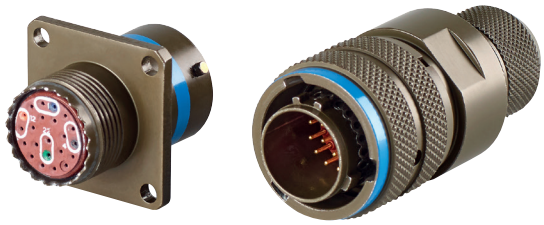
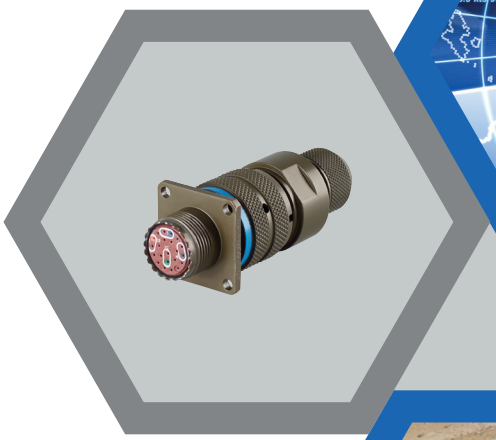
Amphenol-Air LB

SJT/TV DATA CONNECTOR

for High-Speed data transmission up to CAT6$_A$, USB 3.0, HDMI, DVI

Data connector from Series SJT/VG96912 and TV/38999III for High-Speed Data transmission as a complete solution including shielding through SQ-Backshell.





Also available as tested harness according to specifications.
CAT6$_A$-connection including measurement report.

WE CONNECT THE WORLD AND BEYOND

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DATA CONNECTOR SJT/TV

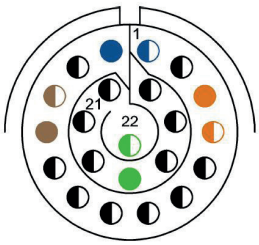
TECHNICAL CHARACTERISTICS

- Connector according to VG96912 or 38999 III with mechanically protected contact system
- 500 mating cycles, when terminated and connected IP68
- Operating temperature range: -65°C to +175°C
- The data connectors enable the following transmission depending on the contact arrangement:
  - 12-35 according to VG96912-6 / 13-35 according to 38999 III for applications up to Ethernet $CAT6_A$, 2 x CAT6, 2 x USB 3.0, HDMI 1.4 or DVI-D
  - 10-35 according to VG96912-6 / 11-35 according to 38999 III for applications up to Ethernet CAT6 or USB 3.0
- Wire size of the 22D crimp contacts AWG28-22 / 0.09-0.38mm²

DATA CONNECTOR SJTxx12-35 OR TVxx13-35 ENABLES THE FOLLOWING APPLICATIONS

- 10Gbit Ethernet = $CAT6_A$ according to ISO / IEC 11801 up to 500 MHz
- up to 2 x 1Gbit Ethernet = CAT6 according to ISO / IEC 11801 up to 250 MHz
- up to 2 x USB 3.0 (max. 5 Gbit / s)
- HDMI (up to 1.4), DVI-D
- The connector SJTG06RT12-35Dx 0xx SQ fulfills category $CAT6_A$ with a connected CAT7-HFFR cable of type VG95218T031B001 and pin assignment according to VG96912-6

Contact assignment according to VG96912-6:



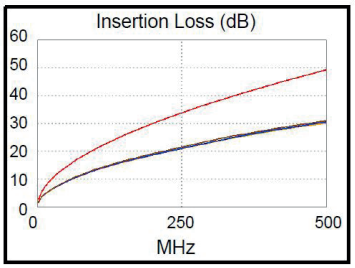
MEASUREMENT ACCORDING TO ISO / IEC 61935-1 AND 11801-1-4, IEEE 802.3
PRE-ASSEMBLED $CAT6_A$ DATA CABLE ACCORDING TO VG96912-6 ASSIGNMENT, L = 50M

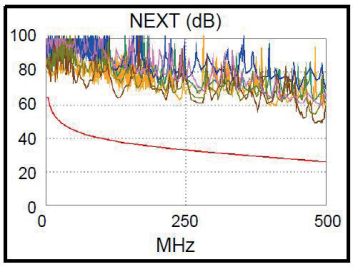
Length (m), Limit 100.0	[Pair 12]	50.4
Prop. Delay (ns), Limit 555	[Pair 78]	227
Delay Skew (ns), Limit 50	[Pair 12]	0
Resistance (ohms)	[Pair 45]	12.91
Insertion Loss Margin (dB)	[Pair 78]	18.3
Frequency (MHz)	[Pair 78]	500.0
Limit (dB)	[Pair 78]	49.3

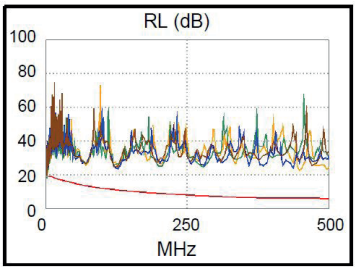
	Worst Case Margin		Worst Case Value	
PASS	MAIN	SR	MAIN	SR
Worst Pair	12-36	36-45	36-45	36-45
NEXT (dB)	16.4	15.4	22.8	24.5
Freq. (MHz)	4.1	2.3	480.0	494.0
Limit (dB)	62.8	65.0	26.6	26.2
Worst Pair	36	36	36	36
PS NEXT (dB)	16.0	15.7	24.6	25.3
Freq. (MHz)	4.1	2.3	480.0	494.0
Limit (dB)	60.3	62.0	23.7	23.4
PASS	MAIN	SR	MAIN	SR
Worst Pair	45-36	36-45	45-36	36-45
ACR-F (dB)	17.0	16.9	17.3	17.4
Freq. (MHz)	471.0	471.0	498.0	499.0
Limit (dB)	9.8	9.8	9.3	9.3
Worst Pair	36	45	36	45
PS ACR-F (dB)	15.6	15.9	19.2	19.4
Freq. (MHz)	1.0	1.0	499.0	499.0
Limit (dB)	60.3	60.3	6.3	6.3
N/A	MAIN	SR	MAIN	SR
Worst Pair	12-36	36-45	36-45	36-45
ACR-N (dB)	17.5	16.4	41.8	43.0
Freq. (MHz)	2.4	2.1	490.0	494.0
Limit (dB)	61.7	61.9	-22.4	-22.7
Worst Pair	36	36	36	36
PS ACR-N (dB)	17.4	16.7	43.0	44.0
Freq. (MHz)	4.1	2.1	480.0	494.0
Limit (dB)	56.1	58.9	-24.5	-25.6
PASS	MAIN	SR	MAIN	SR
Worst Pair	36	12	12	45
RL (dB)	7.7	7.1	16.6	17.2
Freq. (MHz)	5.1	5.1	449.0	459.0
Limit (dB)	19.0	19.0	6.0	6.0

Compliant Network Standards:

10BASE-T	100BASE-TX	100BASE-T4
1000BASE-T	10GBASE-T	ATM-25
ATM-51	ATM-155	100VG-AnyLan
TR-4	TR-16 Active	TR-16 Passive





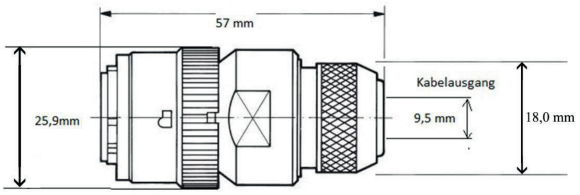


OVERVIEW OF CONNECTION ASSIGNMENTS SJTxx12-35 OR TVxx13-35

Termination Arrangement 12-35 (VG96912) / 13-35 (38999 III)					
Contact	2 x USB 3.0	HDMI bis 1.4	DVI-D (Single-Link)	CAT6A \ 10Gbit/s	2 x CAT6 / Nato Stanag 4754
1	V-Bus/ 5V	Data 2+	Data 2+	white-blue	brown
2	GND-Power	Data 2-	Data 2-	nc	nc
3	TX-	Data 1+	Data 1+	orange	orange
4	TX+	Data 1-	Data 1-	white-orange	nc
5	RX-	Data 0+	Data 0+	nc	orange
6	RX+	Data 0-	Data 0-	nc	blue
7	D- (USB 2.0)	HPDD / HEC Data +	HPDD / HEC Data +	nc	blue-white
8	D+ (USB 2.0)	HEC Data- (nur 1.4)	nc	nc	blue-white
9	TX-	Clock+	Clock+	nc	blue
10	TX+	Clock-	Clock-	nc	green
11	RX-	DDC / CEC / HEC -Mass	DDC / CEC / HEC -Mass	brown	nc
12	RX+	DDC Takt (SCL)	DDC Takt (SCL)	white-brown	green
13	GND-Power	DDC Data (SDA)	DDC Data (SDA)	nc	nc
14	V-Bus/ 5V	DDC / CEC / HEC -Mass	DDC / CEC / HEC -Mass	blue	brown
15	Not terminated	Shield Data 2	Shield Data 2	nc	brown-white
16	Shield TX	Shield Data 1	Shield Data 1	nc	orange-white
17	Shield RX	Shield Data 0	Shield Data 0	nc	orange-white
18	D+ (USB 2.0)	DDC / CEC / HEC -Mass	DDC / CEC / HEC -Mass	green	Shielded cable 2
19	Shield TX	Shield Clock	Shield Clock	nc	green-white
20	Shield RX	CEC	nc	nc	green-white
21	Not terminated	V DC / +5V	V DC / +5V	nc	brown-white
22	D- (USB 2.0)	V DC-Mass	V DC-Mass	white-green	Shielded cable 1
		Shielding through SQ-Backshell			Backshell additional shielding
	USB 1				Ethernet 1
	USB 2				Ethernet 2

DIMENSIONS SJT DATA PLUG, CONTACT ARRANGEMENT 12-35

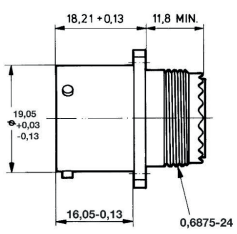
- Straight plug with shielded backshell: SJTG06RT12-35Dx 0xx SQ
  (x= Contact type Pin or Socket / xx= Plating)

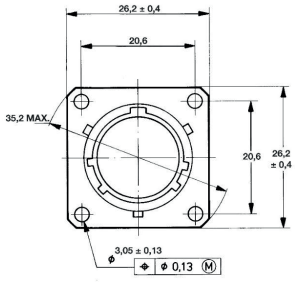


- Shielded SQ-Backshell (Basic form VG96912L12, 42415-053, VG96912L12B, 42415-063-029J)
- Needed heat shrink boot :
  Ordering example TE, version inclusive adhesive coating :
  0°= 202 K132-25/225-0 or 90°= 222 K132-25/225-0

DIMENSIONS SJT DATA FLANGE RECEPTACLE, CONTACT ARRANGEMENT 12-35

- Flange receptacle : SJT00RT12-35Dx 0 xx SQ
  (x= Contact type Pin or Socket / xx= Plating)

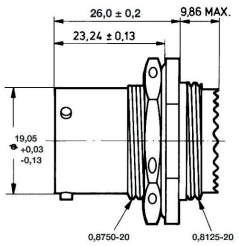


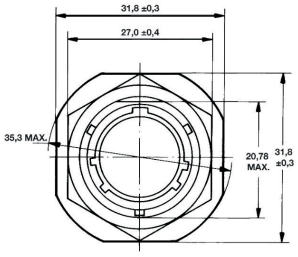


- SQ-backshell (if needed) : cadmium-plated VG96912L12, nickel-plated 42415-053, marine bronze VG96912L12B, J version 42415-063-029J
- Electrically conductive seal with 80 dB screening attenuation: EF-D12-Y3-A

DIMENSIONS SJT DATA JAM NUT RECEPTACLE, CONTACT ARRANGEMENT 12-35

- Jam nut receptacle SJT07RT12-35Dx 0 xx SQ
  (x= Contact type Pin or Socket / xx= Plating)



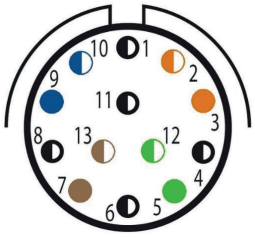


- SQ-backshell (if needed): cadmium-plated VG96912L014, nickel-plated 42417-055, marine bronze VG96912L014B, J-version 42417-065-029J
- Electrically conductive seal with 80 dB attenuation: EL-DH12-Y3-A

DATA CONNECTOR SJTxx10-35 OR TVxx11-35 ENABLES THE FOLLOWING APPLICATIONS

- 1Gbit Ethernet = CAT6 according to ISO/IEC 11801, DIN EN 50173-1 up to 250 MHz
- USB 3.0 (max. 5 Gbit/s)
- The connector SJTG06RT10-35Dx 0xx SQ fulfills the category CAT6 with a connected CAT7-HFFR cable of type 191-031200-xx (VG95218T031B001) or CAT6A-HFFR of type 191-031179-00 and the specified contact assignment

Contact assignment :



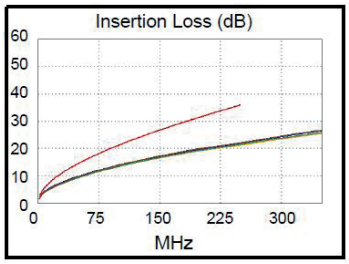
MEASUREMENT ACCORDING TO ISO/IEC 61935-1 AND 11801-1-4, IEEE 802.3
PRE-ASSEMBLED CAT6 DATA CABLE, L = 50M

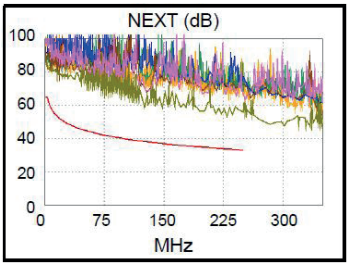
Length (m), Limit 100.0	[Pair 12]	47.6
Prop. Delay (ns), Limit 555	[Pair 78]	231
Delay Skew (ns), Limit 50	[Pair 36]	1
Resistance (ohms)	[Pair 45]	21.22
Insertion Loss Margin (dB)	[Pair 78]	13.8
Frequency (MHz)	[Pair 78]	250.0
Limit (dB)	[Pair 78]	35.9

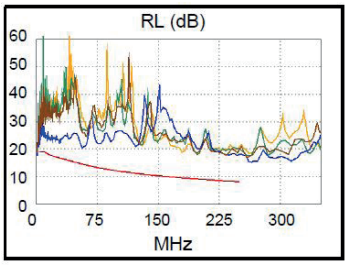
	Worst Case Margin		Worst Case Value	
PASS	MAIN	SR	MAIN	SR
Worst Pair	36-78	12-36	36-78	36-78
NEXT (dB)	18.0	19.5	19.7	20.6
Freq. (MHz)	3.0	2.1	227.0	250.0
Limit (dB)	65.0	65.0	33.8	33.1
Worst Pair	36	36	78	36
PS NEXT (dB)	18.1	19.4	22.4	23.1
Freq. (MHz)	3.8	3.9	227.0	250.0
Limit (dB)	61.0	60.8	30.9	30.2
PASS	MAIN	SR	MAIN	SR
Worst Pair	36-78	36-78	36-78	36-78
ACR-F (dB)	19.9	19.6	22.6	21.5
Freq. (MHz)	126.0	124.0	195.5	171.0
Limit (dB)	21.2	21.4	17.4	18.6
Worst Pair	45	45	78	78
PS ACR-F (dB)	18.8	18.8	23.3	24.0
Freq. (MHz)	1.0	1.0	195.5	191.0
Limit (dB)	60.3	60.3	14.4	14.6
N/A	MAIN	SR	MAIN	SR
Worst Pair	36-78	12-36	36-78	36-78
ACR-N (dB)	18.9	20.4	32.8	34.4
Freq. (MHz)	3.0	2.1	229.5	250.0
Limit (dB)	61.5	62.0	-0.4	-2.8
Worst Pair	36	36	78	78
PS ACR-N (dB)	19.2	20.6	35.6	37.3
Freq. (MHz)	3.8	3.9	229.5	250.0
Limit (dB)	57.1	56.8	-3.4	-5.8
PASS	MAIN	SR	MAIN	SR
Worst Pair	45	45	45	78
RL (dB)	4.2	5.4	9.3	8.8
Freq. (MHz)	4.8	4.8	249.5	250.0
Limit (dB)	19.0	19.0	8.0	8.0

Compliant Network Standards:

10BASE-T	100BASE-TX	100BASE-T4
1000BASE-T	ATM-25	ATM-51
ATM-155	100VG-AnyLan	TR-4
TR-16 Active	TR-16 Passive	





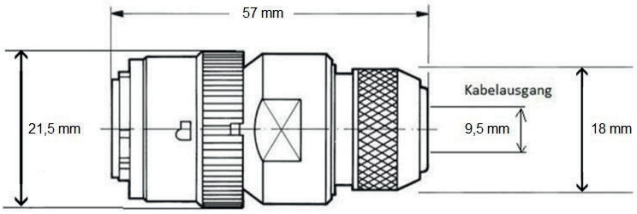


OVERVIEW CONTACT ASSIGNMENTS SJTXX10-35 OR TVXX11-35

Termination Arrangement 10-35 (VG96912) / 11-35 (38999 III)			
Contact	USB 3.0 \ 5 Gbit/s	CAT6 \ 1Gbit/s	CAT6 - Nato Stanag 4754
1	V-Bus/ 5V	nc	nc
2	D- (USB 2.0)	orange-white	brown
3	Not terminated	orange	nc
4	RX-	nc	blue
5	RX+	green	blue-white
6	Not terminated	nc	nc
7	TX-	brown	orange-white
8	TX+	nc	nc
9	Not terminated	blue	green-white
10	D+ (USB 2.0)	blue-white	green
11	GND-Power	nc	brown-white
12	Shield RX	green-white	Shield
13	Shield TX	brown-white	orange
Shielding through SQ-Backshell			

DIMENSIONS SJT DATA PLUG, CONTACT ASSIGNMENT 10-35

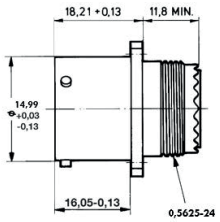
- Straight plug with shielded backshell : SJTG06RT10-35Dx 0xx SQ
  (x= Contact type Pin or Socket / xx= Plating)

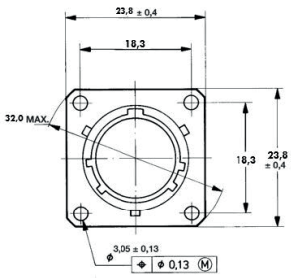


- Shielded SQ-Backshell (Basic form VG96912L003, 42416 053, VG96912L003B, 42416-063-029J)
- Needed heat shrink boot :
  Ordering example TE, version inclusive adhesive coating :
  0°= 202 K132-25/225-0 bzw. 90°= 222 K132-25/225-0

DIMENSIONS SJT DATA FLANGE RECEPTACLE, CONTACT ASSIGNMENT 10-35

- Flange receptacle : SJT00RT10-35Dx 0 xx SQ
- (x= Contact type Pin or Socket / xx= Plating)

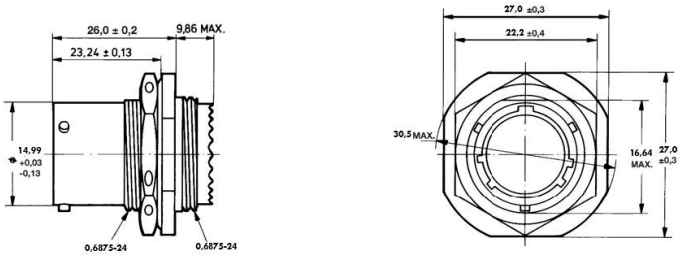




- SQ-backshell (if needed): cadmium-plated VG96912L003, nickel-plated 42416 053, marine bronze VG96912L003B, in J-version 42416-063-029J
- Electrically conductive seal with 80 dB screening attenuation: EF-D10-Y3-A

DIMENSIONS SJT DATA JAM NUT RECEPTACLE, CONTACT ASSIGNMENT 10-35

- Jam nut receptacle SJT07RT10-35Dx 0 xx SQ
- (x= Contact type Pin or Socket / xx= Plating)



- SQ-backshell (if needed): VG96912L12, nickel-plated 42415 053, marine bronze VG96912L12B, J-version 42415-063-029J
- Electrically conductive seal with 80 dB attenuation: EL-DH10-Y3-A

AVAILABLE SJT DATA CONNECTORS IN CADMIUM-PLATED VERSION

Cadmium-plated version, contact arrangement **12-35** according to VG96912:

- Plug with pin contacts : SJTG06RT12-35DP 014 SQ
- Plug with socket contacts : SJTG06RT12-35DS 014 SQ
- Flange receptacle with pin contacts : SJT00RT12-35DP 014
- Flange receptacle with socket contacts : SJT00RT12-35DS 014
- Jam nut receptacle with pin contacts : SJT07RT12-35DP 014
- Jam nut receptacle with socket contacts : SJT07RT12-35DS 014

Cadmium-plated version, contact arrangement **10-35** according to VG96912:

- Plug with pin contacts : SJTG06RT10-35DP 014 SQ
- Plug with socket contacts : SJTG06RT10-35DS 014 SQ
- Flange receptacle with pin contacts : SJT00RT10-35DP 014
- Flange receptacle with socket contacts : SJT00RT10-35DS 014
- Jam nut receptacle with pin contacts : SJT07RT10-35DP 014
- Jam nut receptacle with socket contacts : SJT07RT10-35DS 014

AVAILABLE SJT DATA CONNECTORS IN MARINE BRONZE

Marine bronze version, contact arrangement **12-35** according to VG96912:

- Plug with pin contacts : SJTG06RT12-35DP F6 SQ
- Plug with socket contacts : SJTG06RT12-35DS F6 SQ
- Flange receptacle with pin contacts : SJT00RT12-35DP F6
- Flange receptacle with socket contacts : SJT00RT12-35DS F6
- Jam nut receptacle with pin contacts : SJT07RT12-35DP F6
- Jam nut receptacle with socket contacts : SJT07RT12-35DS F6

Marine bronze version, contact arrangement **10-35** according to VG96912:

- Plug with pin contacts : SJTG06RT10-35DP F6 SQ
- Plug with socket contacts : SJTG06RT10-35DS F6 SQ
- Flange receptacle with pin contacts : SJT00RT10-35DP F6
- Flange receptacle with socket contacts : SJT00RT10-35DS F6
- Jam nut receptacle with pin contacts : SJT07RT10-35DP F6
- Jam nut receptacle with socket contacts : SJT07RT10-35DS F6

RoHS COMPLIANT

REACH COMPLIANT

AVAILABLE SJT DATA CONNECTORS IN NICKEL-PLATED VERSION

Nickel-plated version, contact arrangement **12-35** according to VG96912:

- Plug with pin contacts : SJTG06RT12-35DP 023 SQ
- Plug with socket contacts : SJTG06RT12-35DS 023 SQ
- Flange receptacle with pin contacts : SJT00RT12-35DP 023
- Flange receptacle with socket contacts : SJT00RT12-35DS 023
- Jam nut receptacle with pin contacts : SJT07RT12-35DP 023
- Jam nut receptacle with socket contacts : SJT07RT12-35DS 023

Nickel-plated version, contact arrangement **10-35** according to VG96912:

- Plug with pin contacts : SJTG06RT10-35DP 023 SQ
- Plug with socket contacts : SJTG06RT10-35DS 023 SQ
- Flange receptacle with pin contacts : SJT00RT10-35DP 023
- Flange receptacle with socket contacts : SJT00RT10-35DS 023
- Jam nut receptacle with pin contacts : SJT07RT10-35DP 023
- Jam nut receptacle with socket contacts : SJT07RT10-35DS 023

RoHS COMPLIANT REACH COMPLIANT

SJT DATA CONNECTORS IN J-VERSION (ZINC TIN) AVAILABLE FROM MID 2021

J-Version, contact arrangement **12-35** according to VG96912:

- Plug with pin contacts : SJTG06RT12-35DP 029J SQ
- Plug with socket contacts : SJTG06RT12-35DS 029J SQ
- Flange receptacle with pin contacts : SJT00RT12-35DP 029J
- Flange receptacle with socket contacts : SJT00RT12-35DS 029J
- Jam nut receptacle with pin contacts : SJT07RT12-35DP 029J
- Jam nut receptacle with socket contacts : SJT07RT12-35DS 029J

J-Version, contact arrangement **10-35** according to VG96912:

- Plug with pin contacts : SJTG06RT10-35DP 029J SQ
- Plug with socket contacts : SJTG06RT10-35DS 029J SQ
- Flange receptacle with pin contacts : SJT00RT10-35DP 029J
- Flange receptacle with socket contacts : SJT00RT10-35DS 029J
- Jam nut receptacle with pin contacts : SJT07RT10-35DP 029J
- Jam nut receptacle with socket contacts : SJT07RT10-35DS 029J

RoHS COMPLIANT REACH COMPLIANT

These data connectors are also available as TVxx11-35 and TVxx13-35 on request.