

40V N-Channel MOSFET for Ultra-Compact, High-Current Power Designs



Features

- AEC-Q101 qualified
- Single N-Channel Power MOSFET
- 40 V Drain-Source Voltage (VDS)
- 145 A Continuous Drain Current (ID)
- Ultra-Low RDS(ON): 2.9 mΩ
- High Efficiency with minimized conduction losses
- DFN5060 Package for compact layouts



Benefits

Higher Efficiency: Ultra-low on-resistance reduces conduction losses and heat generation, improving overall system efficiency.

High Current Capability in a Compact Package: Supports demanding power loads while saving PCB space, ideal for EV and industrial designs.

Applications



Electric power steering



Programmable power supplies



Warehouse automation actuators



AEC-Q Qualified

2.9 mΩ Rds(on) and AEC-Q101 Qualification in a Thermally Efficient DFN5060 Package

Reliable High-Current MOSFET for Power Switching Applications



Product Attributes, Parametrics & Datasheets

Product	Type	Package	Drain-Source Voltage VDS (V)	Drain-Source Voltage VDS (V)	Drain Current ID (A)	Drain-Source On-Resistance RDS(ON) Max @VGS=10V (Ω)	Datasheet
MCAC2D9N04 YHQ	Power MOSFET	DFN5060	Single N	40	145	0.0029	Info

Applications



Automotive & EV Systems

- Body electronics and control modules (BCM) in EVs
- Power distribution units (PDUs) for EV and hybrid vehicles
- On-board chargers (OBC) and auxiliary power modules
- Electric power steering (EPS) and electric braking systems
- Lighting control (LED headlamps, DRL, interior lighting)

Industrial Power Conversion

- DC-DC converters for industrial and telecom power supplies
- AC-DC front-end stages (as synchronous rectification / secondary-side switching)
- Uninterruptible power supplies (UPS) and backup power modules
- Programmable power supplies and lab equipment

General Load Management & Switching

- Smart load switching for resistive, capacitive, and inductive loads
- Power distribution switches in embedded and rack systems
- Relay and fuse replacement in solid-state power switches
- Lighting, HVAC, and building automation load control

Energy Storage & Battery Management

- Battery Management Systems (BMS) for EV, ESS, and industrial battery packs
- Cell balancing, pack protection, and switching paths
- Battery disconnect and pre-charge circuits
- Portable and modular energy storage systems

Motor Drives & Motion Control

- Motor drives and control for BLDC, PMSM, and brushed DC motors
- Pumps, fans, and compressor drives in automotive and industrial equipment
- Robotics, AGVs, and warehouse automation actuators
- Power tools, garden tools, and small appliance motor controllers

CONTACT MCC TO REQUEST A SAMPLE

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