DATASHEET

# Multi-Interface Floating Backshell (MFB) ›

**The Multi-Interface Floating Backshell (MFB) provides a robust, sealed camera backshell that improves the efficiency of assembly operations, enhances design flexibility and delivers reliable performance for camera integration applications across a diverse range of vehicle models.**

## ADVANTAGES AND FEATURES

### Enhances design flexibility
Helping designers streamline integration for various vehicle models, multiple interfaces are available, including FAKRA, High-Speed FAKRA-Mini (HFM) and Mate-AX.

### Improves assembly efficiency
The floating range of ±0.5mm in all directions absorbs mating misalignments during camera module assembly, increasing the camera yield rate.

### Withstands water exposure for vehicle exterior use
The backshell ensures the camera module is waterproof and sealed to IP69K-rated standards.

### Meets industry standards
The backshell meets USCAR2-6 and USCAR17-5 standards for reliability and performance.

| | |
|---|---|
| Industry Standards | USCAR2-6, USCAR17-5 |
| Mating Interfaces | FAKRA, High-Speed FAKRA-Mini (HFM), Mate-AX |
| Frequencies | Up to 6 GHz |
| Sealing | IP69K (with harness and housing) |
| Float Range | x-, y-, z-axes ±0.5mm |
| Operating Temperatures | -40 to +105°C |

### Optimizes signal integrity and thermal management
Backshells are available with plastic, aluminum or hybrid plastic/aluminum housings to help designers balance cost, signal integrity and heat dissipation challenges.

### Supports high-performance camera systems
Data transfer frequencies up to 6 GHz enable high-resolution cameras necessary for advanced driver assistance systems (ADAS).

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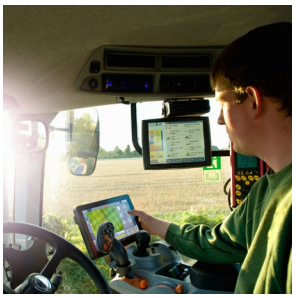
## MARKETS AND APPLICATIONS

### Automotive
ADAS cameras
Autonomous vehicles
Commercial vehicles
Recreational vehicles

### Agricultural Machinery
Agricultural vehicle cameras

### Industrial Automation
Mining and construction equipment

*ADAS Cameras*



*Agricultural Vehicle Cameras*

*Mining and Construction Equipment*

## SPECIFICATIONS

### Reference Information
Packaging: Tray
Designed in: Millimeters
RoHS: Yes
Halogen Free: Yes
Industry Standards: USCAR2-6, USCAR17-5
Mating Interface: FAKRA, High-Speed FAKRA-Mini (HFM), Mate-AX

### Mechanical
Floating Range: x-, y-, z-axes ±0.5mm
Structure Type: Camera backshell
Seal Rating: IP69K (with harness and housing)

### Physical
Housing: Polybutylene terephthalate (PBT) plastic, aluminum, hybrid
PCB Jack: Floating SMT
Operating Temperatures: -40 to +105°C
(includes temperature rise from applied current)

### Electrical
Voltage: Up to 60V DC
Current: Up to 1.0A
Frequencies: Up to 6 GHz
Standing Wave Ratio:
- 1.20 (70 to 200 MHz, AM/FM)
- 1.35 (≤0.5 GHz)
- 1.40 (0 to 2 GHz)
- 1.50 (>2 to 3 GHz)
- 1.60 (>3 to 6 GHz)

Return Loss (dB):
- 20.83 (70 to 200 MHz, AM/FM)
- 16.54 (≤0.5 GHz)
- 15.56 (0 to 2 GHz)
- 13.98 (>2 to 3 GHz)
- 12/74 (>3 to 6 GHz)

Insertion Loss (dB):
- 0.15 (70 to 200 MHz, AM/FM)
- 0.25 (≤0.5 GHz)
- 0.3 (0 to 3 GHz)
- 0.45 (>3 to 6 GHz)

**www.molex.com**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