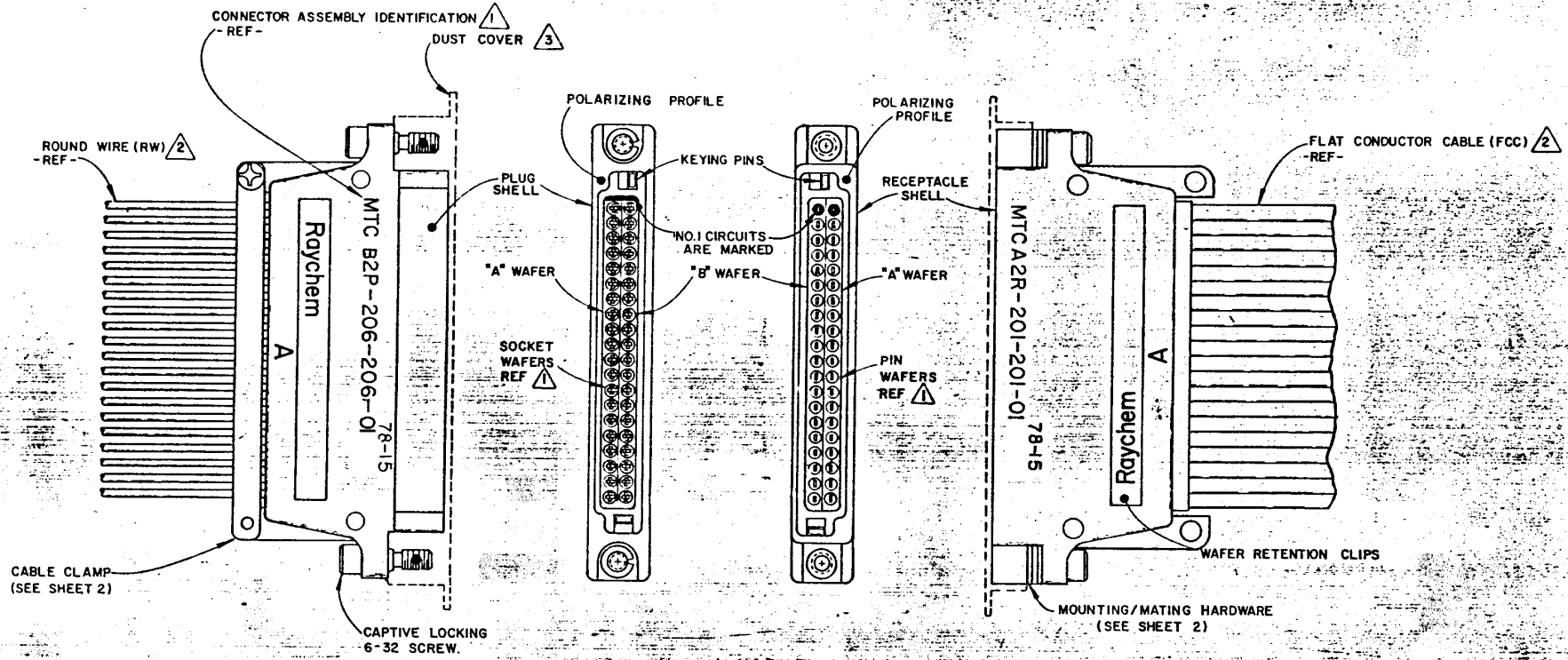


REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
M	REVISED PER ECN # T-11856	8/24/77	[Signature]
N	REVISED PER ECN # T-20169	6-13-78	[Signature]



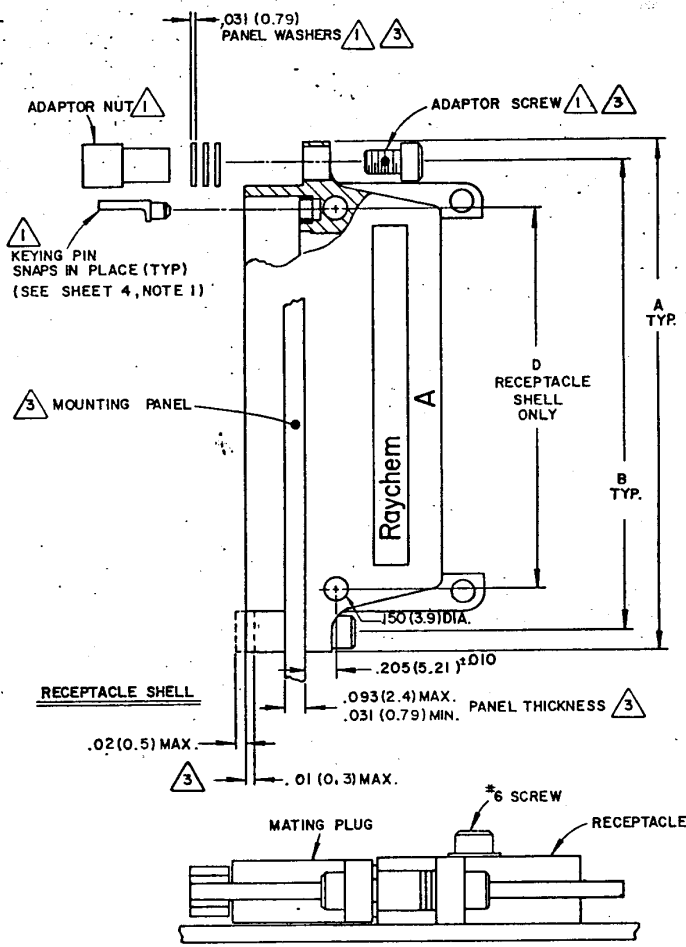
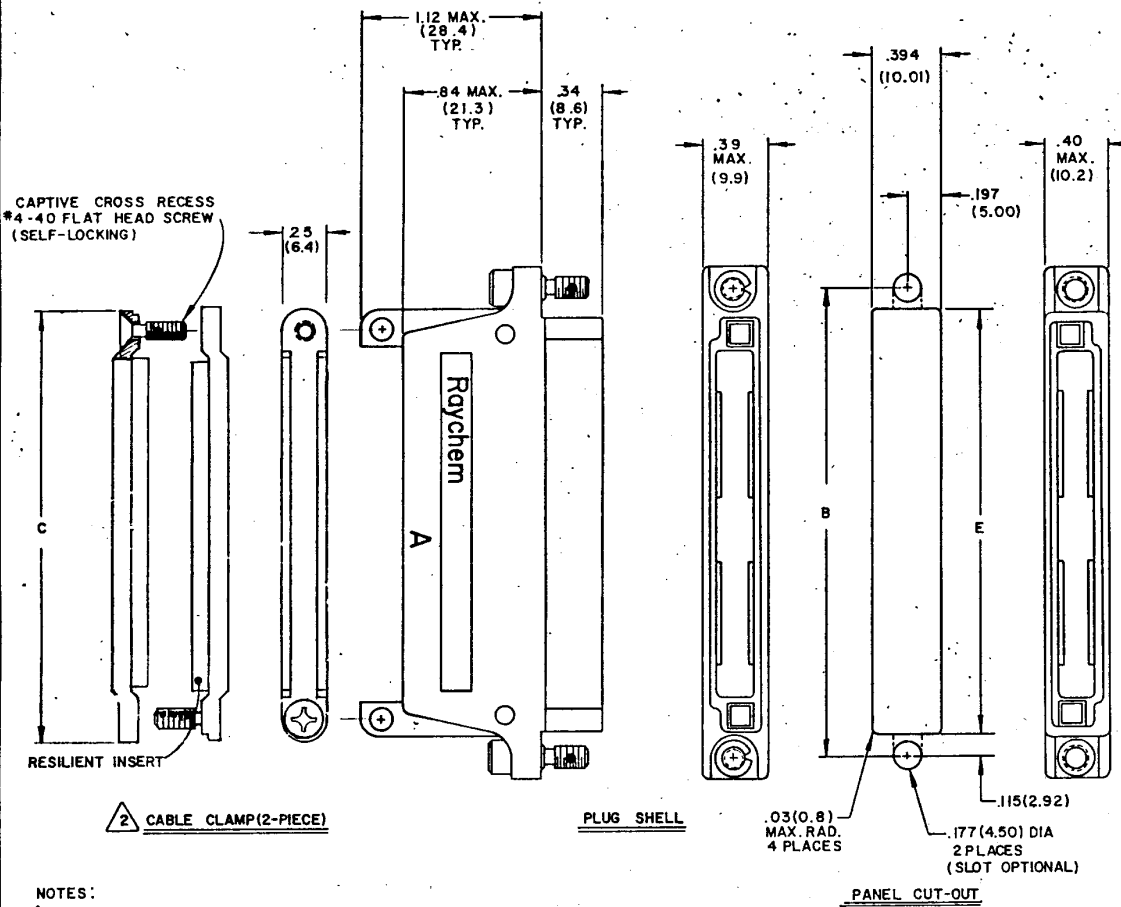
- NOTES-
- 1 PLUG & RECEPTACLE SHELLS ACCEPT BOTH PIN & SOCKET WAFERS INTERCHANGEABLY. FOR SHELL AND MOUNTING DETAILS, SEE SHEET 2. FOR WAFER DETAILS, SEE SHEET 3.
  - 2 THE TERMINATED AND ASSEMBLED CONNECTOR IS SHOWN FOR REFERENCE. SEE SHEET 4 FOR ORDERING INFORMATION.
  - 3 DUST COVER SUPPLIED WITH EACH SHELL.

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DRAWN	V.D.T.	9-13-76	Raychem
CHECKED	[Signature]	1-25-77	SPECIFICATION CONTROL DRAWING
APPROVED			MTC CONNECTOR TYPE I, .100 INCH CENTERS ASSEMBLY
APPROVED			
APPROVED			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND TOLERANCES ARE			SIZE
XXX ±			CODE IDENT
XX ±			DWG NO
X ±			D652-0001
			NO 06090
			DO NOT SCALE THIS DRAWING

ORIGINAL DOCUMENT

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
SEE SHEET I			

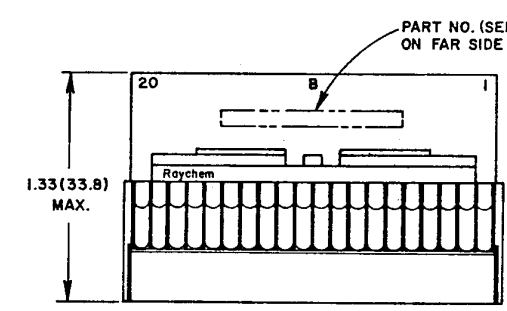
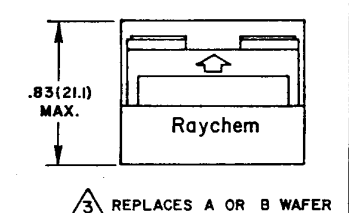
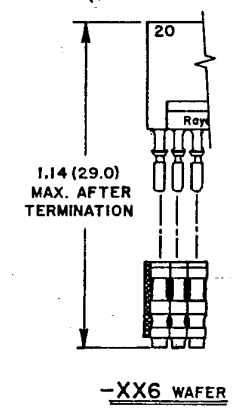
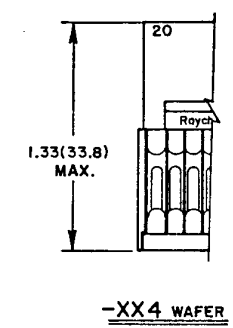
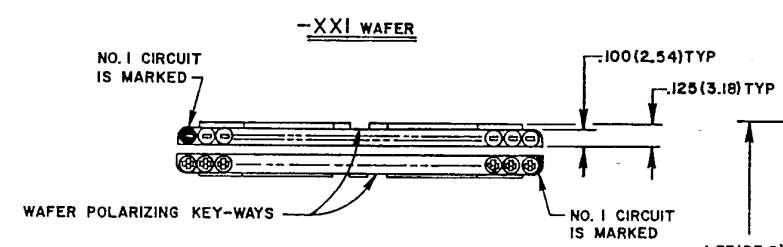
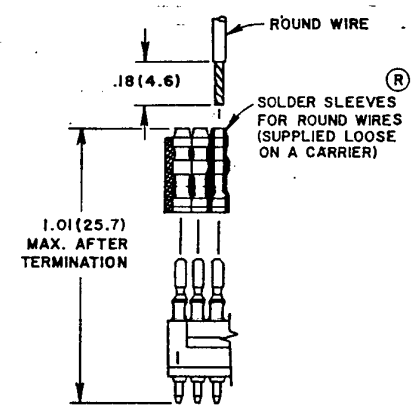
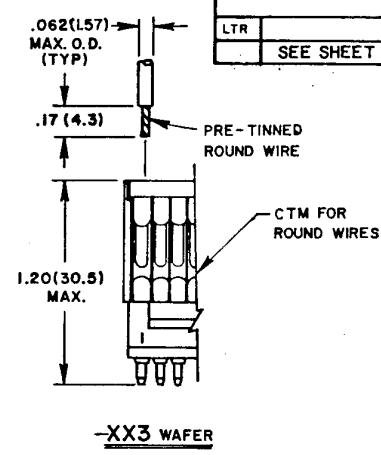
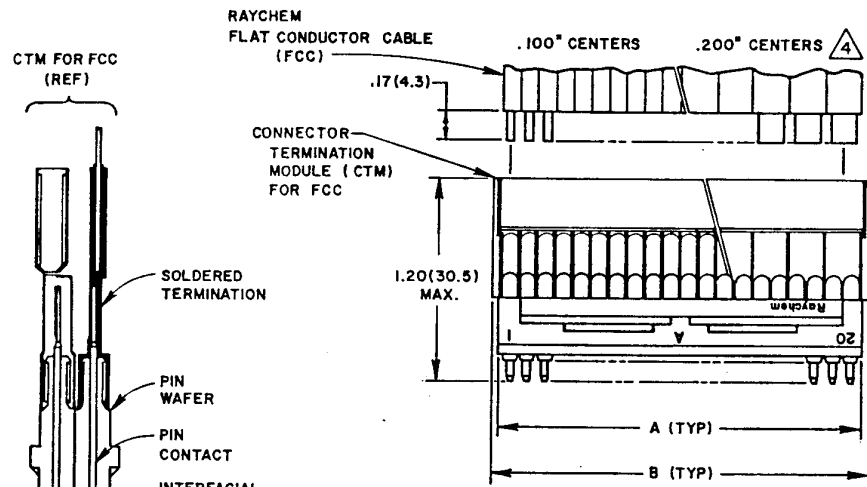


- NOTES:
- 1 KEYING PIN IS SUPPLIED UNINSTALLED. MOUNTING/MATING HARDWARE IS SUPPLIED LOOSE WITH EACH RECEPTACLE.
  - 2 CABLE CLAMP IS AVAILABLE ON BOTH PLUG & RECEPTACLE SHELLS
  - 3 RECEPTACLE IS PANEL MOUNTED BY REMOVING AS MANY PANEL WASHERS AS REQUIRED TO ACCOMMODATE THE THICKNESS OF PANEL BEING USED. DO NOT FRONT MOUNT (PANEL ON BACK SIDE OF FLANGE) WITHOUT CONSULTING FACTORY. USE ONLY ADAPTER SCREWS SUPPLIED WITH CONNECTOR. NUT TO BE FLUSH WITH RECEPTACLE WITHIN TOLERANCE INDICATED.

DIMENSION	SHELL SIZE	
	1 INCH	2 INCH
A	2.00 (50.8)	3.00 (76.2)
B	1.75 (44.45)	2.75 (69.85)
C	1.50 (38.1)	2.50 (63.5)
D	1.270 (32.26)	2.270 (57.66)
E	1.520 (38.61)	2.520 (64.01)
MATED LENGTH (MAX)	W/CLAMPS	W/O
	2.6 (66)	2.1 (53.3)

DRAWN	V.D.T.	9-13-76	Raychem
CHECKED	<i>R.M.H.</i>	1-25-77	SPECIFICATION CONTROL DRAWING
APPROVED	<i>V.P.L.</i>	2-7-77	TITLE
APPROVED			<b>MTC CONNECTOR, TYPE 1, .100 INCH CENTERS SHELL DETAIL &amp; MOUNTING</b>
APPROVED			SIZE CODE IDENT. DWG. NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES (MM) AND TOLERANCES ARE:			C NO. 06090 D652-0001
.XXX : ±.005 (0.13)			DO NOT SCALE THIS DRAWING
.XX : ±.02 (0.5)			SHEET 2 OF 5

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
	SEE SHEET 1		



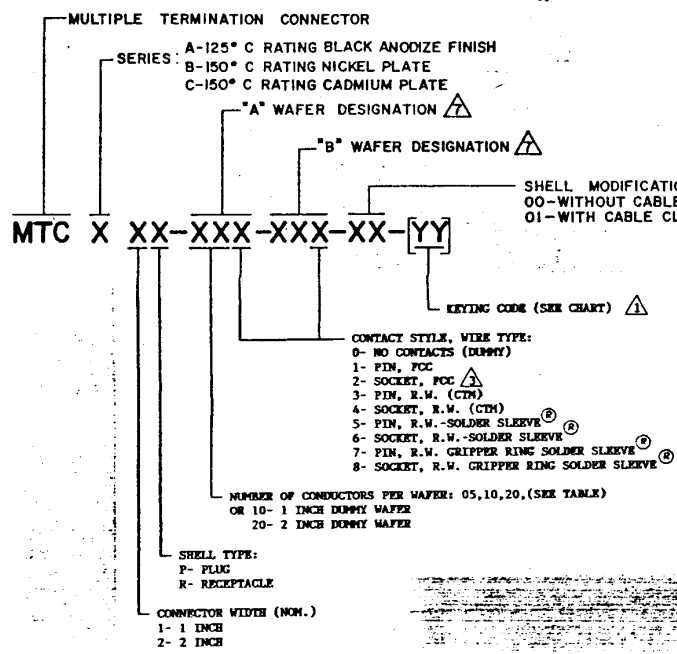
WAFER SIZE	A	B MAX.
1-INCH	1.03(26.2)	1.12(28.4)
2-INCH	2.03(51.6)	2.12(53.8)

- NOTES:
- FOR ORDERING INFORMATION SEE SHEET 4. FOR TERMINATION TOOLING REQUIREMENTS SEE SHEET 5.
  - ANY A AND B WAFER OF THE SAME WIDTH MAY BE INSTALLED IN EITHER PLUG OR RECEPTACLE SHELLS, INTERCHANGEABLY (SEE SHEET 1).
  - A DUMMY WAFER (NO CONTACTS) MAY BE SUBSTITUTED FOR ANY STYLE WAFER OF THE SAME WIDTH (SEE SHEET 4)
  - 2-INCH WAFERS ARE SHOWN FOR REFERENCE.

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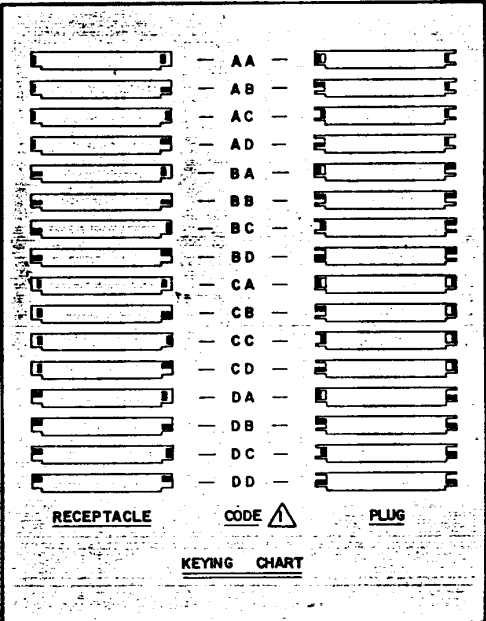
DRAWN	CHANG	1-24-77	Raychem
CHECKED	<i>Z.M. Neal</i>	1-25-77	SPECIFICATION CONTROL DRAWING
APPROVED	<i>Z.M. Neal</i>	2-7-77	TITLE
APPROVED			MTC CONNECTOR, TYPE I, .100 INCH CENTERS WAFER DETAIL
APPROVED			SIZE CODE IDENT. DWG. NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND TOLERANCES ARE: (MM)			SIZE CODE IDENT. DWG. NO.
.XXX ± .005 (0.13)			C NO. 06090 D652--0001
.XX ± .02 (0.5)			DO NOT SCALE THIS DRAWING SHEET 3 OF 5
— ± —			

REVISIONS			
LT#	DESCRIPTION	DATE	APPROVED
SEE SHEET I			



ACCESSORIES / REPLACEMENTS $\Delta$			
DESCRIPTION	QTY (REF)	FOR USE WITH	
		SERIES A OR B	SERIES C
CABLE CLAMP, 1-INCH	2	D659-0047	CHA-0091
CABLE CLAMP, 2-INCH	2	D659-0048	CHA-0092
KEYING PIN	2	D659-0045	
ADAPTOR NUT	2	D659-0043	CHA-0095
PANEL WASHER	6	D659-0042	CHA-0093
ADAPTOR SCREW	2	D659-0044	CHA-0094
MOCK-UP WAFER 1-INCH	A/R	D659-0063	
MOCK-UP WAFER 2-INCH	A/R	D659-0064	
SOLDER SLEEVE $\text{\textcircled{R}}$	A/R		
A SERIES, 1-INCH STRIP		D659-0028	
A SERIES, 2-INCH STRIP		D659-0038	
B OR C SERIES, 1-INCH STRIP		CTA-0026	
B OR C SERIES, 2-INCH STRIP		CTA-0027	

WIRE TYPE	CONDUCTOR CENTER SPACING	NUMBER OF CONDUCTORS PER WAFER		CONDUCTOR AWG.	MAXIMUM ROUND WIRE O.D.
RW	.100	10	20	26-20	.062 (1.57)
FCC $\Delta$				24-22	
	CONNECTOR WIDTH (NOM)	1 INCH	2 INCH		



- NOTES-
- $\Delta$  KEYING CODE DOES NOT FORM A PART OF RAYCHEM PART NUMBERING SYSTEM AND SHOULD BE OMITTED WHEN ORDERING. SHELLS ARE SUPPLIED WITH A BLANK SPACE FOR KEYING CODE, KEYING PINS ARE SUPPLIED UN-INSTALLED.
  - WHEN SUPPLIED AS PART OF A COMPLETE CONNECTOR, SHELL WILL BE MARKED WITH COMPLETE CONNECTOR PART NUMBER. WHEN SUPPLIED SEPARATELY, SHELL WILL BE PROVIDED WITH BLANKS FOR WAFER DESIGNATION.
  - $\Delta$  CONNECTOR IS DESIGNED TO ACCEPT RAYCHEM FLAT CABLE PER RAYCHEM SPECIFICATION 50. (125° C OPERATION)
  - $\Delta$  FOR TORQUE REQUIREMENTS ON MATING SEE RCPS 200-21.
  - $\Delta$  FOR ORDERING REPLACEMENT OR ACCESSORY ITEMS, REFER TO THE RAYCHEM SPECIFICATION CONTROL DRAWINGS INDICATED IN THE TABLE.
  - $\Delta$  EXAMPLES OF PART NUMBERING:  
MTCB 2P-205-205-01      COMPLETE 150° C CONNECTOR WITH:  
2" PLUG SHELL (NO CABLE CLAMP)  
A PIN WAFER WITH SOLDER SLEEVE  $\text{\textcircled{R}}$  ROUND WIRE TERMINATIONS, .100 CENTERS  
B PIN WAFER WITH FLAT CABLE MTM, 100 CENTERS.  
MTCB 2X-XXX-206      B SOCKET WAFER WITH SOLDER SLEEVE  $\text{\textcircled{R}}$  ROUND WIRE TERMINATIONS.  
MTCX 2X-200-200      2" DUMMY WAFER
  - $\Delta$  IN TWO CASES THE WAFER DESIGNATION IS USED IN SHELL ASSEMBLY PART NUMBERING:  
-010-010=1" SHELL ASSEMBLY  
-020-020=2" SHELL ASSEMBLY  
THESE NUMBERS SHOULD BE USED WHEN ORDERING SHELLS ONLY.

DRAWN	V.D.T.	9-13-76	Raychem
CHECKED	<i>Am Hill</i>	1-25-77	SPECIFICATION CONTROL DRAWING
APPROVED	<i>Am Hill</i>	2-7-77	TITLE
APPROVED			MTC CONNECTOR
APPROVED			TYPE I, .100 INCH CENTERS
			ORDERING INFORMATION
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES (MM) AND TOLERANCES ARE			SIZE
XXX _____			C
XX _____			NO 06090
X _____			OWG NO. D652-0001
DO NOT SCALE THIS DRAWING			SHEET 4 OF 5

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# SPECIFICATION

Refer to Raychem Specification D-6006  
for complete details  
Unless Otherwise Specified

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
SEE SHEET 1			

### Ratings

Temperature	MTCA	-65°C to +125°C
	MTCB	-65°C to +150°C
	MTCC	-65°C to +150°C
Voltage		500 volts
Current		5 amps

### Materials

MTM Insulating Body	Polyvinylidene Fluoride
Solder Sleeve Tubing	Polyvinylidene Fluoride
Sealing Material	Thermally Stabilized Thermoplastic
Wafer Material	High grade Polyarylene Thermoplastic
Solder	MTCA -Sn63 per QQ-S-571 MTCB -Sb5 per QQ-S-571
Flux	Per QQ-S-571 type SRAP
Contact Finish	Gold Plated per MIL-G-45204, Type I, Grade C, Class 1 on mating surfaces
Shell Finish	MTCA -Black Anodized per MIL-A-8625, Type II MTCB -Electroless nickel per MIL-C-26074, Class 3, Grade B MTCC -Cadmium plate per QQ-P-416 over nickel underplate
Mounting/Mating Hardware	Stainless Steel, passivated for MTCA and MTCB connectors Stainless Steel, Cadmium plated for BTCC connectors
Elastomeric Seals	Fluorosilicone Rubber

### Tooling Required

Consult Factory For Tooling Required

### Summary of Specifications

Test	Test Method	Performance Requirement	
Insulation Resistance	*Method 3003		
Room Temperature	23°C	5000 Megohms, minimum	
Upper Rated Temperature	after 1000 hours	200 Megohms, minimum	
Dielectric Withstanding Voltage			
Sea Level	*Method 3001, 1500 VAC rms, 60 Hz	No breakdown or flashover	
High Altitude	*Method 105, 70,000 ft., 375 VAC rms, 60 Hz	No breakdown or flashover	
Contact Resistance			
At Rated Current	Initial	10 milliohms	maximum
	After Conditioning	12 milliohms	
At Low Level Current	Initial	10 milliohms	
	After Conditioning	14 milliohms	
Shell-to-Shell Conductivity	1 amp	50 millivolts	maximum
Electrical Engagement	Fully Mated Position	.050" minimum	
		Engaging	Separating
Contact Engaging and Separating Forces	Initial (max. avg.)	9 oz. max.	1 oz. min.
	After Conditioning	12 oz. max.	1 oz. min.
Durability	500 cycles	No damage, pass Contact Resistance	

**△** ENTIRE SYSTEM MUST BE CADMIUM PLATED FOR 500 HOURS SALT SPRAY COMPATABILITY TO BE EFFECTIVE.

Tensile Strength  
Flat Cable  
Round Wires

100 lbs. per inch of cable width minimum  
20 lbs. for AWG 20  
12 lbs. for AWG 22  
8 lbs. for AWG 24  
5 lbs. for AWG 28 minimum

Insert Retention \*Method 2010, 100 psi  
Contact Retention \*Method 2007, 10 lbs. load  
Connector Mating and Unmating Per D-6006, 10 cycles

Retain normal position  
Axial displacement not to exceed 0.02 inches  
Pass Contact Resistance and Engaging/Separating Forces

Maintenance Aging 3 mating cycles, 5 wafer removal cycles, 3 mating cycles

No damage

Vibration \*Method 2005, (20g's peak)  
Test Condition IV

No physical damage or electrical discontinuity greater than 1 microsecond

Mechanical Shock \*Method 2004, 8 ms, Sawtooth  
9.7 ft/sec, 100g's

No physical damage or electrical discontinuity greater than 1 microsecond

Thermal Shock \*Method 1003, rated temperatures  
Temperature Life \*Method 1005, 1000 hours

No cracking, crazing or physical damage  
Pass Insulation Resistance, Elevated and Ambient Temperature and Contact Resistance

Humidity \*Method 1002, Type II  
10 cycles, 90-98% relative humidity

Insulation Resistance of 100 Megohms, minimum

Altitude Immersion \*Method 1004, 75,000 ft., 3 cycles

Insulation Resistance of 1000 Megohms, minimum  
Pass Dielectric Withstanding Voltage of 625 volts, 60 Hz

Altitude-Low Temp. 70,000 ft., -50°C

Pass Insulation Resistance and Dielectric Withstanding Voltage at Sea Level

Salt Spray (Corrosion) **△** \*Method 1001  
(48 hours for MTCA and MTCB connectors)  
(500 hours for MTCC connectors)

No damage detrimental to connector operation

Ozone Resistance 0.010 to 0.015% ozone in air for 2 hours

No cracking in termination area, pass Insulation Resistance

Fungus Resistance MIL-STD-454, Req. 4  
Fluid Immersion Misc. Fluids (see D-6006)  
Permeability Indicator per MIL-I-17214  
Solderability \*\*Method 208  
MTCA-Sn63 solder at 230°C  
MTCB-Sb5 solder at 316°C

No fungus growth  
No damage sufficient to prevent functioning  
2.0 maximum  
95% minimum coverage

\*MIL-STD-1344 TEST METHODS FOR ELECTRICAL CONNECTORS  
\*\*MIL-STD-202 TEST METHODS FOR ELECTRICAL COMPONENT PARTS

## SPECIFICATION CONTROL DRAWING

DRAWN	LUTTICKEN	1-22-86	<b>Raychem</b>		RAYCHEM CORPORATION 300 CONSTITUTION DRIVE MENLO PARK, CALIFORNIA 94025
CHECKED			<b>TITLE</b> MTC CONNECTOR TYPE I, .100 INCH CENTERS SPECIFICATION SHEET		
APPROVED					
APPROVED	<i>[Signature]</i>		<b>SIZE</b> C <b>CODE IDENT. NO.</b> 06090 <b>DWG. NO.</b> D652-0001		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. METRIC DIMENSIONS ARE IN PARENTHESES					
DO NOT SCALE THIS DRAWING			WEIGHT	SHEET 5 OF 5	

1. THIS SPECIFICATION SHEET TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.  
REFERENCE DOCUMENTS SHALL BE OF THE ISSUES IN EFFECT ON DATE OF INVITATION TO BID.

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[699886-000](#) [D250-50632](#) [70.400.3240.0](#) [70.955.2453.3](#) [733753-000](#) [F22831-000](#) [780-522-DPX34RG8-02](#) [8660-501](#) [87.060.0053.0](#)  
[900709N001](#) [928358-1](#) [D-659-0061](#) [1-445717-6](#) [1484469-2](#) [1604997-2](#) [MTC100-BF1-P31CS015](#) [MTC100-KT2-0083](#) [MTC100-KT2-0123-](#)  
[003](#) [MTC100-YA1-005](#) [MTCQKT1R2PGCA](#) [MTCR-103-04S](#) [MTCX1X-100-100CS025](#) [1738331-1](#) [1757667-1](#) [1811481-1](#) [1883433-1](#)  
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[0017-003](#) [CHA-0296](#) [354654-000](#)