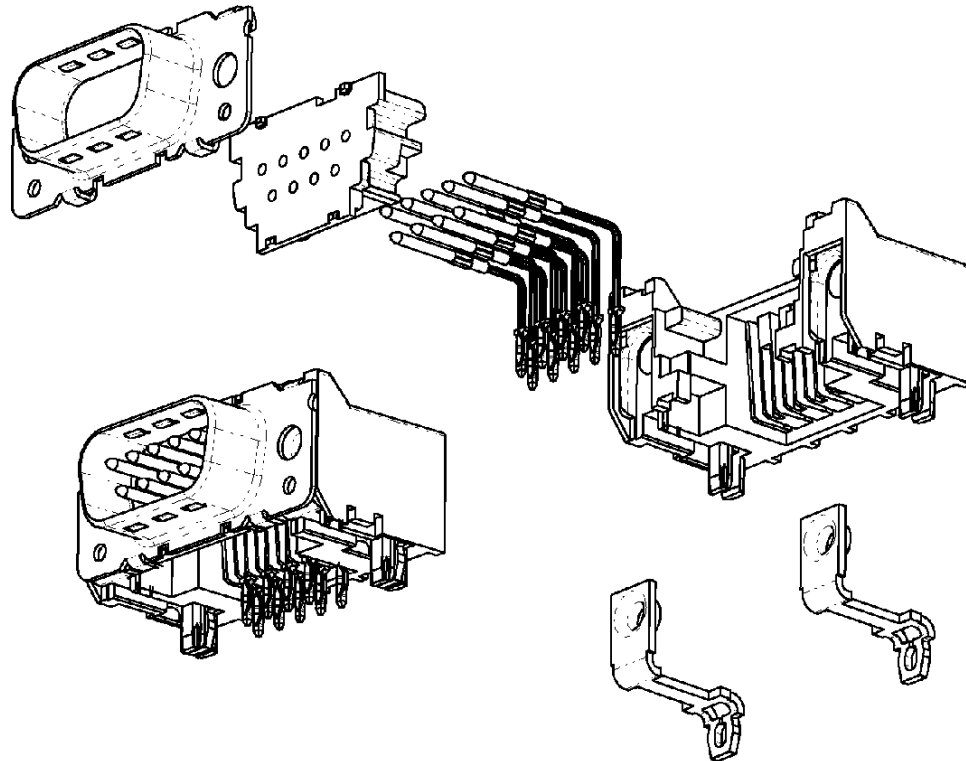


D-Sub angled 90° Press-in



Contents

1. General
2. Types
3. Components
4. Technical characteristics
5. Packaging and labeling
6. Product marking
7. Quality

DR. Sterckx R.

DATE 28/nov/95

APVD. Verougstraete

EC: SR10-0222-02

DATE 21/mei/02

© Tyco Electronics Corporation
Harrisburg, PA
All International Rights Reserved

*Trademark
I indicates change

R1-1 (Rev. 02-00)

This controlled document is subject to change.
Use EC Express to verify the latest revision
Copies are available from REDC and AMPCentral

1 of 5

LOC GW

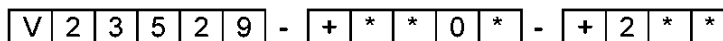
1. GENERAL

This specification deals with D-Sub connectors angled at 90° with press-in terminal. All dimensions, materials and surface treatments that are not specified in this document, are made in a way that the regulations, characteristics and testprogram according to CECC 75301-082 (issue 1 of 1994) are fulfilled. (Heading 2)

2. TYPES

2.1 Overview

According to :



Mounting height

R = mounting height 7.3mm
 S = mounting height 3.6mm
 T = mounting height 6.3mm

Configuration

1 = insulated

Marking

1 = tyco
 2 = neutral

Connector mounting

01 = hole 3 / without grounding
 02 = Thread M3 / with grounding
 03 = Thread 4-40 UNC / with grounding
 04 = Stud bolt screwlock M3/ with grounding
 05 = Stud bolt screwlock 4-40 UNC/ with grounding

Connector type

B = Female connector
 C = Pin connector with shield indentation

No. of contacts

09 = 9-contacts
 15 = 15-contacts
 25 = 25-contacts
 37 = 37-contacts

2.2 Types in production

The following types are possible:

- Male connectors with grounding fingers and female connectors
- No. of contacts: 9,15,25 and 37 contacts
- Performance level: PL II
- Mounting height:
 Standard : 7,3mm
 Eurostyle: 3,6mm
 US-style: 6,3mm

- Contact center spacing:
Standard: 2,54 x 2,76
Eurostyle: 2,54 x 2,76
US-style: 2,84 x 2,76
- PC board mounting: press-in grounding clip
- All types with grounding connector-PC board
- Connector mounting (with grounding):
thread M3 or 4-40UNC; torque retention: 70 Ncm
stud bolt M3 or 4-40UNC; torque retention: 60 Ncm
- Press-in pin with elastic press-in zone
- Pressing in via the plastic body with a flat stamp

2.3 Customer drawings

	old drawing number	Tyco drawing number
Simplified drawing	V23529-R****-B***-02-7427	2-1393481-1
Simplified drawing	V23529-R****-C***-02-7427	2-1393481-5
Simplified drawing	V23529-S****-B***-02-7427	1-1393482-2
Simplified drawing	V23529-S****-C***-02-7427	1-1393482-4

3. COMPONENTS

3.1 Metal shells

Neutral metal shells : 1 to 2 µm Ni layer covered with electro-plated tin layer, 8 to 16 µm

3.2 Insulation part

Neutral black (RAL 9005) plastic parts

3.3 Press-in male contacts

The male contacts are made out of round wire and with the elastic press-in zone from ERNI . The press-in zone fulfills the requirements according to IEC 352-5.

Surface treatment:

Contact area: electro-plated gold layer, minimal thickness 0,5µm ($=\bar{x} - 2s$)

Termination area: electro-plated tin layer, 0,4 to 1,5µm SnPb 90/10

3.4 Press-in female contact

The female contacts are made out of milled metaltape (0,60 / 0,32 mm) and with the Tyco / Electronics multispring press-in zone. The press-in zone fulfills the requirements according to IEC 352-5.

Surface treatment:

Contact area: electro-plated gold layer, minimal thickness 0,76µm ($=\bar{x} - 2s$)

Termination area: electro-plated tin layer, 0,4 to 1,5µm SnPb 90/10

Contactforce: 1,1 to 1,8 N with force gauge Ø 0,98 mm

Contactforce at end-of-life ≥ 0,9 N

3.5 Press-in part

The press-in part is designed in such a way that this plastic component can be used for both male and female connectors.

Colour: black (RAL 9005)

Material: PCT GF30; Thermx CG907 (Eastman Chemical)

3.6 Grounding insert

There are in total 6 different grounding inserts for the complete product range: 3 different mounting heights and 2 different thread types. They are used both on the right side as on the left side of the connector.

Material: steel

Surface treatment: 2 to 4 µm Sn over 2 to 4 µm Ni

Cutting edges rounded

Press-in force: max 250N (including press-in studs)

Retention force: min 60N (including press-in studs)

4. TECHNICAL CHARACTERISTICS

4.1 Environmental characteristics

4.1.1 Temperature range:

-55°C to 125°C

4.1.2 Damp heat, steady state

Temp. : 40°C

Rel. humidity: 93%

Duration: 21 days

4.2 Mechanical characteristics

4.2.1 Mechanical operation

According IEC 512-5, test 9a

Max. speed: 10 mm/s

Min. rest time: 10 s unmated

Operations: 250

4.2.2 Insertion and withdrawal forces

Without the grounding fingers in the front shell of the male connector

According to IEC 512-7, test 13b

No. of contacts	min. withdrawal force	max. withdrawal force	max. insertion force
9	3.3 N	20.0 N	30.0 N
15	4.5 N	33.0 N	50.0 N
25	7.8 N	56.0 N	83.0 N
37	11.0 N	82.0 N	123.0 N

4.2.3 Insertion retention in shell (axial)

According IEC 512-7, test 15b

No. of contacts	Axial retention
9	53 N
15	80 N
25	124 N
37	180 N

4.2.4 Vibration

According IEC 521-4, test 6d

Severity: 10 Hz to 500 Hz and 0,35 mm or 5 g; 3 x 2 h

4.3 Electrical characteristics

4.3.1 Clearance and creepage distances

between contacts and shell: 1,2 mm

between adjacent contacts: 1 mm

4.3.2 Voltage proof

According IEC 512-3, test 4a
Contact / contact: 1000 V r.m.s.
Contact / ground: 1200 V r.m.s.

4.3.3 Current carrying capacity

Limit temperature: 125°C
At ambient temperature 20°C: max. 2,8 A
At ambient temperature 70°C: max. 2,0 A
At ambient temperature 100°C: max. 1,2 A

4.3.4 Initial contact resistance

According IEC 512-2, test 2a
Mated connectors
Connection point: 2 mm below the PC board top
Maximum value: 25mΩ

4.3.5 Initial insulation resistance

According IEC 521-2, test 3a
Test voltage: 100 V ± 15 V d.c.
Minimum value: 5 GΩ

5. PACKAGING AND LABELING

The cardboard packaging consists of a box and a separator insert.

Packaging amount:

9 contacts and 15 contacts: 100 connectors

25 contacts and 37 contacts: 50 connectors

The box is neutral and a sticker is put on it.

This sticker contains the following information (both in text and in Barcode format):

'tyco / Electronics'
Tyco partnumber
amount
processing partnumber
traceability code

Occasionally the old partnumber is also printed on the sticker.

6. PRODUCT MARKING

Marking is applied by means of a inkjet printer on the insulation part.

Colour: blue

Indelible according IEC 68 T2-45

tyco: normal font, height 1.6 mm, on the left side
datumcode: normal font, height 1.4 mm, in the middle
UL-logo: logo height 2.5 mm, on the right side
(UL-logo after UL-permission)

7. QUALITY

See quality assurance agreement F49-F4958