

## Product Overview

### FCMT250N65S3: Power MOSFET, N-Channel, SUPERFET® III, Easy Drive, 650 V, 12 A, 250 mΩ, POWER88

For complete documentation, see the data sheet.

SUPERFET III MOSFET is ON Semiconductor's brand-new high voltage super-junction(SJ) MOSFET family that is utilizing charge balance technology for outstanding low on-resistance and lower gate charge performance. This technology is tailored to minimize conduction loss, provide superior switching performance, dv/dt rate and higher avalanche energy. Consequently, SUPERFET III MOSFET is very suitable for the switching power applications such as server/telecom power, adapter and solar inverter applications. The Power88 package is an ultra-slim surface-mount package (1mm high) with a low profile and small footprint (8 \* 8 mm<sup>2</sup>). SUPERFET III MOSFET in a Power88 package offers excellent switching performance due to lower parasitic source inductance and separated power and drive sources. Power88 offers Moisture Sensitivity Level 1(MSL 1).

#### Features

- 700 V @ T<sub>J</sub> = 150 °C
- Leadless Ultra-thin SMD package
- Kelvin contact
- Ultra Low Gate Charge (Typ. Q<sub>g</sub> = 24 nC)
- Low Effective Output Capacitance (Typ. C<sub>oss</sub>(eff.) = 248 pF)
- Optimized Capacitance
- Typ. R<sub>DS(on)</sub> = 210 mΩ
- 100% Avalanche Tested
- RoHS Compliant
- Moisture Sensitivity Level 1 guarantee

For more features, see the data sheet

#### Benefits

- Higher system reliability at low temperature operation
- High power density
- Low gate noise and switching loss
- Low switching loss
- Low switching loss
- Lower peak V<sub>ds</sub> and lower V<sub>gs</sub> oscillation

#### Applications

- Telecommunication
- Cloud system
- Industrial

#### End Products

- Telecom power
- Server power
- LED Lighting
- Adapter

### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Channel Polarity	Configuration	V <sub>(BR)DSS</sub> Min (V)	V <sub>GS</sub> Max (V)	V <sub>GS(th)</sub> Max (V)	I <sub>D</sub> Max (A)	P <sub>D</sub> Max (W)	R <sub>DS(on)</sub> Max @ V <sub>GS</sub> = 2.5 V (mΩ)	R <sub>DS(on)</sub> Max @ V <sub>GS</sub> = 4.5 V (mΩ)	R <sub>DS(on)</sub> Max @ V <sub>GS</sub> = 10 V (mΩ)	Q <sub>g</sub> Typ @ V <sub>GS</sub> = 4.5 V (nC)	Q <sub>g</sub> Typ @ V <sub>GS</sub> = 10 V (nC)	C <sub>iss</sub> Typ (pF)	Package Type
FCMT250N65S3	0.8121	Pb-free Halide free	Active	N-Channel	Single	650	30	4.5	12	90	-	-	250	-	24	1010	PQFN-4

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com).

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