

Dual P-Channel 350V Enhancement Mode MOSFETs

General Features

- Proprietary Advanced Planar Technology
- Rugged Polysilicon Gate Cell Structure
- Fast Switching Speed
- RoHS Compliant

| Ĺ | Halogen-free available | |
|---|------------------------|----------|
| | Halogen-nec available | |
| A | pplications | D1 D1 D2 |

| | High Ef | ficiency | SMPS |
|--|---------|----------|------|
| | | | |

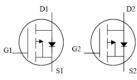
- Adaptor/Charger
- Active PFC

| BV _{DSS} | RDS(ON) (Max.) | I_D |
|-------------------|----------------|-------|
| -350V | 30 Ω | -0.5A |

PDFN3333



S1 G1 S2 G2



Ordering Information

| Part Number | Package | Marking | Remark |
|-------------|----------|---------|--------------|
| FTF30P35D | PDFN3333 | 30P35D | Halogen Free |

Absolute Maximum Ratings

T_A=25 °C unless otherwise specified

| Symbol | Parameter | FTF30P35D | Unit | |
|-------------------------------------|--|------------|------|--|
| $V_{ m DSS}$ | Drain-to-Source Voltage ^[1] | -350 | V | |
| I_D | Continuous Drain Current | -0.5 | Δ. | |
| I_{DM} | Pulsed Drain Current ^[2] | -2 | A | |
| P_D | Power Dissipation | 16 | W | |
| V_{GS} | Gate-to-Source Voltage | ±20 | V | |
| $T_{ m L}$ | Soldering Temperature Distance of 1.6mm from case for 10 seconds | 300 | Ŝ | |
| T _J and T _{STG} | Operating and Storage Temperature Range | -55 to 150 | | |

Caution: Stresses greater than those listed in the "Absolute Maximum Ratings" may cause permanent damage to the device.

Thermal Characteristics

| Symbol | Parameter | FTF30P35D | Unit |
|----------------|---|-----------|------|
| $R_{	heta JA}$ | Thermal Resistance, Junction-to-Ambient | 34 | K/W |



Electrical Characteristics

OFF Characteristics

 $T_A = 25$ °C unless otherwise specified

| Symbol | Parameter | Min. | Тур. | Max. | Unit | Test Conditions |
|------------|-----------------------------------|------|------|------|------|---|
| BV_{DSS} | Drain-to-Source Breakdown Voltage | -350 | | | V | $V_{GS}=0V, I_{D}=-250\mu A$ |
| | Drain-to-Source Leakage Current | | | -1 | μΑ | V_{DS} =-350V, V_{GS} = 0V |
| I_{DSS} | | | | -100 | μΑ | V_{DS} =-350V, V_{GS} = 0V T_J =125°C |
| T | Cata to Souman Leakage Cumumt | | | 20 | 4 | $V_{GS} = +20V, V_{DS} = 0V$ |
| I_{GSS} | Gate-to-Source Leakage Current | | | -20 | μΑ | V_{GS} =-20V, V_{DS} =0V |

ON Characteristics

T_A =25 °C unless otherwise specified

| Symbol | Parameter | Min. | Тур. | Max. | Unit | Test Conditions |
|---------------------|--------------------------------------|------|------|------|------|--|
| R _{DS(ON)} | Static Drain-to-Source On-Resistance | | 18 | 30 | Ω | V_{GS} =-10V, I_D =-200mA ^[3] |
| V _{GS(TH)} | Gate Threshold Voltage | -1 | | -3 | V | $V_{GD} = 0V, I_D = -250 \mu A$ |

Dynamic Characteristics

Essentially independent of operating temperature

| Symbol | Parameter | Min. | Тур. | Max. | Unit | Test Conditions |
|-------------------|------------------------------|------|-------|------|------|---|
| C_{ISS} | Input Capacitance | | 43.39 | | pF | $\begin{array}{c} V_{GS}{=}0V \\ V_{DS}{=}{-}25V \\ f{=}1.0MH_Z \end{array}$ |
| Coss | Oput Capacitance | | 6.94 | | | |
| C_{RSS} | Reverse Transfer Capacitance | | 0.84 | | | |
| $t_{d(ON)}$ | Turn-on Delay Time | | 12 | | | |
| t _{rise} | Rise Time | | 60 | | ns | $\begin{aligned} V_{GS} &= -10 V{\sim}0V \\ V_{DD} &= -25 V, \ I_D {=} -80 mA \\ R_G &= 25 Ohm \end{aligned}$ |
| $t_{d(OFF)}$ | Turn-off Delay Time | | 136 | | | |
| t _{fall} | Fall Time | | 320 | | | |

Source-Drain Diode Characteristics

T_A=25°C unless otherwise specified

| Symbol | Parameter | Min | Тур. | Max. | Units | Test Conditions |
|----------|-----------------------|-----|------|------|-------|--|
| V_{SD} | Diode Forward Voltage | | | -1.8 | V | $I_{SD} = -200 \text{ mA}, V_{GS} = 0 \text{ V}$ |

NOTE:

- [1] $T_J = +25$ °C to +150°C
- [2] Repetitive rating, pulse width limited by maximum junction temperature.
- [3] Pulse width \(380\mu s; \) duty cycle \(\le 2\%.

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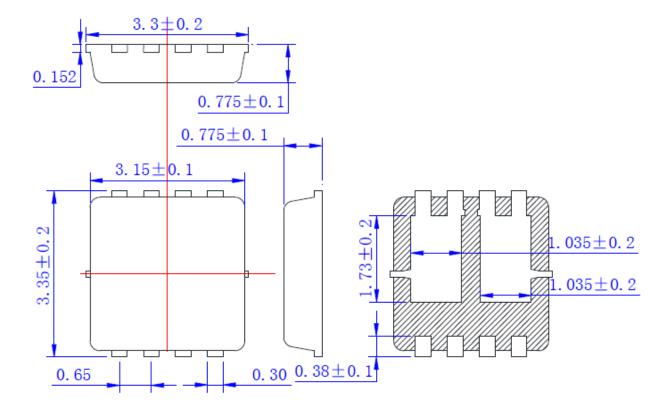
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Package Dimensions

PDFN3333





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