



Frequently Asked Questions (FAQ's)

FAQ List

Q1: Where is the country of origin for these MOSFET devices?

A1: IceMOS is a “fabless company”. We have manufacturing partners throughout Asia. Our wafer/die production is done in Japan, and our assembly and test partners are in other parts of Asia.

Q2: What Management System does IceMOS have in place?

A2: IceMOS is ISO9001, IATF16949 and ISO14001 certified and qualified. We follow the ISO Supply Chain Management guidelines and require that our manufacturing partner maintain the same quality certifications.

Q3: Does IceMOS offer environmentally friendly devices?

A3: Yes. Our MOSFETs meet RoHS product level compliance for the European Union's Directive RoHS2 (2011/65/EU) + (EU) 2015/863, that restricts the use of hazardous substances.

Q4: Does IceMOS offer custom devices?

A4: We can create a customer spec if the business case will support doing this. There may be some up front NRE cost required if a new mask set is needed. We welcome the opportunity to learn more about your request.

Q5: Are all of the data sheets available on the IceMOS web site?

A5: Yes. This is the most current list of devices that are in production. We do have some “Preliminary” data sheet on our website for those devices that are not fully qualified or characterized yet. Contact your sales representative for the latest qualification status of that device.

Q6: Can IceMOS ship directly to my factory from your assembly site?

A6: All products are shipped from the IceMOS Distribution Center located in Hong Kong as part of the normal product flow. We can drop ship to anywhere in the world from that Distribution Center.

Q7 : What is the difference between a Superjunction MOSFET and MOSFET?

A7 : The short answer is that in general a Superjunction MOSFET On-Resistance is typically lower than normal MOSFET for the same voltage spec.

Q8: Why does the Superjunction MOSEFT have a superior on On-Resistance?

A8: The term “Superjunction” means that the silicon has a fully depleted vertical structure that can sustain higher voltages with a high PN concentration. That gives it a lower Resistance when compared to a standard (planar) MOSFET.

Q9: What is the difference between Gen1 and Gen2 IceMOS product?

A9: The Gen2 design has a Shrink cell pitch in comparison to the Gen1 structure. Shrinking the cell made about 40% reduction in the device’s On-Resistance for the same die size. Lower Qg is also the feature of GEN2 comparing to GEN1.

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Q10: In addition to the On-Resistance, are there other characteristic of Superjunction MOSFETs that offer an advantage?

A10: Superjunction devices also have a lower figure of merit ($R_{DS(ON)} \times Q_G$) is one of the product features that separates us from our competitor with similar $R_{DS(ON)}$ product.

Q11: What are the most common applications where Superjunction MOSFETs can be used?

A11: The most common applications are Power Supplies, Motor Drives, and DC-AC Invertors just to name a few. Superjunction MOSFETs can replace standard (planar) MOSFETs that are being used in any existing application.

Q12: How does the future IceMOS technology roadmap compare with other Silicon MOSFET (including Superjunction MOSFET), IGBT, or Wideband Gap FETs like SiC, or GaN FETs?

A12: There are advantages and disadvantages for each of these different technologies when compared side-by-side. In the case of the IceMOS silicon based Superjunction technology, the greatest advantages are (1) the long-term proven reliability record of silicon, (2) the relatively low cost of manufacturing, and (3) the ease with which the process can be scaled.

Q13: Does IceMOS offer any fast recovery device feature?

A13: Introducing a fast recovery device is on our product roadmap and development work is currently underway. The targeting introduction date will be in Q4 of 2023.