dateXX1464-1.DWG

tyco Electronics	Raychem Products	Tyco Electronics Corporation 305 Constitution Drive Menlo Park, CA 94025 U.S.A.	FSCM 06090	REVISION: B	ECN#: T-15710	APPROVED:	DATE:

SPECIFICATION CONTROL DRAWING

CONTACTS, ELECTRICAL CONNECTOR, PIN
SOLDERTACT ® , REMOVABLE, SHIELDED, SIZE 12, M39029/28 TYPE
(FOR MIL-C-38999 SERIES I, II, III, AND IV CONNECTORS)

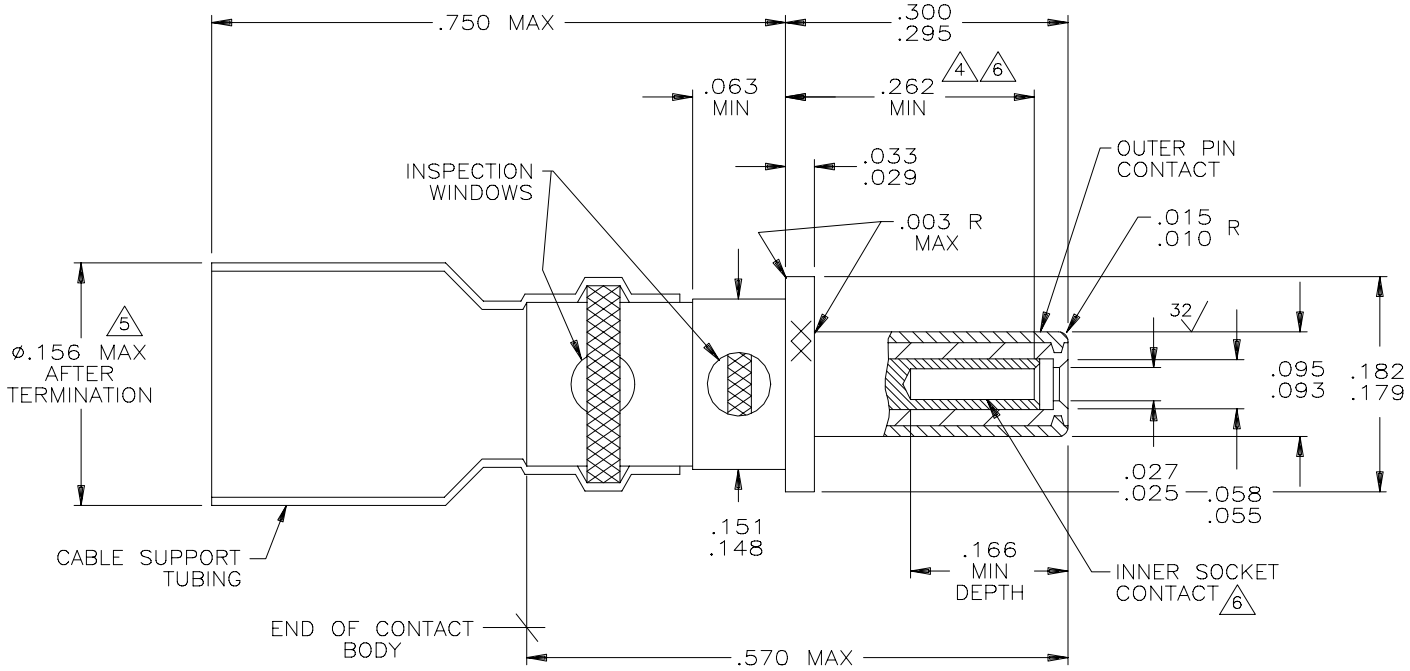


FIGURE 1.

1. DIMENSIONS ARE IN INCHES.
2. METRIC EQUIVALENTS CAN BE CALCULATED BASED UPON 1.00 INCH=25.4 m.m.
3. DIMENSIONS SHOWN APPLY AFTER PLATING.

4 POINT AT WHICH A SQUARE ENDED PIN OF THE SAME BASIC DIAMETER AS THE MATING CONTACT FIRST ENGAGES THE INNER CONTACT SPRING. PROVISION FOR CLEARANCE HOLE SHALL BE PROVIDED.

5 SLEEVE RECOVERY: THE DIAMETER OF THE SHRINK TUBING OVER THE CABLE SHALL NOT EXCEED THE DIAMETER SHOWN.

6 MATES WITH .0205/.0195 DIAMETER PIN.

7. CONTACT WEIGHT: 0.560 GRAMS MAXIMUM UNTERMINATED.

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USERS OF RAYCHEM PRODUCTS SHOULD MAKE THEIR OWN EVALUATION TO DETERMINE THE SUITABILITY OF EACH SUCH PRODUCT FOR THE SPECIFIC APPLICATION.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. METRIC DIMENSIONS ARE IN BRACKETS.

DECIMALS
.XXX ± [mm]
.XX ± [mm]
ANGLES ±

PREPARED BY:	CAD NAME:	CHECKED:	APPROVED:	DOCUMENT NUMBER:
TJ	XX1464-1	ZT	CP DEV MGR.	D-602-0150
DATE:		DATE:	DATE:	SHEET 1 of 5

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SPECIFICATION CONTROL DRAWING

REQUIREMENTS:

DIMENSIONS (FIGURE 1), DESIGN CHARACTERISTICS, AND CONFIGURATION MEET THE REQUIREMENTS OF M39029/28 EXCEPT THAT THE TEMPERATURE RATING IS 125°C INSTEAD OF 200°C, TERMINATION IS BY SOLDERING INSTEAD OF CRIMPING. SEE TABLE I FOR CABLE ACCOMODATIONS.

THIS CONTACT IS QUALIFIED TO RAYCHEM SPECIFICATION D-6002.

MATING CONTACT: D-602-0151 (M39029/75)

TOOLS: SEE TABLE II.

TABLE I. DESIGN CHARACTERISTICS

CABLE ACCOMODATED 1/	CONTACT CAVITY SIZE	TYPE	CLASS
RAYCHEM 5022A1X*X RAYCHEM 9528A1X*X RAYCHEM 9528D1X*X	12	D	A

1/ OTHER APPLICATIONS USING DIFFERENT CABLES MAY BE ACCOMODATED. CONSULT CONTACT MANUFACTURER FOR DETAILS.

* DESIGNATION CAN BE REPLACED WITH NUMBER 1 OR 2.

TABLE II. TOOLS

HEATING TOOLS 2/	REFLECTORS 2/	STANDARD FIXTURE 2/		REPAIR FIXTURE 2/	INSTALLING TOOLS	REMOVAL TOOLS
		BASIC FIXTURE	ADAPTER			
AA-400 SUPER HEATER	#979663 MINI SOLDER SLEEVE	AD-1319 OR AD1567	AT-1319-24	AD-1566	M81969/8-09 OR M81969/14-04	M81969/8-10 OR M81969/14-04
CV-5300 MINI GUN	MG-1 SOLDERSLEEVE					

2/ SEE TERMINATION PROCEDURE: RAYCHEM ES-61223

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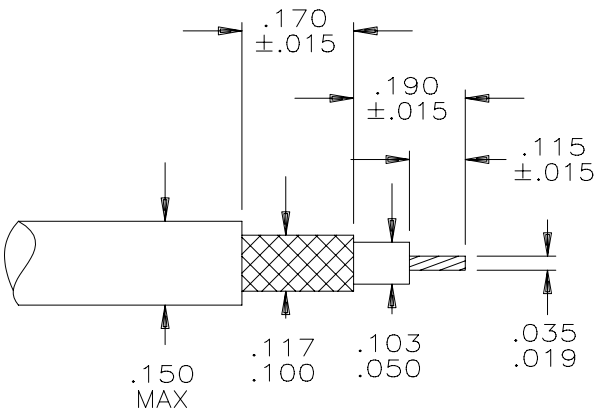
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SPECIFICATION CONTROL DRAWING

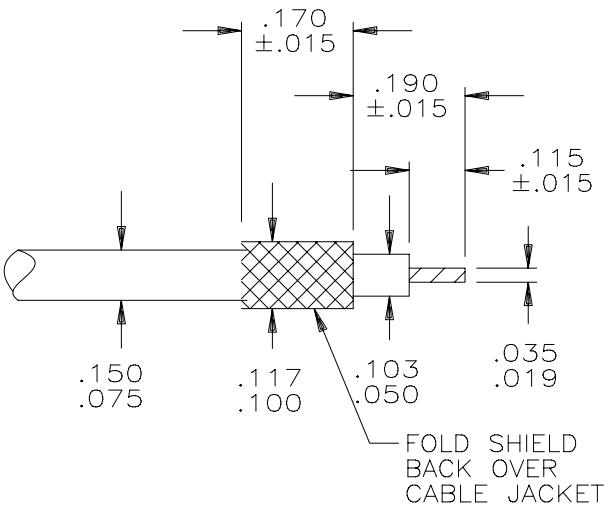
ASSEMBLY INSTRUCTIONS

1. STRIP CABLE AS SHOWN ON FIGURE 2.
2. INSERT CABLE INTO CONTACT UNTIL IT IS FULLY SEATED.
3. HEAT CONTACT WITH APPROPRIATE TOOLS AS SHOWN ON TABLE II UNTIL SOLDER MELTS AND FLOWS AND STRAIN RELIEF TUBING CONFORMS TO CABLE.
4. SEE TABLES I FOR CABLE ACCOMMODATION.

PREPARATION OF COAXIAL CABLE: 26 AWG AND LARGER CENTER CONDUCTOR

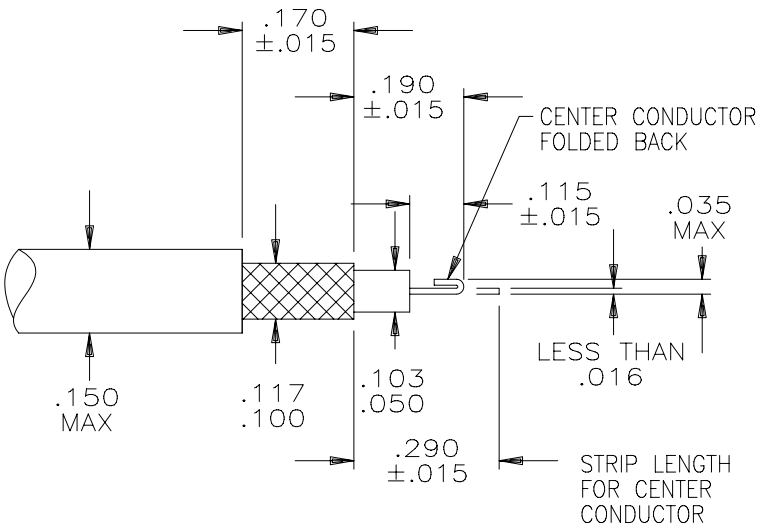


CABLE PREPARATION FOR
STRAIGHT SHIELD

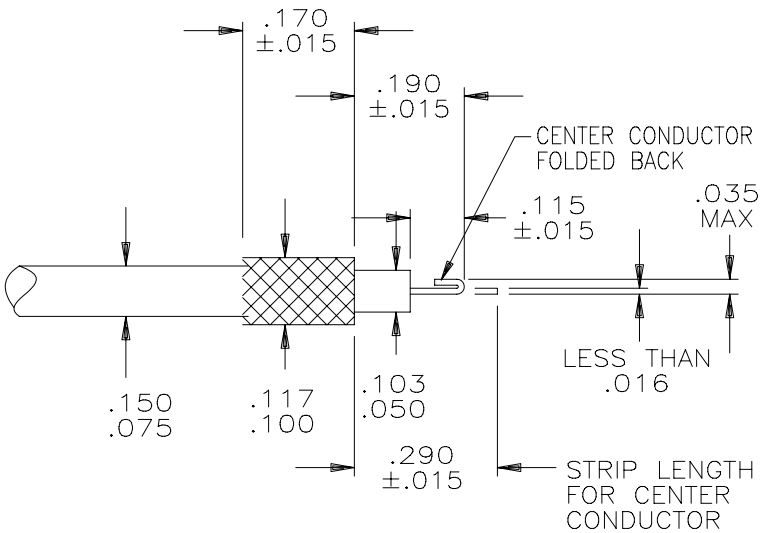


CABLE PREPARATION FOR
FOLDBACK SHIELD

PREPARATION OF COAXIAL CABLE: 28 AWG AND SMALLER CENTER CONDUCTOR



CABLE PREPARATION FOR
STRAIGHT SHIELD
FOLDBACK CENTER CONDUCTOR



CABLE PREPARATION FOR
FOLDBACK SHIELD
FOLDBACK CENTER CONDUCTOR

FIGURE 2.

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SPECIFICATION CONTROL DRAWING

CONTACT ENGAGEMENT AND SEPARATION FORCES (INNER SOCKET CONTACT ONLY): THE ENGAGEMENT DEPTH SHALL BE AS ENCOUNTERED IN NORMAL SERVICE. THE TEST PINS SHALL BE IN ACCORDANCE WITH MS3197 EXCEPT THE DIAMETERS SHALL BE AS SPECIFIED IN THE FOLLOWING, AND SURFACE ROUGHNESS SHALL NOT EXCEED 3 MICROINCHES. PROVISIONS FOR CLEARANCE HOLE SHALL BE PROVIDED.

TABLE III

TEST PIN DIAMETER (INCH)	MINIMUM SEPARATION FORCE (OUNCES)		MAXIMUM ENGAGEMENT FORCE (OUNCES)	
	INITIAL	AFTER CONDITIONING	INITIAL	AFTER CONDITIONING
.0205 $^{+.0002}_{-.0000}$	N/A	N/A	12.0	14.0
.0195 $^{+.0000}_{-.0002}$	0.5	0.4	N/A	N/A

DIELECTRIC WITHSTANDING VOLTAGE (APPLIED BETWEEN INNER AND OUTER CONTACT):
TEST VOLTAGE:

AT SEA LEVEL: 1000 VAC. RMS.
AT 50,000 FEET: 250 VAC. RMS.

CONTACT RESISTANCE: SEE TABLE IV.

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TABLE IV. CONTACT RESISTANCE

TEST CABLE	MAXIMUM VOLTAGE DROP (MILLIVOLTS)						TEST CURRENT (AMPS)	
	25° $^{+3°}_{-0°}$ C		25° $^{+3°}_{-0°}$ C 3/		125° $^{+3°}_{-0°}$ C			
	CONTACT		CONTACT		CONTACT		CONTACT	
	INNER	OUTER	INNER	OUTER	INNER	OUTER	INNER	OUTER
RAYCHEM								
5022A1311	20	60	24	72	30	90	1.0	12.0
9528A1318 4/	100	60	120	72	150	90	1.0	12.0
9528D1024	60	60	72	72	90	90	1.0	12.0

3/ AFTER CONDITIONING.

4/ CENTER CONDUCTOR PLATED STEEL

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SPECIFICATION CONTROL DRAWING

LOW SIGNAL LEVEL CONTACT RESISTANCE (INNER CONTACT ONLY): SEE TABLE V.

TENSILE STRENGTH (INNER AND OUTER CONTACT SOLDER JOINT): SEE TABLE V.

TABLE V. LOW SIGNAL LEVEL CONTACT RESISTANCE (INNER CONTACT ONLY) AND TENSILE STRENGTH

TEST CABLE	MAXIMUM CONTACT RESISTANCE (MILLIOHMS)		MINIMUM TENSILE STRENGTH (POUNDS)	
	INITIAL	AFTER CONDITIONING	INNER CONTACT	OUTER CONTACT
RAYCHEM				
5022A1311	20	24	10	20
9528A1318 4/	100	120	6	20
9528D1024	60	72	6	20

4/ CENTER CONDUCTOR PLATED STEEL.

MATERIAL:	CONTACT BODY	BERYLLIUM COPPER, ALLOY 173, CONDITION H PER ASTM B196
	INNER CONTACT	BERYLLIUM COPPER, ALLOY 173, CONDITION H PER ASTM B196
	PLATING (CONTACT BODY AND INNER CONTACT)	GOLD PLATE PER MIL-G-45204 TYPE II, GRADE C 50 MICROINCHES MINIMUM OVER NICKEL PER QQ-N-290A 50 MICROINCHES MINIMUM OVER COPPER STRIKE - 40 MICROINCHES MAXIMUM
	SOLDER	Sn63 PER QQ-S-571
	FLUX	TYPE RMA PER QQ-S-571
	SHRINK TUBING	HEAT-SHRINKABLE, RADIATION-CROSSLINKED POLYVINYLIDENE FLUORIDE
	DIELECTRIC	ETFE FLUOROPOLYMER PER ASTM D3159
SHIPPING	FIGURE 1 INDICATES THE ONE-PIECE ASSEMBLY. TERMINATION INSTRUCTIONS ARE TO BE SHIPPED WITH THE UNIT PACKAGE.	

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