

Product Overview

FCMT180N65S3: Power MOSFET, N-Channel, SUPERFET® III, Easy Drive, 650 V, 17 A, 180 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 mm²). 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 @ $T_{J} = 150^{\circ}\text{C}$
- Leadless Ultra-thin SMD package
- Kelvin contact
- Ultra Low Gate Charge (Typ. $Q_g = 33\text{ nC}$)
- Low Effective Output Capacitance (Typ. $C_{oss}(\text{eff.}) = 305\text{ pF}$)
- Optimized Capacitance
- Typ. $R_{DS(\text{on})} = 152\text{ m}\Omega$
- 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_{ds} and lower V_{gs} oscillation

Applications

- Computing
- Telecommunication
- Industrial

End Products

- Telecom / Server
- Adapter
- LED Lighting

Part Electrical Specifications

Product	Compliance	Status	Chan- nel Polar- ity	Confi- gura- tion	$V_{(BR)D}$ SS Min (V)	V_{GS} Max (V)	$V_{GS(th)}$ Max (V)	I_D Max (A)	P_D Max (W)	$R_{DS(on)}$ Max @ $V_{GS} =$ 2.5 V (mΩ)	$R_{DS(on)}$ Max @ $V_{GS} =$ 4.5 V (mΩ)	$R_{DS(on)}$ Max @ $V_{GS} =$ 10 V (mΩ)	Q_g Typ @ $V_{GS} =$ 4.5 V (nC)	Q_g Typ @ $V_{GS} =$ 10 V (nC)	C_{iss} Typ (pF)	Pack- age Type
FCMT180N65S3	Pb-free Halide free	Active	N- Chan- nel	Singl- e	650	30	4.5	17	139	-	-	152	-	33	1350	PQF N-4

For more information please contact your local sales support at www.onsemi.com.

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