Product Brief

AIKQ120N75CP2

Duo Pack 750V EDT2 IGBT & Emcon3 Diode in TO247PLUS

The AIKQ120N75CP2 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 AIKQ120N75CP2 is a successor product for Infineon's previous generation of traction inverter IGBT devices (i.e. AUIRGPS4070D0 or AIKQ120N60CT) and a drop-in replacement for competitors' 120A nominal current devices (at Tc=100C), bringing the unique efficiency of the EDT2 technology to existing systems.

The TO-247PLUS package with high creepage distance fulfills automotive high voltage application requirements up to 470V V_{dc}.
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),1.30 V at ICnom = 120 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?

Product Variant	IC(nom) 100C° [A]	V_{CEsat} [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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