

Product Overview

FCP600N65S3R0: Power MOSFET, N-Channel, SUPERFET® III, Easy Drive, 650 V, 6 A, 600 mΩ, TO-220

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 Easy drive series helps manage EMI issues and allows for easier design implementation.

Features

- 700 V @ $T_{J} \leq 150^{\circ}\text{C}$
- Low Effective Output Capacitance (Typ. $C_{oss}(eff.) = 127\text{ pF}$)
- Ultra Low Gate Charge (Typ. $Q_g = 11\text{ nC}$)
- Optimized Capacitance
- 100% Avalanche Tested
- RoHS Compliant
- Typ. $R_{DS(on)} = 493\text{ m}\Omega$
- Internal Gate Resistance: $0.9\ \Omega$

Applications

- Computing
- Consumer
- Industrial

Benefits

- Higher system reliability at low temperature operation
- Low switching loss
- Low switching loss
- Lower peak V_{ds} and lower V_{gs} oscillation

End Products

- Notebook / Desktop computer / Game consol
- Telecom / Server
- LCD / LED TV
- LED Lighting / Ballast
- Adapter

Part Electrical Specifications

Product	Compliance	Status	Chan- nel Polar- ity	Confi- gura- tion	$V_{(BR)D}$ 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
FCP600N65S3R0	Pb-free Halide free	Active	N- Chan- nel	Singl- e	650	30	4.5	6	54	-	-	600	-	11	465	TO- 220-3

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

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