

## Product Brief

# AIKQ200N75CP2

## Duo Pack 750V EDT2 IGBT & Emcon3 Diode in TO247PLUS

The AIKQ200N75CP2 product is a discrete IGBT with co-packed diode in TO-247PLUS package, designed for discrete main inverter systems.

This device contains the benchmark EDT2 IGBT technology with 750V collector-emitter blocking voltage for lowest switching and conduction losses. This enables up to 470Vdc battery voltages.

Furthermore, EDT2 devices have a tight parameter distribution and are designed for paralleling operation providing system flexibility and power scalability to the final designs.

The robust and field-proven EDT2 technology combined with the outstanding Infineon quality significantly improves the performance and dependability of inverter systems. The co-packed diode is a fast recovery anti-parallel Emitter controlled diode with efficient and soft switching behavior.

The AIKQ200N75CP2 has a very low forward voltage of 1.3V and offers the highest current power density in the market within a To-247-3 plus package. This reduces the number of paralleled devices required to reach a certain power class, increasing power density and reducing the overall system cost.

This TO-247PLUS package with high creepage distance fulfills automotive high voltage application requirements up to 470V V<sub>dc</sub>.

As a widely used package in discrete inverter system design, this package offers high compatibility to replace older devices in existing inverter designs.

### Key features

- › 750 V collector-emitter blocking voltage
- › Smooth switching characteristics
- › Very low VCE(sat), 1.3 V at ICnom = 200 A
- › Short circuit robust
- › Very tight parameter distribution
- › Low gate charge QG
- › Co-packaged with fast soft recovery Emitter Controlled diode
- › Qualified according to AEC-Q101
- › Increase overvoltage margin in the application
- › Reduction of number of paralleled devices required
- › Simple gate drive design
- › Self-limiting current under short circuit condition
- › Low EMI signature
- › High reliability and operating lifetime



# Automotive Duo Pack 750V EDT2 IGBT & Emcon3 Diode in TO247Plus Package

What product variants are offered as duo pack EDT2 IGBT and Emcon3 diode in TO247Plus? package?

Product Variant	IC(nom) 100C° [A]	V <sub>CEsat</sub> [V]
AIKQ120N75CP2	120	1.3
AIKQ200N75CP2	200	1.3

## Target Applications

- > xEV traction inverter
- > xEV auxiliary inverters
- > DC Link Discharge Switch

## FUTURE OF TRACTION INVERTER

Designed for highly scalable automotive inverters up to 150kW. Using 750V EDT2 as benchmark technology for inverter systems.

## SCALABILITY

Straightforward up- and downscaling based on system power requirements by component parallelization.

## SYSTEM COST SAVINGS

Discrete power switches contribute significantly to cost savings of inverter systems.

## FLEXIBLE INVERTER FORM FACTOR

Discrete components allow for flexible, customized system designs. Also changes in system layouts can be quickly implemented.

Do you need further details?

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