

Mini Coaxial CONNECTORS

NMB



The mini coaxial connector, designed in compliance with the USCAR-49 specification, offers a compact, high-performance alternative to standard FAKRA connectors. With a significantly smaller package size, it enables space-saving integration in densely populated automotive applications without compromising signal integrity. Engineered to support frequency ranges up to 20 GHz, this connector delivers superior RF performance, making it ideal for high-speed data and advanced driver-assistance systems (ADAS). It is available in single, dual, and quad configurations, providing scalable solutions for diverse vehicle architectures and future-ready connectivity demands.

Features

- Complies with USCAR-49
- Smaller package size and higher performance compared to standard FAKRA connectors
- Frequency range up to 20 GHz
- Available in Single, Dual and Quad design
- Interface compatible with Rosenberger HFM series / USCAR version A

Applications

- Autonomous driving & ADAS
- Navigation
- Infotainment
- WiGig (Wireless Gigabit)
- ECU & TCU

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Electrical Characteristics

Impedance	50 Ω
Frequency range	DC 0.01 GHz to 9 GHz
Return loss	0.01 GHz < f \leq 2 GHz: \leq -17.5 dB 2 GHz < f \leq 6 GHz: \leq -14 dB 6 GHz < f \leq 7 GHz: \leq -12 dB 7 GHz < f \leq 9 GHz: \leq -10 dB
Near-end crosstalk	1. GHz < f \leq 4 GHz: <60 dB 4 GHz < f \leq 9 GHz: <50 dB
Insulation resistance	100 M Ω MIN
Dry circuit resistance	24 m Ω MAX (inner contact) / 10 m Ω MAX (outer contact)
Dielectric Withstand Voltage	800 V AC rms
Voltage	\leq 60 V DC
Current	\leq 3 A DC
Screening (Shielding) Attenuation	0.1 GHz < f \leq 2 GHz: -62 dB 2 GHz < f \leq 5 GHz: -55 dB 5 GHz < f \leq 9 GHz: -50 dB

Mechanical Characteristics

Mating cycles	\geq 25
Engagement force	\leq 25 N (for Single mini coax) \leq 45 N (for Dual and Quad mini coax)
Disengagement force	\leq 75 N

Environmental Conditions

Temperature range	-40 $^{\circ}$ C ~ 105 $^{\circ}$ C
Thermal shock	USCAR-2 / USCAR-49 Compliant
Disengagement force	USCAR-2 / USCAR-49 Compliant
Engagement force	USCAR-2 / USCAR-49 Compliant
Disengagement force	USCAR-2 / USCAR-49 Compliant
Maximum soldering temperature	255 $^{\circ}$ C
RoHS compliant/ Lead free	Compliant