

Product Overview

NTPF082N65S3F: Power MOSFET, N-Channel, SUPERFET® III, FRFET®, 650 V, 40 A, 82 mΩ , TO-220F

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.

Features

- 700 V @ T_J = 150 °C
- Ultra Low Gate Charge (Typ. Q_g = 70 nC)
- Low Effective Output Capacitance (Typ. C_{oss}(eff.) = 680 pF)
- Optimized Capacitance
- Excellent body diode performance (low Q_{rr}, robust body diode)
- Typ. R_{DS(on)} = 70 mΩ
- 100% Avalanche Tested
- RoHS Compliant

Applications

- Telecommunication
- Cloud system
- Industrial

Benefits

- Higher system reliability at low temperature operation
- Lower switching loss
- Lower switching loss
- Lower peak V_{ds} and lower V_{gs} oscillation
- Higher system reliability in LLC and Phase shift full bridge circuit

End Products

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

Part Electrical Specifications

| Product | Compliance | Status | Channel Polarity | Configuration | V _{BRD} 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 |
|---------------|------------------------|--------|------------------|---------------|-----------------------------|----------------------------|--------------------------------|---------------------------|---------------------------|--|--|---|---|--|------------------------------|--------------------|
| NTPF082N65S3F | Pb-free Halide free | Active | N-Channel | Single | 650 | 30 | 5 | 40 | 48 | - | - | 82 | - | 70 | 3240 | TO-220-3 Full Pack |

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

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