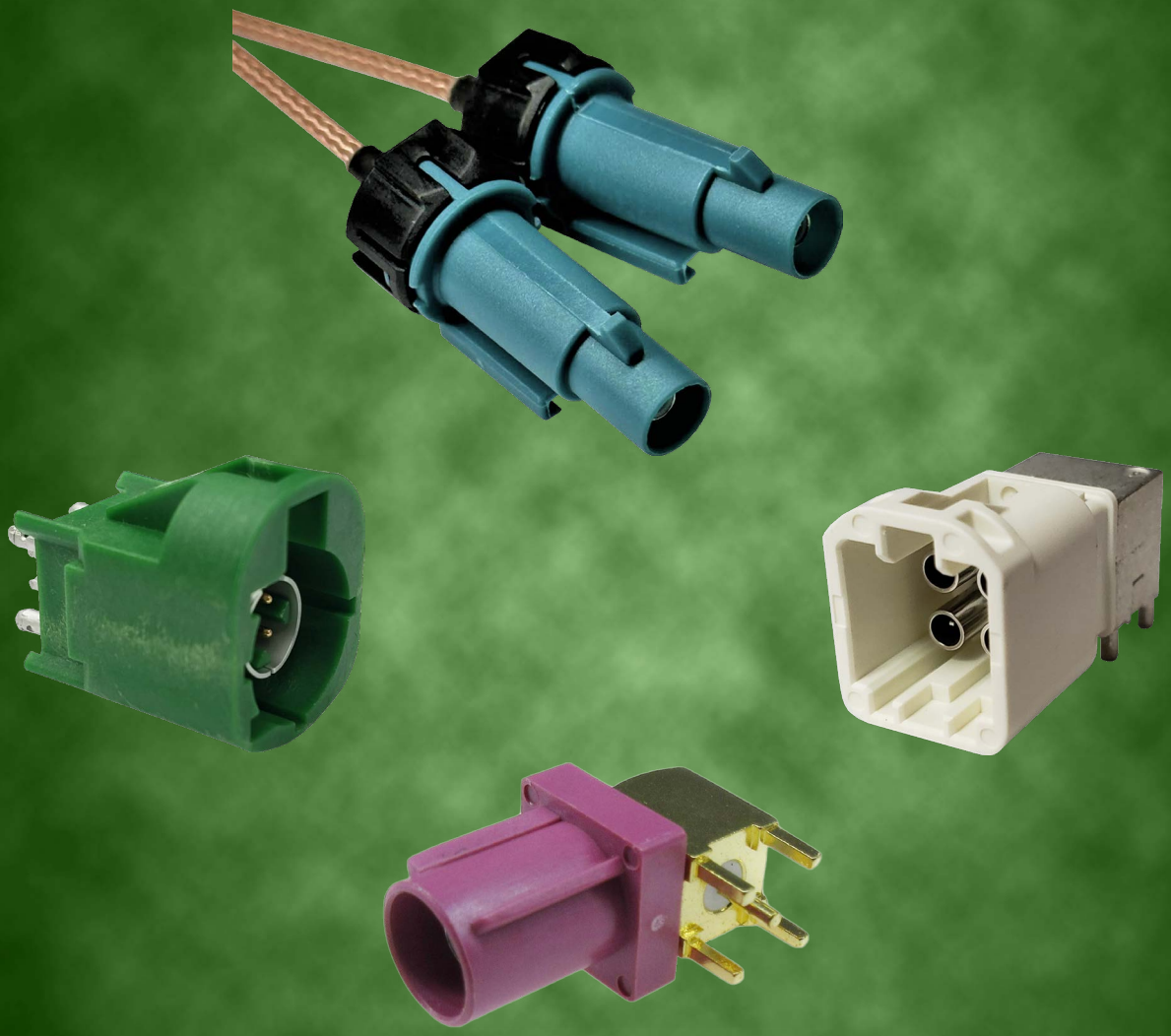
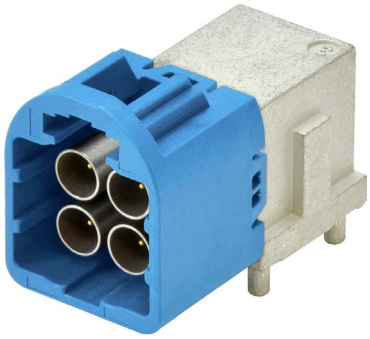
ADAM TECH

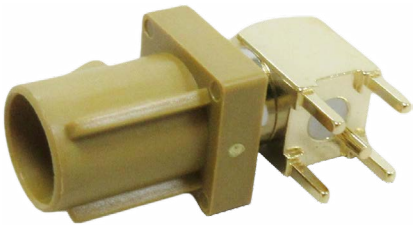


FAKRA SERIES

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FAKRA Series

Adam Tech's FAKRA series is composed of various generations of the FAKRA (Fachkreis Automobile) standard, including High Speed Data and Mini FAKRA. Each FAKRA connector is embedded within a special color-code plastic housing that contains a locking feature with an audible clicking noise, which confirms the connection. These connectors are used for both board and cable mounting, with a variety of cable assemblies available. All Adam Tech FAKRA products are RoHS compliant.

Series Outline:

- High Speed Mini FAKRA (AM and BM)
- High Speed Data FAKRA
- Waterproof FAKRA Cable Assemblies
- Standard FAKRA

Code (X)	Applications	Color/RAL
A	Radio without phantom supply	Jet Black / 9005
B	Radio with phantom supply	Cream White / 9001
C	GPS: telematics or navigation	Signal Blue / 5005
D	GSM	Claret Violet / 4004
E	TV1 / SDARS	Leaf Green / 6002
F	TV2 / SDARS	Nut Brown / 8011
G	Remote keyless entry	Blue Gray / 7031
H	GPS: telematics and navigation	Heather Violet / 4003
J	Bluetooth / controlled parking / heating	Beige / 1001
K	Radio with IF	Curry / 1027
L	Not defined	Yellow Green / 6018
M	Not defined	Pastel Orange / 2003
O	Not defined	Light Green / 6027
Z	Neutral coding	Water Blue / 5021



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High Speed Mini FAKRA







Adam Tech's FAKRA series is headlined by High Speed Mini FAKRA Connectors and Cable Assemblies. These products support data transmission rates up to 20 Gbps, and frequencies up to 9 GHz. Designed with space saving in mind, they require 80% less installation space than standard FAKRAs. Adam Tech's offering is composed of two styles: AM and BM. Between the two styles a variety of color-coded connectors and cable assemblies are available, including board side plugs, double-ended mini FAKRA jack cable assemblies, mini FAKRA to SMA cable assemblies, Mini FAKRA +MQS, and waterproof options. Mini FAKRA to standard FAKRA cable assemblies are also available, bridging the gap between the two generations.

APPLICATIONS:

- Automotive
- Autonomous driving (ADAS)
- 4k 360° surround cameras
- 4k high resolution displays
- Sensors
- Remote start and keyless entry
- Infotainment systems
- 3D instrument clusters
- GPS
- Satellite radios



FEATURES AND BENEFITS:

- High speed data transmission rates up to 20 Gbps
- Frequency: DC up to 9.0 GHz
- 1x1, 1x2, and 2x2 plugs and jacks
- Color coded mechanical layouts
- Space saving design
- Waterproof options (IP67 and IP69K)
- Mini FAKRA cable to board connection system
- Mini FAKRA +MQS 2Pin capabilities
- Mini FAKRA to SMA capabilities
- Mini FAKRA to standard FAKRA capabilities

SPECIFICATIONS:

Material:
Insulator: Thermoplastic
Contacts: Brass
Shell: Zamak, tin plated

Contact Plating:
Contact area: 80 - 160u" silver plated or 6u" gold plated
Solder tails: 80 - 160u" tin plated
Underplate: 40 - 160u" nickel underplate overall

Electrical:
Impedance: 50 Ohm
Frequency: DC to 9 GHz
Return loss: ≥ 25 dB to 3 GHz, ≥ 20 or 17 dB to 6 GHz, ≥ 12 dB to 9 GHz
Insertion loss: ≤ 0.75 dB @ 9 GHz
Insulation resistance: 1000 MΩ

Mechanical:
Mating cycles: 25 cycles minimum
Engagement force: 75N maximum
Disengagement force: 60N minimum

Temperature Rating:
Operating temperature range: -40°C to +105°C







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MHSD-01X-AM-PRX-TR
MHSD-04X-AM-PRX-TR



Right Angle PCB Plug
1x1 and 2x2

MHSD-01X-AM-PT-PP-T/R
MHSD-02X-AM-PT-PP-T/R
MHSD-04X-AM-PT-PP-T/R



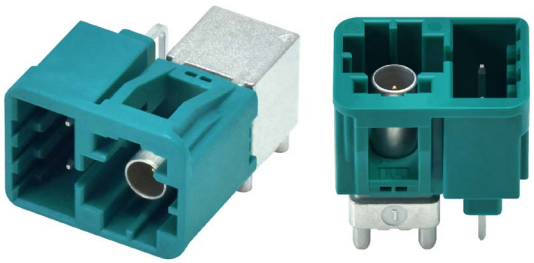
Vertical PCB Plug
1x1, 1x2, and 2x2

MHSD-04X-AM-PT-WP-PP-T/R



IP69K Waterproof Right Angle PCB Plug
2x2

MHSD-01X-AM-PPR-T/R
MHSD-01X-AM-PPT-PP-T/R



Mini FAKRA (1x1) +MQS 2Pin
Right Angle and Vertical PCB Plug

CA-AM04FXP-MHF4-XM-WP

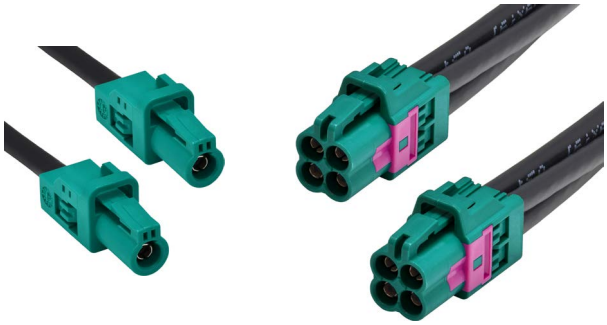


IP67 Waterproof Panel Plug
2x2

Click part number to view datasheet.

Downloaded from Arrow.com.

CA-AM01XJ-AM01XJ-XM
CA-AM04XJ-AM04XJ-XM



Double Ended Mini FAKRA
Straight Jack Cable
1x1 and 2x2

CA-AM01XJ-1FJX-XM



1x1 Mini FAKRA Straight Jack to
Standard FAKRA Straight Jack Cable

CA-AM04XJ-SMAJ4-XM



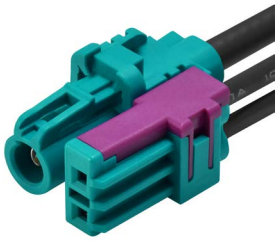
2x2 Mini FAKRA Straight Jack to
4 SMA Straight Jacks Cable

CA-AM04XJ-SMAP4-XM



2x2 Mini FAKRA Straight Jack to
4 SMA Straight Plugs Cable

CA-AM01XJ-AM01XJ-MQS2-XM

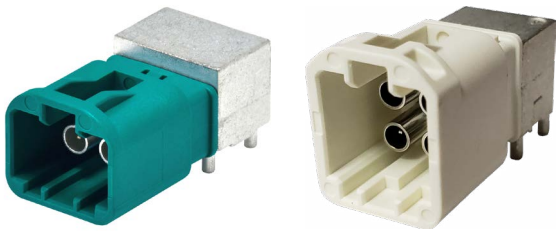


Double Ended Straight Mini FAKRA Jack (1x1)
+MQS 2Pin Cable

Click part number to view datasheet.

Downloaded from Arrow.com.

MHSD-02AX-BM-PRX-T/R
MHSD-04X-BM-PRX-TR



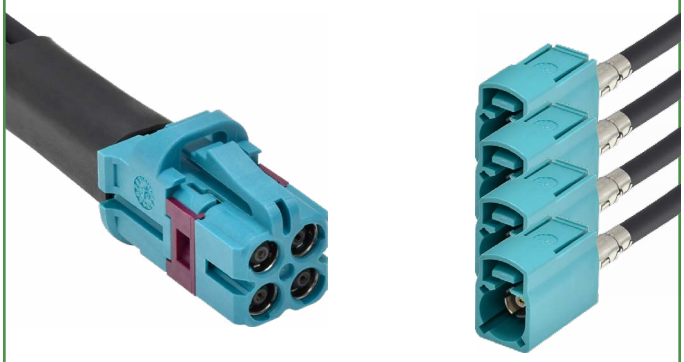
Right Angle PCB Plug
1x2 and 2x2

CA-BM04XJ-BM04XJ-X



Double Ended Mini FAKRA
Straight Jack Cable

CA-BM04XJ-4FJX-X



Mini FAKRA Straight Jack to 4
Standard FAKRA Straight Jacks Cable

CA-BM04XJ-4FPX-0.3



Mini FAKRA Straight Jack to 4
Standard FAKRA Straight Plugs Cable

Click part number to view datasheet.

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High Speed Data FAKRA



Adam Tech's High Speed Data FAKRA series is composed of four position connectors and cables equipped with a 100-ohm impedance controlled system, offering high speeds and top-quality signal transmission. Designed to satisfy RF requirements in various telematic and multimedia applications, these products provide high-performance, cost-effective RF interface to FAKRA and USCAR standards. Their SMB based design includes multiple color-coded plastic housings to ensure accurate connections, as well as to meet automotive specifications. Adam Tech's HSD FAKRA connectors and cables are ideal for automotive applications, meeting the operational and environmental requirements of Satellite Digital Audio Radio Service (SDARS), Global System for Mobile Communications (GSM), and Global Positioning System (GPS).



FEATURES AND BENEFITS:

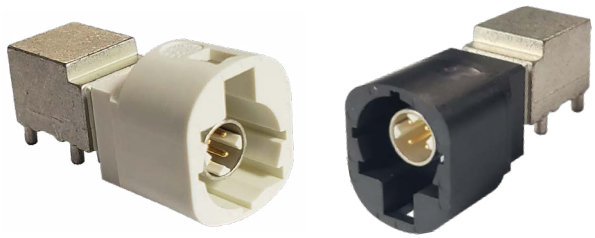
- High speed data transmission rates up to 6 Gbps
- Frequency: DC up to 2.0 GHz
- 100-ohm differential impedance
- 4 pins
- Color-coded mechanical layouts
- Locking feature
- Selective gold plating
- Shielded for EMI/RFI protection
- Multiple connector configurations including straight, right angle, and cable mount
- Double ended HSD jack cable

APPLICATIONS:

- Automotive
- GPS
- Bluetooth
- Keyless entry
- Telematics
- Outdoor routers
- Satellite radios
- Infotainment systems
- Medical devices
- Machines with RF interfacing
- High tech applications
- Harsh environment

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HSD-04X-S-PRA-SG-C1-TR
HSD-04X-S-PRB-SG-C1-TR



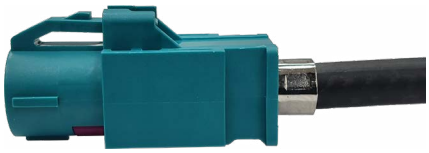
Right Angle PCB Plug
Standard and Reverse Orientation

HSD-04X-S-PT-SG-C1-TR



Straight PCB Plug

HSD-04X-S-SD-SG-C4



Solder Cable Socket

CA-HS04XJ-HS04XJ-XM



Double Ended Straight
HSD FAKRA Jack Cable

Click part number to view datasheet.

SPECIFICATIONS:

Material:
Plugs:
Insulator: PA
Contacts: Brass
Outer contacts: Zinc alloy
Sockets:
Insulator: PBT, rated UL 94V-0
Contacts: Phosphor bronze
Contact sleeve: Phosphor bronze
Outer contacts: Brass

Contact Plating:
Contact area: Selective gold plated
Solder tails area: Tin plated

Electrical:
Impedance, differential mode: 100 Ω differential signaling, for one pair or quad cable shielded
Frequency: DC to 2.0 GHz
Return loss: ≥ 20 dB to 1.0 GHz or ≥ 17 dB to 2.0 GHz
Insertion loss: ≤ 0.1 dB @ 1.0 GHz
Insulation resistance: 1000 MΩ
Signal contact resistance: 10 mΩ

Mechanical:
Mating cycles: ≥ 25 cycles
Engagement force: ≤ 30N
Disengagement force: ≥ 5N
Retention force latch: ≥ 110N
Coding efficiency: ≥ 80N

Temperature Rating:
Operating temperature range: -40°C to +105°C

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Waterproof FAKRA Cable Assemblies

Adam Tech's Waterproof FAKRA Cable Assemblies are available in ratings of IP69K, IP67, and IPX7. The double-ended FAKRA cables are offered as jack to jack, plug to plug, and jack to plug configurations. FAKRA plug to IPEX cable assemblies are also available. These assemblies are offered in a variety of cable types, and lengths ranging from 0.1m to 5m. The series includes a line of non-waterproof options, ranging in cable configuration, type, and length.

FEATURES AND BENEFITS:

- Waterproof ratings: IP69K, IP67, and IPX7
- Various cable assembly configurations including double-ended FAKRA and FAKRA to IPEX
- Cable types: RTK-031, RG-174, RG-316U, and O.D. 1.37mm coaxial
- Cable lengths: 0.1m, 0.3m, 0.6m, 1m, 2m, 3m, 4m, and 5m
- Straight and right angle connectors
- Non-waterproof options available
- Color coded mechanical layouts



APPLICATIONS:

- Automotive
- Bluetooth
- Remote start and keyless entry
- Infotainment systems
- GPS
- Climate controls
- Satellite radios
- Vehicle cameras



SPECIFICATIONS:

Connector:
Insulator: Thermoplastic
Contacts: Brass, gold plated

Cable:
Wire spec: RTK-031, RG-174, RG-316U
Wire gauge: 22-30 AWG

Electrical:
Impedance: 50 Ohm

Temperature Rating:
Operating temperature range: -40°C to +105°C



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CA-FJFJR-XX001XWP



Straight FAKRA Jack to Right Angle
FAKRA Jack – IP69K

CA-FJFJ-XX003XWP



Double Ended Straight
FAKRA Jacks – IP69K

CA-FJFJ-XX004XWP



Double Ended Straight
FAKRA Jacks – IPX7

CA-FJFM-XX002XWP



Straight FAKRA Jack to Straight
FAKRA Plug – IPX7

CA-FJRFJR-XX001XWP



Double Ended Right Angle
FAKRA Jacks - IP69K

CA-FMFM-XX001XWP



Double Ended Straight
FAKRA Plugs – IPX7

CA-FMFJ-XX001XWP
CA-FMFJ-XX001XWPA



Straight FAKRA Plug to Straight
FAKRA Jack – IP69K

Click part number to view datasheet.

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CA-FMP1-XX001XWP



Straight FAKRA Plug (IP67)
to I-PEX Gen 1

CA-FMP4-XX001XWP



Straight FAKRA Plug (IP67)
to I-PEX Gen 4

CA-FJFJR-XX002X



Straight FAKRA Jack to Right Angle
FAKRA Jack - CNC Parts

CA-FJFJ-XX001X



Double Ended Straight
FAKRA Jacks

CA-FJFJ-XX002X



Double Ended Straight
FAKRA Jacks

CA-FJFM-XX001X



Straight FAKRA Jack to Straight
FAKRA Plug

Click part number to view datasheet.

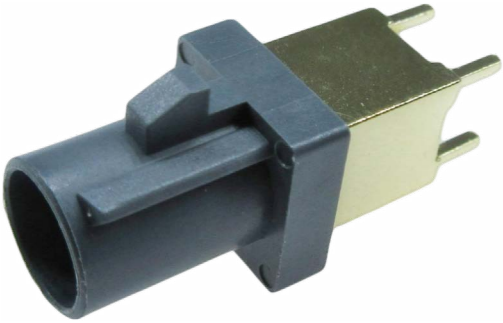
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Standard FAKRA

Adam Tech's Standard FAKRA series is composed of various automotive-grade plugs, jacks, and adapters, including SMA and SMB. Operating up to 6 GHz, these board and cable mount connectors are offered in both vertical and right angle orientations. Waterproof FAKRAs are also available, with IP54, IP67, and IP69K ratings.

FEATURES AND BENEFITS:

- Frequency: DC up to 6.0 GHz
- Color coded mechanical layouts
- SMA and SMB
- Waterproof options (P54, IP67, and IP69K)
- Board and cable mount
- Vertical and right angle
- Various body options
- Camera module adapter option



APPLICATIONS:

- Automotive
- Bluetooth
- Remote start and keyless entry
- Infotainment systems
- GPS
- Climate controls
- Satellite radios
- Vehicle cameras



SPECIFICATIONS:

Material:
Insulator: Thermoplastic (PTFE)
Pin contact and body: Gold over nickel or brass underplate
Shell: PA66, copper alloy, or zinc alloy

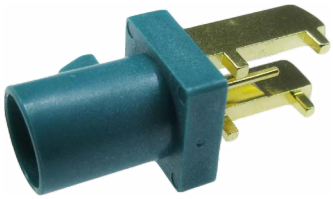


Electrical:
Impedance: 50 Ohm
Frequency: DC up to 6.0 GHz
Withstanding voltage: 335, 500, or 800 V
Insulation resistance: 1000 MΩ
Contact resistance: 6, 10, or 20 mΩ max

Temperature Rating:
Operating temperature range: -40°C to +125°C

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RF55-23X-T-00-50-G-X-SH



SMB FAKRA Plug
Right Angle Board Mount

RF55-24X-T-09-50-X-SH



SMB Bulkhead FAKRA Plug
Straight Cable Mount – IP54

RF55-25X-T-00-50-G-SH



SMB FAKRA Plug (Tall Body)
Straight Board Mount

RF55-26X-T-09-50-X-SH



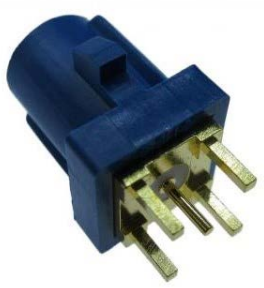
SMB Bulkhead FAKRA Plug
Straight Cable Mount – IP67

RF55-27X-T-02-50-X-SH



SMB FAKRA Plug
Straight Cable Mount for Panel

RF55-28X-T-00-50-G-SH

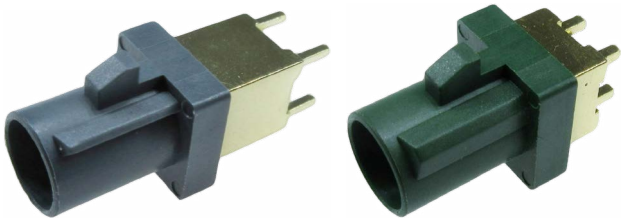


SMB FAKRA Plug
Straight DIP Board Mount

Click part number to view datasheet.

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RF55-29X-T-00-50-G-SH
RF55-30X-T-00-50-G-SH



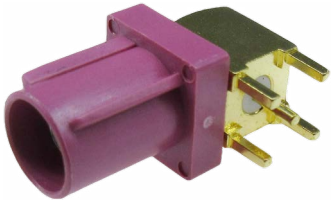
SMB FAKRA Plug
Straight DIP Board Mount

RF55-31X-T-02-50-X-SH



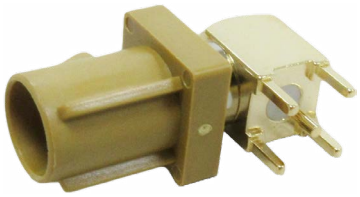
SMB FAKRA Plug
Straight Cable Mount

RF55-32X-T-00-50-X-SH



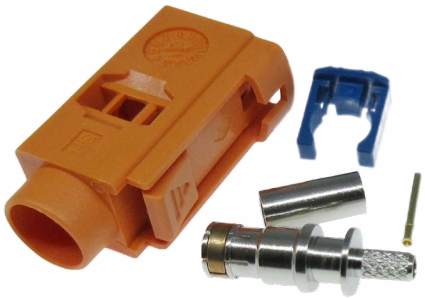
SMB FAKRA Plug (Short Body)
Right Angle Board Mount

RF55-33X-T-00-50-X-SH



SMB FAKRA Plug
Right Angle Board Mount

RF55-34X-T-02-50-SH



SMB FAKRA Jack
Straight Cable Mount for Panel

Click part number to view datasheet.

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RF55-41X-Y-00-50-A-PP-T/R
RF55-70AX-T-00-50-PP-T/R
RF55-70BX-T-00-50-PP-T/R



FAKRA Plug
Vertical Board Mount

RF55-40X-Y-00-50-X-T/R
RF55-85X-Y4-00-50-X-T/R



FAKRA Plug
Right Angle Board Mount

RF55-65X-L-00-50-X-T/R



FAKRA Twin Plug
Right Angle Board Mount

RF3-65-L-00-50-PP-T/R



SMB Camera Module
Vertical Board Mount

RF55-86X-T-AS-50-WP



SMB Camera Module to FAKRA Plug Adapter
IP67/IP69K

Click part number to view datasheet.

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adam-tech.com

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