

# ICEMOS TECHNOLOGY LTD SUPERJUNCTION MOSFETS "FAST FACTS & FIGURES"



### www.icemostech.com

## **COMPANY OVERVIEW**

IceMOS Technology is a fabless supplier of high voltage Superjunction MOSFET devices available in industry standard packages ranging from 600V~750V.

#### **Business Structure**

Advanced Engineered MEMS

Substrates Product Family



**IceMOS Technology, Ltd.** was formed in 2004 and registered as a UK company. It is a wholly owned subsidiary of IceMOS Technology Corporation, which is a privately held company headquartered in the state of Arizona and incorporated in the state of Delaware (USA).

- Global Operations: MOSFET R&D Modeling and Corporate Headquarters in Tempe Arizona (USA), MOSFET R&D and Design Center in Tokyo Japan, Starting Wafer & Substrate Manufacturing in Belfast Northern Ireland.
- Over 50% of the 98 worldwide employees have an engineering degree.
- Owner of over 80 granted patents, 6 pending, and 14 filed or disclosed.
- Three Product Families:
  - SOI/SiSi Wafers
  - Advanced Engineered MEMS Substrates
  - Superjunction MOSFETS

### SUPERJUNCTION PRODUCTS

**Superjunction MOSFET** devices are a key component for energy savings and power management in the electronic power system of most application.

Applications requiring power systems with long life, high efficiency, small size, and high reliability are target applications for our Superjunction MOSFET devices. Here are just a few end application examples.



Superignetion MOSFET

**Product Family** 

Our Superjunction MOSFET designs are produced by our foundry partners using our patented MEMS Trench Etch process platform.

- Less Processing
- + Lower Cost

SOI/SiSi Wafe

**Product Family** 

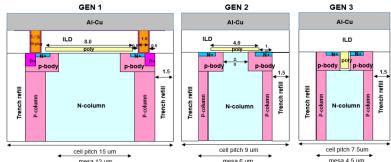
- + High UIS Capability
- Higher Throughput
  Scalable Designs
- High dv/dt Capability
- + Higher Yields
- s + Low r<sub>DS(on)</sub>
  - + Ultra Low Gate Charge



### **DEVICE PACKAGE INFORMATION**

- Package Offering:
  - TO-220/FP, TO-247, TO-251, Dpak, DFN 8x8/5x6
- Product Certification:
  - ✓ RoHS Directive (EU) 2015/863
  - ✓ Lead Free ( Pb free ) product
  - ✓ Halogen Free
  - ✓ Mold is Green rated
- > Wafer Sales Also Available.

# PATENTED TRENCH SUPERJUNCTION MOSFET TECHNOLOGY



Part Number	ICE20N60	ICE25S65	ICE15T65	ICE15T65
(Generation)	(IceMOS Gen1)	(IceMOS Gen2)	(IceMOS Gen3)	(IceMOS Gen3)
BVDSS at 25C	600V	650V	650V	600V
Id	20A	25A	15A	117A
FOM RonQg	11.2ohm-nC	4.5ohm-nC	5.1ohm-nC	4.1ohm-nC
Rdson	190mohm	133mohm	220mohm	13.4mohm
RonA	32mohm-cm2	21mohm-cm2	11mohm-cm2	9mohm-cm2
Vgs	20V	20V	20V	20V
Qg @400V, 8.5A	59nC	34nC	23nC	304nC
Rg	3.8ohm	4ohm	3ohm	3ohm
Qrr	6.8µC	5.6µC	3.5µC	18µC
MOSFET dv/dt	50V/ns	50V/ns	50V/ns	50V/ns

The IceMOS Superjunction MOSFET's On-Resistance is proportional to the cell pitch of the P and N pillars, making a minimum cell pitch most desirable.