Max. Voltage Drop - 24 millivolts at 3 amps.

Average Voltage Drop - 12 millivolts at 3 amps.

Low Level Contact Resistance - Measured voltage drop is .24 x 10^{-8}volts at 10 x 10^{-6}amps.

DIELECTRIC WITHSTANDING VOLTAGE

Min. Flashover voltage (at room temp.) at 60 cps rms 50% R.H.

Sea Level - 900 VAC, 70,000 feet. - 250 VAC

Solder Pot Contacts

Sea Level - 600 VAC, 70,000 feet-150 VAC

VIBRATION AND SHOCK

No discontinuity detected (in excess of 1 micro second) after twelve 15-min. sweeps from 10 to 2000 cps at .060" (1.52mm) double aptitude or 20g, or after twenty shocks of 50g. Connectors were mounted to simulate service condition. Test conducted to MIL-STD-202, Method 204A, Condition D and Method 213, Condition G.

TEMPERATURE RANGE

MTB: - 55˚C to +149˚C

MTV: - 55˚C to +125˚C

ENGAGING AND SEPARATING FORCE

For an individual contact the maximum engaging force is 8 ounces (226,80 grams). Minimum separating force is 0.5 ounces (14,17 grams) per contact. Test conducted using min./max, bushings.

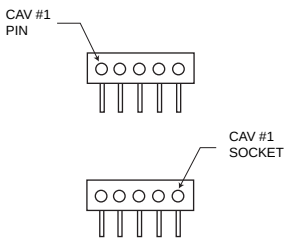
SALT SPRAY

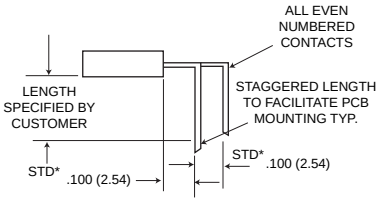
No damabe or unacceptable increase in contact resistance after mated sample subjected to 48 hours of salt spray per MIL-STD-202, Method 101C, 5% solution, Condidtion B.

CONTACT AND INSERT RETENTION

Over 5 lbs. (2,72 kg.) min. axial load.

PCB Terminations





*Consult factory for variations.

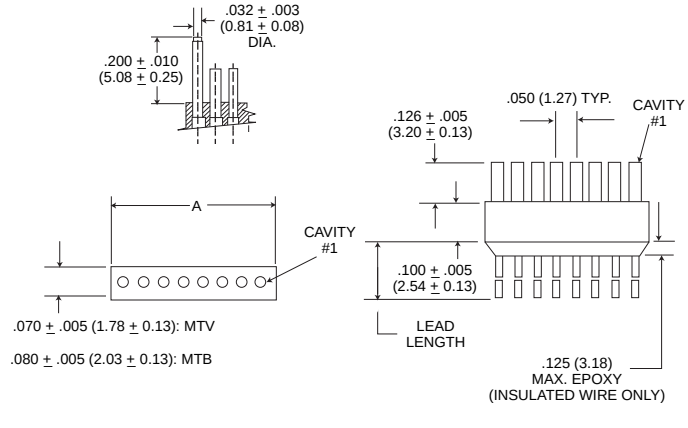
Dimensions are shown in inches (millimeters).
Dimensions subject to change.

Polarization

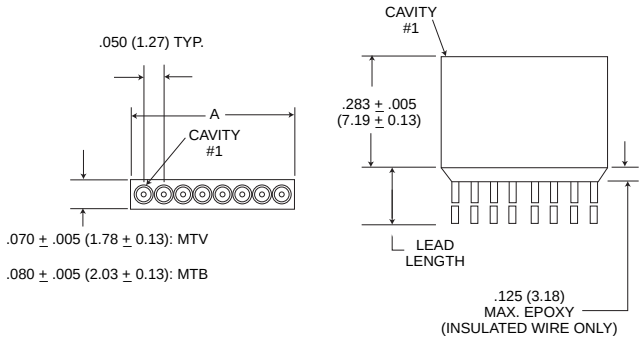
Modification code "-01" in the part number refers to guide posts located on both ends of the socket side of the 50-MIL STRIP connector and blank cavities on the pin side to accept the guide posts.

Although in many cases it is not necessary to polarize 50-MIL STRIP connectors, there are several ways to prevent cross plugging. One method is the use of guide posts that can be loacated in specified cavities to assure that the contacts will align when these post are positioned before mating.

MTB1 and MTV1 - .050 (1.27) Contact Centers



Receptacle

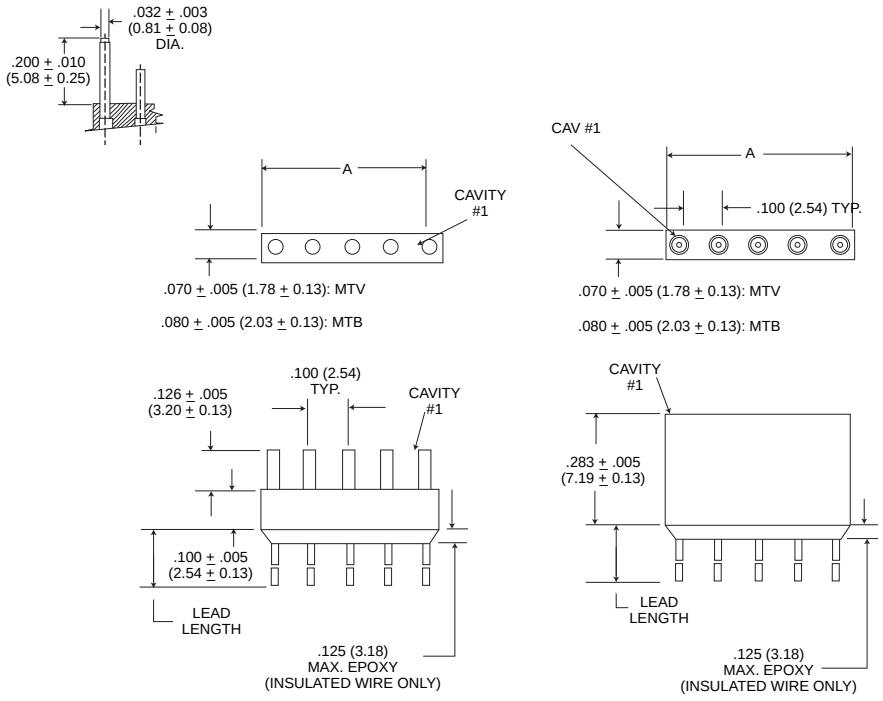


Plug

Part Number by Size	A ±.015 (0.38)	Part Number by Size	A ±.015 (0.38)	Part Number by Size	A ±.015 (0.38)	Part Number by Size	A ±.015 (0.38)	Part Number by Size	A ±.015 (0.38)	Part Number by Size	A ±.015 (0.38)
MT*1-1**	.070 (1.78)	**MT*1-21****	1.070 (27.18)	**MT*1-41****	2.070 (52.58)	**MT*1-61****	3.070 (77.98)	**MT*1-81****	4.070 (103.38)	**MT*1-101****	5.070 (128.78)
MT*1-2**	.120 (3.05)	**MT*1-22****	1.120 (28.45)	**MT*1-42****	2.120 (53.85)	**MT*1-62****	3.120 (79.25)	**MT*1-82****	4.120 (104.65)	**MT*1-102****	5.120 (130.05)
MT*1-3**	.170 (4.32)	**MT*1-23****	1.170 (29.72)	**MT*1-43****	2.170 (55.12)	**MT*1-63****	3.170 (80.52)	**MT*1-83****	4.170 (105.92)	**MT*1-103****	5.170 (131.32)
MT*1-4**	.220 (5.59)	**MT*1-24****	1.220 (30.99)	**MT*1-44****	2.220 (56.39)	**MT*1-64****	3.220 (81.79)	**MT*1-84****	4.220 (107.19)	**MT*1-104****	5.220 (132.59)
MT*1-5**	.270 (6.85)	**MT*1-25****	1.270 (32.36)	**MT*1-45****	2.270 (57.66)	**MT*1-65****	3.270 (83.06)	**MT*1-85****	4.270 (108.46)	**MT*1-105****	5.270 (133.86)
MT*1-6**	.320 (8.13)	**MT*1-26****	1.320 (33.53)	**MT*1-46****	2.320 (58.93)	**MT*1-66****	3.320 (84.33)	**MT*1-86****	4.320 (109.73)	**MT*1-106****	5.320 (135.13)
MT*1-7**	.370 (9.40)	**MT*1-27****	1.370 (34.80)	**MT*1-47****	2.370 (60.20)	**MT*1-67****	3.370 (85.60)	**MT*1-87****	4.370 (111.00)	**MT*1-107****	5.370 (136.40)
MT*1-8**	.420 (10.67)	**MT*1-28****	1.420 (36.07)	**MT*1-48****	2.420 (61.47)	**MT*1-68****	3.420 (86.87)	**MT*1-88****	4.420 (112.27)	**MT*1-108****	5.420 (137.67)
MT*1-9**	.470 (11.94)	**MT*1-29****	1.470 (37.34)	**MT*1-49****	2.470 (62.74)	**MT*1-69****	3.470 (88.14)	**MT*1-89****	4.470 (113.54)	**MT*1-109****	5.470 (138.94)
MT*1-10**	.520 (13.60)	**MT*1-30****	1.520 (38.61)	**MT*1-50****	2.520 (64.01)	**MT*1-70****	3.520 (89.41)	**MT*1-90****	4.520 (114.81)	**MT*1-110****	5.520 (140.21)
MT*1-11**	.570 (14.48)	**MT*1-31****	1.570 (39.88)	**MT*1-51****	2.570 (65.28)	**MT*1-71****	3.570 (90.68)	**MT*1-91****	4.570 (116.08)	**MT*1-111****	5.570 (141.48)
MT*1-12**	.620 (15.75)	**MT*1-32****	1.620 (41.15)	**MT*1-52****	2.620 (66.55)	**MT*1-72****	3.620 (91.95)	**MT*1-92****	4.620 (117.35)	**MT*1-112****	5.620 (142.75)
MT*1-13**	.670 (17.02)	**MT*1-33****	1.670 (42.42)	**MT*1-53****	2.670 (67.82)	**MT*1-73****	3.670 (93.22)	**MT*1-93****	4.670 (118.62)	**MT*1-113****	5.670 (144.02)
MT*1-14**	.720 (18.29)	**MT*1-34****	1.720 (43.69)	**MT*1-54****	2.720 (69.09)	**MT*1-74****	3.720 (94.49)	**MT*1-94****	4.720 (119.89)	**MT*1-114****	5.720 (145.29)
MT*1-15**	.770 (19.56)	**MT*1-35****	1.770 (44.96)	**MT*1-55****	2.770 (70.36)	**MT*1-75****	3.770 (95.76)	**MT*1-95****	4.770 (121.16)	**MT*1-115****	5.770 (146.56)
MT*1-16**	.820 (20.83)	**MT*1-36****	1.820 (46.23)	**MT*1-56****	2.820 (71.63)	**MT*1-76****	3.820 (97.03)	**MT*1-96****	4.820 (122.43)	**MT*1-116****	5.820 (147.83)
MT*1-17**	.870 (22.10)	**MT*1-37****	1.870 (47.50)	**MT*1-57****	2.870 (72.90)	**MT*1-77****	3.870 (98.30)	**MT*1-97****	4.870 (123.70)	**MT*1-117****	5.870 (149.10)
MT*1-18**	.920 (23.37)	**MT*1-38****	1.920 (48.77)	**MT*1-58****	2.920 (74.17)	**MT*1-78****	3.920 (99.57)	**MT*1-98****	4.920 (124.97)	**MT*1-118****	5.920 (150.37)
MT*1-19**	.970 (24.64)	**MT*1-39****	1.970 (50.04)	**MT*1-59****	2.970 (75.44)	**MT*1-79****	3.970 (100.84)	**MT*1-99****	4.970 (126.24)	**MT*1-119****	5.970 (151.64)
MT*1-20**	1.020 (25.91)	**MT*1-40****	2.020 (51.31)	**MT*1-60****	3.020 (76.71)	**MT*1-80****	4.020 (102.11)	**MT*1-100****	5.020 (127.50)	**MT*1-120****	6.020 (152.91)

NOTE: MTB1 available in up to 81 contacts.

MTB2 and MTV2 - .100 (2.54) Contact Centers



Part Number by Size	A ±.015 (0.38)	Part Number by Size	A ±.015 (0.38)
MT*2-1**	.070 (1.78)	**MT*2-31****	3.070 (77.98)
MT*2-2**	.170 (4.32)	**MT*2-32****	3.170 (80.52)
MT*2-3**	.270 (6.86)	**MT*2-33****	3.270 (83.06)
MT*2-4**	.370 (9.40)	**MT*2-34****	3.370 (85.60)
MT*2-5**	.470 (11.94)	**MT*2-35****	3.470 (88.14)
MT*2-6**	.570 (14.48)	**MT*2-36****	3.570 (90.68)
MT*2-7**	.670 (17.02)	**MT*2-37****	3.670 (93.22)
MT*2-8**	.770 (19.56)	**MT*2-38****	3.770 (95.76)
MT*2-9**	.870 (22.10)	**MT*2-39****	3.870 (98.30)
MT*2-10**	.970 (24.64)	**MT*2-40****	3.970 (100.84)
MT*2-11**	1.070 (27.18)	**MT*2-41****	4.070 (103.38)
MT*2-12**	1.170 (29.72)	**MT*2-42****	4.170 (105.92)
MT*2-13**	1.270 (32.26)	**MT*2-43****	4.270 (108.46)
MT*2-14**	1.370 (34.80)	**MT*2-44****	4.370 (111.00)
MT*2-15**	1.470 (37.34)	**MT*2-45****	4.470 (113.54)
MT*2-16**	1.570 (39.88)	**MT*2-46****	4.570 (116.08)
MT*2-17**	1.670 (42.42)	**MT*2-47****	4.670 (118.62)
MT*2-18**	1.770 (44.96)	**MT*2-48****	4.770 (121.16)
MT*2-19**	1.870 (47.50)	**MT*2-49****	4.870 (123.70)
MT*2-20**	1.970 (50.04)	**MT*2-50****	4.970 (126.24)
MT*2*21**	2.070 (52.58)	**MT*2*51****	5.070 (128.78)
MT*2-22**	2.170 (55.12)	**MT*2-52****	5.170 (131.32)
MT*2-23**	2.270 (57.66)	**MT*2-53****	5.270 (133.86)
MT*2-24**	2.370 (60.20)	**MT*2-54****	5.370 (136.40)
MT*2-25**	2.470 (62.74)	**MT*2-55****	5.470 (138.94)
MT*2-26**	2.570 (65.28)	**MT*2-56****	5.570 (141.48)
MT*2-27**	2.670 (67.82)	**MT*2-57****	5.670 (144.02)
MT*2-28**	2.770 (70.36)	**MT*2-58****	5.770 (146.56)
MT*2-29**	2.870 (72.90)	**MT*2-59****	5.870 (149.10)
MT*2-30**	2.970 (75.44)	**MT*2-60****	5.970 (151.64)