

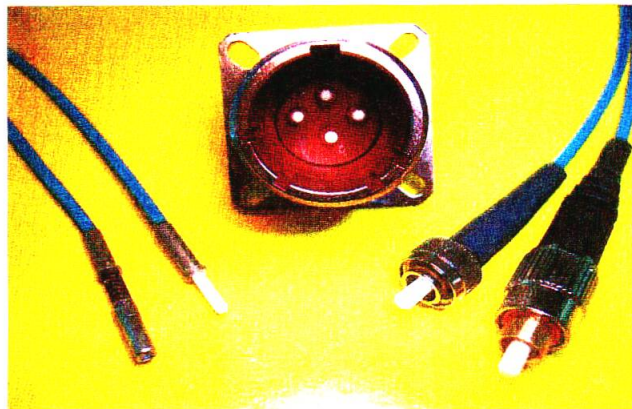


Product Bulletin

Fiber Optics

*****J-Tech is now qualified to supply M29504/4 & /5 fiber optic termini*****

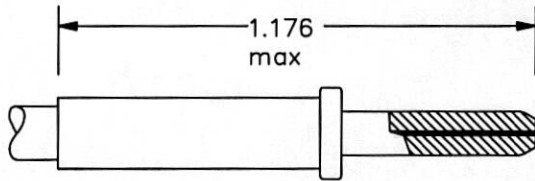
- This fiber optic termini uses butt-joint technology to achieve a clean transmission of light between the termini.
- This termini is best used in D38999 series I, III, & IV circular connectors (used in the size 16 insert holes).
- J-Tech is the first supplier to qualify to the latest revision of this specification, Rev C, which came out in 2004, and Rev B came out in 1991. Fiber Optic technology has evolved tremendously over the past 15 years. J-Tech is proud to be the 1st supplier of the next generation, more robust, and better performing optical product.
- Rev C is so much more stringent than Rev B. See below for a list of requirements that were included in Rev C, but not in Rev B:
 1. Must pass vibration at 49G's at ambient temperature and at 125 degrees C.
 2. Must pass MIL-S-901 Hammer Shock test which exceeds over 10K G's of mechanical force applied in all 3 axis with less than 0.5 dB intermittent loss exceeding 50 microseconds during application of shock.
 3. Must pass 1000 hours of temperature life testing at 165 degrees C.
 4. Must pass thermal cycle testing that goes from -55 C to 165 C.
 5. Must pass 500 mating cycles (durability testing).
 6. Must pass cable force pull out testing up to 22 lbs (our product exceeded 30 lbs).
- J-Tech's termini performs at a typical loss of only 0.25 dB when properly terminated using the industry standard 70/70 light launch conditions.
- J-Tech is a MIL-STD-790 certified facility which allows us to build military rated fiber optic termini, and also build fiber optic cable assemblies.



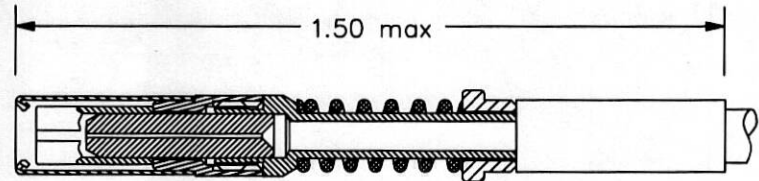


J-Tech Inc.
1631 E. ST. ANDREW PLACE
SANTA ANA, Ca 92705

FIBER OPTIC CONTACTS FOR MIL-DTL-38999, SERIES 1,3, & 4 CONNECTORS



PIN CONTACT JT29504/4
(STYLE 2 SHOWN)



SOCKET CONTACT JT29504/5
(STYLE 2 SHOWN)

FEATURES:

- QUALIFIED TERMINI TO MIL-PRF-29504/4 AND MIL-PRF-29504/5 REVISION C REQUIREMENTS.
- SPRING LOADED TO WITHSTAND SEVERE VIBRATION AND SHOCK.
- UTILIZES A CERAMIC FERRULE AND CERAMIC ALIGNMENT SLEEVE.
- CAN BE USED IN MIL-C-38999, SERIES 1, 3, & 4 CONNECTORS SIZE #16 CAVITIES.
- OPTICAL LOSS PERFORMANCE: 0.25 dB TYPICAL PER EIA FOTP-34 METHOD A.
- CABLE JACKET SIZE TO .087 INCHES IN DIAMETER.
- STANDARD INSERTION/REMOVAL TOOL SUPPLIED WITH CONTACTS.
- THREADED HOOD ASSEMBLY CAN BE FIELD INSTALLED / REMOVED TO ALLOW CLEANING.

HOW TO ORDER:

	JT29504/	4 -	1 -	1270	
SERIES					
CONTACT GENDER					FIBER HOLE DIA. (+1 / -0 MICRONS) *
4 - PIN CONTACT					1250 - 125.0
5 - SOCKET CONTACT					1255 - 125.5
CABLE STRAIN RELIEF STYLE					1260 - 126.0
1 - STRENGTH MEMBER TERMINATED OUTSIDE CONTACT BARREL WITH SHRINK TUBING					† 1270 - 127.0
2 - STRENGTH MEMBER TERMINATED INSIDE BARREL WITH EPOXY					1420 - 142.0
3 - STRENGTH MEMBER TERMINATED OUTSIDE BARREL WITH CRIMP RING					1570 - 157.0
					1750 - 175.0
					2500 - 250.0

* CONSULT FACTORY FOR OTHER FERRULE SIZES

† QPL FERRULE SIZE


REVISIONS			
REV	DESCRIPTION	DATE	APPR'D
X1	ENGINEERING RELEASE	05/21/07	CR

J-Tech Fiber Optic Connectors Performance Compliance

Test	MIL-DTL-38999 Paragraph Ref.	Description	Requirement
Temperature Cycling	4.5.4	Per Method 1003 of MIL-STD-1344, Condition A, temp range -55°C to 125°C.	No evidence of breaking or electrical deterioration.
Durability	4.5.7	Mated and unmated 500 times to mating connector at a rate of 200 ±100 cycles/hr.	No electrical or mechanical defects affecting performance.
Insulation Resistance (IR)	4.5.9.1	Per Method 3003 of MIL-STD-1344. Measurements shall be between any pair of contacts and between any contact and the connector shell shall be 5,000 MΩ minimum. IR after altitude immersion shall be 1000 MΩ minimum. IR after humidity shall be 100 MΩ Min.	Equal to or greater than the minimum value in the table when tested at the specified voltage per the performance data table.
Dielectric Withstanding Voltage (DWV) (Sea Level)	4.5.10.1	Per Method 3001 of MIL-STD-1344. Measurements shall be between each contact, each adjacent contact, and the shell. Test Voltage shall be maintained at the specified value for 2 seconds minimum.	There shall be no dielectric breakdown or flashover when tested at specified voltage in per the performance data table.
Dielectric Withstanding Voltage (DWV) (Altitude)	4.5.10.2	Per Method 3001 of MIL-STD-1344. Measurements shall be between each contact, each adjacent contact, and the shell. Test Voltage shall be maintained at the specified value for 2 seconds minimum. Connector shall be unmated, and only the engaging face shall be subjected to altitude.	Tested to applicable drawing / requirements.
Insert Retention	4.5.11	Per Method 2010 of MIL-STD-1344, A Pressure of 100 psi with a 25 lb. minimum force shall be applied to inserts.	Inserts shall not be displaced or show evidence of damage.
Salt Spray (Corrosion)	4.5.12	Per Method 1001 of MIL-STD-1344, Condition B.	Shell show no exposure of base metal.
Contact Retention	4.5.19	An axial load is applied to the mating end of each contact for 5 seconds minimum, 10 lbs. - size 22, 15 lbs. - size 20, & 25 lbs. - size 16.	Axial displacement of pin contacts shall not exceed .012 inches.
Vibration	4.5.22.1	Per Method 2005 of MIL-STD-1344, Condition VI Letter J, 8 hrs. longitudinal and perpendicular axis 25°C and 4 hrs. @ -55°C and 125°C.	No evidence of deterioration or IR.
Physical Shock	4.5.23.1	Per Method 2004 of MIL-STD-1344.	No evidence of deterioration or IR.
Humidity	4.5.25	Per Method 1002 of MIL-STD-1344.	Insulation Resistance greater than 100 MΩ when tested at high humidity.
Fluid Immersion	4.5.29	Per Method 1016 of MIL-STD-1344.	Shell meet attenuation after drying.

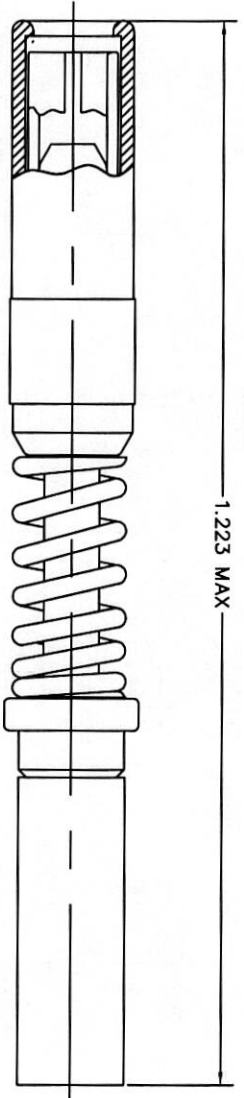
J-Tech Fiber Optic Termini Performance Compliance

Test	Performance
Optical Loss	0.25 dB typical per EIA FOTP-34 method A
Operating Temperature	-65 C to +165 C
Thermal Cycling	-55 C to +165 C, 5 Cycles
Temperature Life	+165 C for 1000 hours
Random Vibration	60 G
Shock (half sine)	40 G peak load
Mechanical Shock	MIL-S-901, Grade A, Type A, Class 1 Lightweight
Mating Durability	500 Cycles
Salt Spray	48 hours
Cable Retention Force	Exceeds 30 Lbs. depending on cable construction

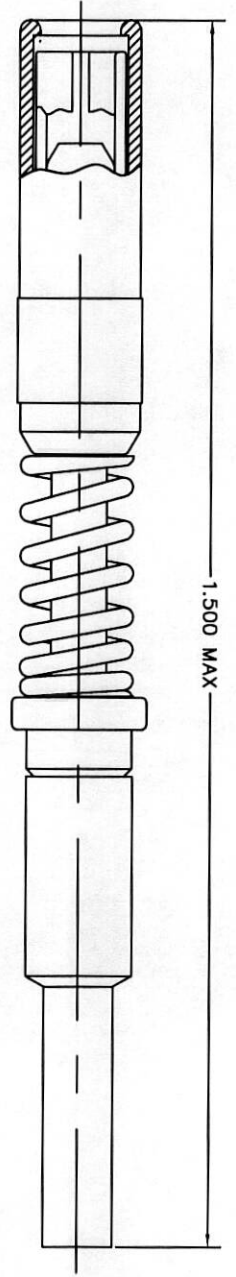
		APPLICATION: _____	
UNLESS OTHERWISE SPECIFIED:		DRAWN: C. ROE	DATE: 5/4/07
INTERFERE FOR PER MIL-STD-883C-200 PART 2 TO THE FACE OF BUBBLES		CHECK: _____	DATE: _____
ALL DIMENSIONS ARE TO UNLESS OTHERWISE SPECIFIED		DATE: _____	DATE: _____
MAX. ALLOWED .000 PER .000-010		DATE: _____	DATE: _____
MACHINING TOLERANCES SHALL BE AS SHOWN		DATE: _____	DATE: _____
XXX ±.010		DATE: _____	DATE: _____
XXX ±.005		DATE: _____	DATE: _____
UNLESS OTHERWISE SPECIFIED		DATE: _____	DATE: _____
FINISH: _____		DATE: _____	DATE: _____
TITLE: PERFORMANCE, TERMINI, FIBER OPTIC (QUALIFIED TO MIL-PRF-29504, 4 & /5)			
DWG. NO. 29504 PERFORMANCE			
SIZE: C	CAGE CODE: 08W/78	SCALE: _____	SHEET: 1 OF 1

J-TECH
1831 E. STEPHENSON BLVD.
SANTA ANA, CALIFORNIA 92705

REVISIONS			
REV	DESCRIPTION	DATE	APP'D
-	ORIG. REL/PER ECN# XXXX	-	OR



STYLE 2



STYLE 1

FEATURES:

- QUALIFIED TERMINI TO MIL-PRF-29504/5 REVISION C (SOLE SUPPLIER OPL'D TO THIS HIGHER PERFORMING REVISION LEVEL).
- SPRING LOADED TO WITHSTAND SEVERE VIBRATION AND SHOCK.
- UTILIZES A CERAMIC FERRULE AND CERAMIC ALIGNMENT SLEEVE.
- CAN BE USED IN MIL-C-38999, SERIES 1, 3, & 4 CONNECTORS SIZE #16 CAVITIES.
- OPTICAL LOSS PERFORMANCE: 0.25 DB TYPICAL PER EIA FOTP-34 METHOD A.
- CABLE JACKET SIZE UP TO .087 INCHES IN DIAMETER.
- STANDARD INSERTION/REMOVAL TOOL SUPPLIED WITH CONTACTS.
- THREADED HOOD ASSEMBLY CAN BE FIELD INSTALLED / REMOVED.

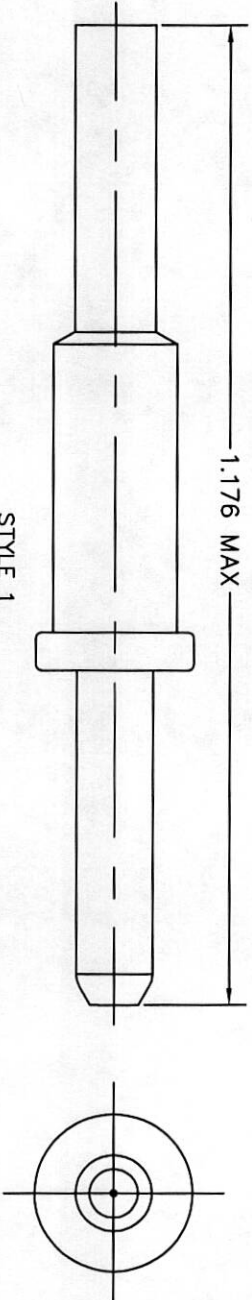
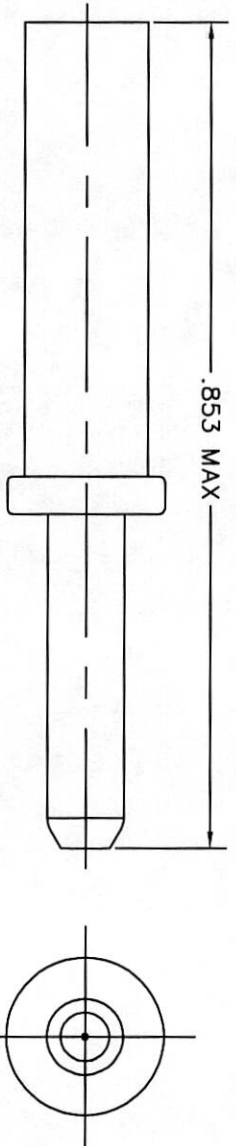
SERIES M29504/ 5 - 4250
 CONTACT GENDER 5 - SOCKET CONTACT

TICC CODE
 4250 - 127 MICRON HOLE (STYLE 2)
 4046 - 127 MICRON HOLE (STYLE 1)

PART NUMBER	ØA HOLE SIZE	CABLE TERMINATION
M29504/5-4250	(+1.0 / -0.0 MICRON)	STYLE 2
M29504/5-4046	127.0	STYLE 1

PROJECTION		APPLICATION		UNLESS OTHERWISE SPECIFIED		DRAWN		C. ROE		9/21/07	
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DO NOT SCALE DRAWING		M29504/5-4250 SOCKET CONTACT		M29504/5-4046 SOCKET CONTACT		CHECK ENDER		C. ROE		9/21/07	
TITLE CONTACT ASSY. SOCKET, FIBER OPTIC, #16, (QUALIFIED TO MIL-PRF-29504/5)		JTECH/EMP CONNECTORS 601 E. St. Anthony Plaza Santa Ana, California 92705		SIZE C		CASE CODE 0B/W/B		SCALE		SHEET 1 OF 1	

REVISIONS			
REV	DESCRIPTION	DATE	APPRD
X5	ENGINEERING RELEASE	5/21/07	CR



- FEATURES:**
- QUALIFIED TERMINI TO MIL-PRF-29504/4 REVISION C (SOLE SUPPLIER OPLD TO THIS HIGHER PERFORMING REVISION LEVEL).
 - UTILIZES A CERAMIC FERRULE.
 - CAN BE USED IN MIL-C-38999, SERIES 1, 3, & 4 CONNECTORS SIZE #16 CAVITIES.
 - OPTICAL LOSS PERFORMANCE: 0.25 DB TYPICAL PER EIA FOTP-34 METHOD A.
 - CABLE JACKET SIZE UP TO .087 INCHES IN DIAMETER.
 - STANDARD INSERTION/REMOVAL TOOL SUPPLIED WITH CONTACTS.

JT29504/ 4 - 1 - 1270

SERIES _____
 CONTACT GENDER _____
 4 - PIN CONTACT

CABLE STRAIN RELIEF STYLE _____

1 - STRENGTH MEMBER TERMINATED OUTSIDE BARREL W/ SHRINK TUBING
 2 - STRENGTH MEMBER TERMINATED INSIDE CONTACT BARREL
 3 - STRENGTH MEMBER TERMINATED OUTSIDE BARREL W/ CRIMP RING

FIBER HOLE DIA. (+1 / -0 MICRONS) *

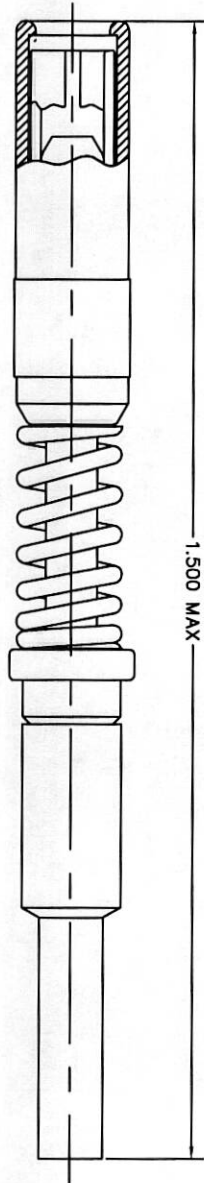
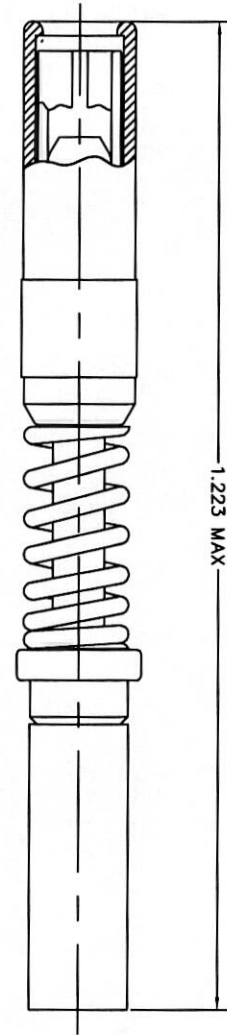
1250	- 125.0
1255	- 125.5
1260	- 126.0
1270	- 127.0
1420	- 142.0
1570	- 157.0
1750	- 175.0
2500	- 250.0

* CONSULT FACTORY FOR OTHER FERRULE SIZES

PRODUCTION	APPLICATION	DATE	12/18/06
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	ENGINEER	C. ROSE	
	DATE	12/19/06	
	SCALE		
	SIZE		
	CASE CODE		
	OBVW/B		
	SCALE		
	SHEET	1	OF 1

JT29504*4-*****
 CONTACT ASSY, PIN, FIBER OPTIC, (QUALIFIED TO MIL-PRF-29504/4)
 1531 E. St. Andrew Pl.
 Santa Ana, California 92705

REVISIONS			
REV	DESCRIPTION	DATE	APP'D
X5	ENGINEERING RELEASE	5/21/07	CR



FEATURES:

- QUALIFIED TERMINI TO MIL-PRF-29504/5 REVISION C (SOLE SUPPLIER OPLD TO THIS HIGHER PERFORMING REVISION LEVEL).
- SPRING LOADED TO WITHSTAND SEVERE VIBRATION AND SHOCK.
- UTILIZES A CERAMIC FERRULE AND CERAMIC ALIGNMENT SLEEVE.
- CAN BE USED IN MIL-C-39999, SERIES 1, 3, & 4 CONNECTORS SIZE #16 CAVITIES.
- OPTICAL LOSS PERFORMANCE: 0.25 DB TYPICAL PER EIA FOTP-34 METHOD A.
- CABLE JACKET SIZE UP TO .087 INCHES IN DIAMETER.
- STANDARD INSERTION/REMOVAL TOOL SUPPLIED WITH CONTACTS.
- THREADED HOOD ASSEMBLY CAN BE FIELD INSTALLED / REMOVED.

- JT29504/ 5 - 1 - 1270**
- SERIES _____
- CONTACT GENDER _____
- 5 - SOCKET CONTACT
- CABLE STRAIN RELIEF STYLE _____
- 1 - STRENGTH MEMBER TERMINATED OUTSIDE BARREL W/ SHRINK TUBING
 - 2 - STRENGTH MEMBER TERMINATED INSIDE CONTACT BARREL
 - 3 - STRENGTH MEMBER TERMINATED OUTSIDE BARREL W/ CRIMP RING
- FIBER HOLE DIA. (+1 / -0 MICRONS) *
- | | | |
|--------|---|-------|
| 1250 | - | 125.0 |
| 1255 | - | 125.5 |
| 1260 | - | 126.0 |
| ↑ 1270 | - | 127.0 |
| 1420 | - | 142.0 |
| 1570 | - | 157.0 |
| 1750 | - | 175.0 |
| 2500 | - | 250.0 |

* CONSULT FACTORY FOR OTHER FERRULE SIZES

† OPL FERRULE SIZE

PROJECTION	APPLICATION	UNLESS OTHERWISE SPECIFIED	DRAWN	C. ROE	12/18/05
<p>CONFIDENTIAL INFORMATION OF CONESTOGA, INC. IS CONTAINED IN THIS DRAWING. THE TRANSMISSION OF THIS DRAWING TO ANY OTHER PARTY OR THE REPRODUCTION OF THE ENTIRE OR PARTIAL CONTENTS OF THIS DRAWING WITHOUT WRITTEN AUTHORIZATION OF CONESTOGA, INC. IS PROHIBITED.</p>	<p>INTERNET PER MIL-STD-100 ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED DIMENSIONS IN PARENT PARENTHESIS DIMENSIONS IN BRACKETED PARENTHESIS DIMENSIONS IN SQUARE PARENTHESIS DIMENSIONS IN CIRCULAR PARENTHESIS DIMENSIONS IN DIAMETER DIMENSIONS IN RADIUS DIMENSIONS IN LENGTH DIMENSIONS IN WIDTH DIMENSIONS IN HEIGHT DIMENSIONS IN THICKNESS DIMENSIONS IN DEPTH DIMENSIONS IN DIAMETER DIMENSIONS IN RADIUS DIMENSIONS IN LENGTH DIMENSIONS IN WIDTH DIMENSIONS IN HEIGHT DIMENSIONS IN THICKNESS DIMENSIONS IN DEPTH</p>	<p>FINISH</p>	<p>DATE</p>	<p>SCALE</p>	<p>SHEET 1 OF 1</p>

A

B

C

D

4

3

2

1

A

B

C

D

JTECH
1631 E. St. Andrew Pl.
Santa Ana, California 92705

TITLE CONTACT ASSY, SOCKET, FIBER OPTIC,
(QUALIFIED TO MIL-PRF-29504/5)

DWG. NO. JT29504*5-****

REV. X5