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ON Semiconductor®

Energy Efficient Innovations

Product Overview

NTBL082N65S3HF: Power MOSFET, N-Channel, SUPERFET® III, FRFET®, 650 V, 40 A, 82 mΩ , TOLL

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 advanced technology is tailored to minimize conduction loss, provide superior switching performance, and withstand extreme dv/dt rate.
Consequently, SUPERFET III MOSFET is very suitable for the various power systems for miniaturization and higher efficiency.
SUPERFET III FRFET MOSFET's optimized reverse recovery performance of body diode can remove additional component and improve system reliability. 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 @ TJ = 150 °C
- Excellent body diode performance (low Qrr, robust body diode)
- Ultra Low Gate Charge (Typ. Qg = 79 nC)
- Low Effective Output Capacitance (Typ. Coss(eff.) = 682 pF)
- Leadless Ultra-thin SMD package
- Kelvin Source Configuration
- Optimized Capacitance
- Moisture Sensitivity Level 1 guarantee
- Typ. RDS(on) = 70 mΩ
- 100% Avalanche Tested

For more features, see the data sheet

Benefits

- Higher system reliability at low temperature operation
- Higher system reliability in LLC and Phase shift full bridge circuit
- Lower switching loss
- Lower switching loss
- High power density
- Low gate noise and switching loss
- Lower peak Vds and lower Vgs oscillation
- High reliability in humid ambient condition

Applications

- Telecommunication
- Cloud system
- Industrial

End Products

- Telecom power
- Server power
- EV charger
- Solar / UPS

Part Electrical Specifications

Product	Pricing ($/Unit)	Compliance	Status	Channel Polarity	Configuration	$V_{(BR)DSS}$ 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)	Package Type
NTBL082N65S3HF	3.0881	Pb-free Halide free non AEC-Q and PPAP	NEW	N-Channel	Single	650	5	5	40	313			82		79	3330	H-PSOF8L 9.90x11.68, 1.20 P

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

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