

Product Overview

FCP165N65S3R0: Power MOSFET, N-Channel, SUPERFET® III, Easy Drive, 650 V, 19 A, 165 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 = 150 °C
- Low Effective Output Capacitance (Typ. C_{oss}(eff.) = 341 pF)
- Ultra Low Gate Charge (Typ. Q_g = 39 nC)
- Optimized Capacitance
- 100% Avalanche Tested
- RoHS Compliant
- Typ. R_{DS(on)} = 140 mΩ
- Internal Gate Resistance: 0.5 Ω

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 console
- Telecom / Server
- LCD / LED TV
- LED Lighting / Ballast
- Adapter

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Channel Polarity	Configuration	V _{DS(BR)} 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
FCP165N65S3R0	1.1333	Pb-free Halide free	Active	N-Channel	Single	650	30	4.5	19	154	-	-	165	-	39	1500	TO-220-3

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

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