## "Yـ / Descriptions

TO-220FL N MOS N-CHANNEL MOSFET in a TO-220FL Plastic Package.

## ◕ È / Features

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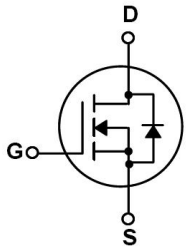
Low gate charge, low crss, fast switching.

## ¥ ٍ / Applications

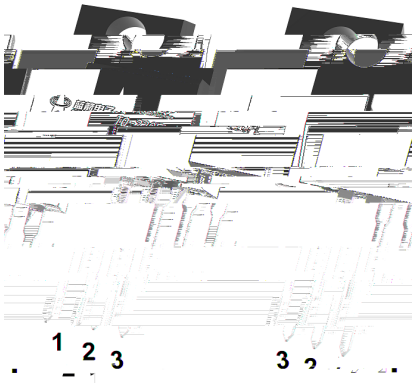
DC/DC

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

## Л ̃ ̊ ≠ ɛ / Equivalent Circuit




## ẵ ﾉ ̈ / Pinning




PIN1 G PIN 2 D PIN 3 S

## ł. ʜ ̈ / Marking

See Marking Instructions.

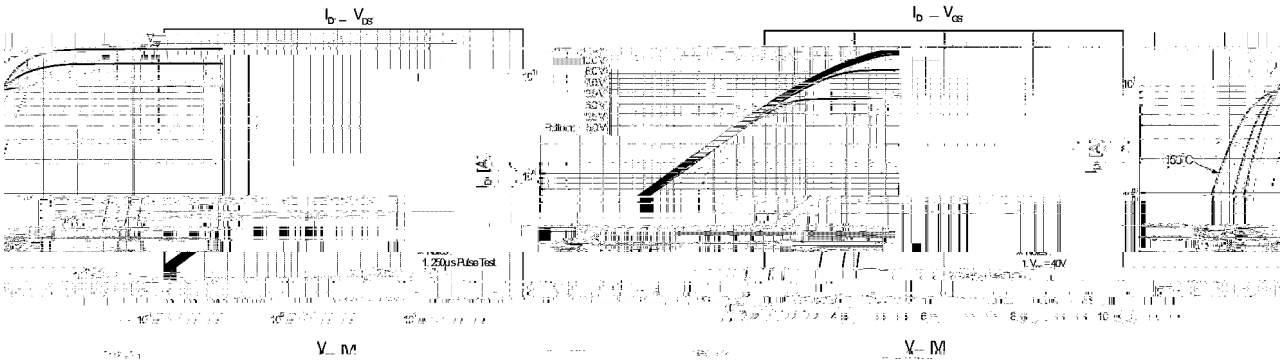
## ώ ۥ ᾗ Ą / Absolute Maximum Ratings(Ta=25 ɹ )

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Drain-Source Voltage | $V_{DSS}$ | 650 | V |
| Drain Current | $I_D$(Tc=25 ) | 7.0 | A |
| Drain Current | $I_D$(Tc=100 ) | 4.4 | A |
| Drain Current - Pulsed | $I_{DM}$ | 28 | A |
| Gate-Source Voltage | $V_{GSS}$ | ±30 | V |
| Single Pulsed Avalanche Energy | $E_{AS}$ | 420 | mJ |
| Repetitive Avalanche Energy | $E_{AR}$ | 14.7 | mJ |
| Avalanche Current | $I_{AR}$ | 7.0 | A |
| Power Dissipation | $P_D$(Tc=25 ) | 48 | W |
| Operating and Storage Temperature Range | $T_J$,$T_{STG}$ | -55 to 150 | |

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Drain-Source Breakdown Voltage | $BV_{DSS}$ | $V_{GS}$=0V $I_D$=250μA | 650 | | | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=650V $V_{GS}$=0V | | | 1.0 | μA |
| | | $V_{DS}$=520V $T_C$=125 | | | 100 | μA |
| Gate-Body Leakage Current, Forward | $I_{GSS}$ | $V_{GS}$=±30V $V_{DS}$=0V | | | ±100 | nA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$=$V_{GS}$ $I_D$=250μA | 2.0 | | 4.0 | V |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}$=10V $I_D$=3.5A | | 1.1 | 1.3 | Ω |
| Forward Transconductance | $g_{FS}$ | $V_{DS}$=40V $I_D$=3.5A | | 8.2 | | S |
| Drain-Source Diode Forward Voltage | $V_{SD}$ | $V_{GS}$=0V $I_S$=7.0A | | | 1.4 | V |
| Input Capacitance | $C_{iss}$ | $V_{DS}$=25V $V_{GS}$=0V f=1.0MHz | | 1100 | 1500 | pF |
| Output Capacitance | $C_{oss}$ | | | 110 | 150 | pF |
| Reverse Transfer Capacitance | $C_{rss}$ | | | 12 | 16 | pF |
| Total Gate Charge | Qg | $I_D$ =7.0A $V_{DS}$ = 520V $V_{GS}$ = 10V | | 28 | | nC |
| Gate-to-Source Charge | Qgs | | | 7 | | nC |
| Gate-to-Drain Charge | Qgd | | | 12 | | nC |
| Turn-On Delay Time | $t_{d(on)}$ | | | | | |

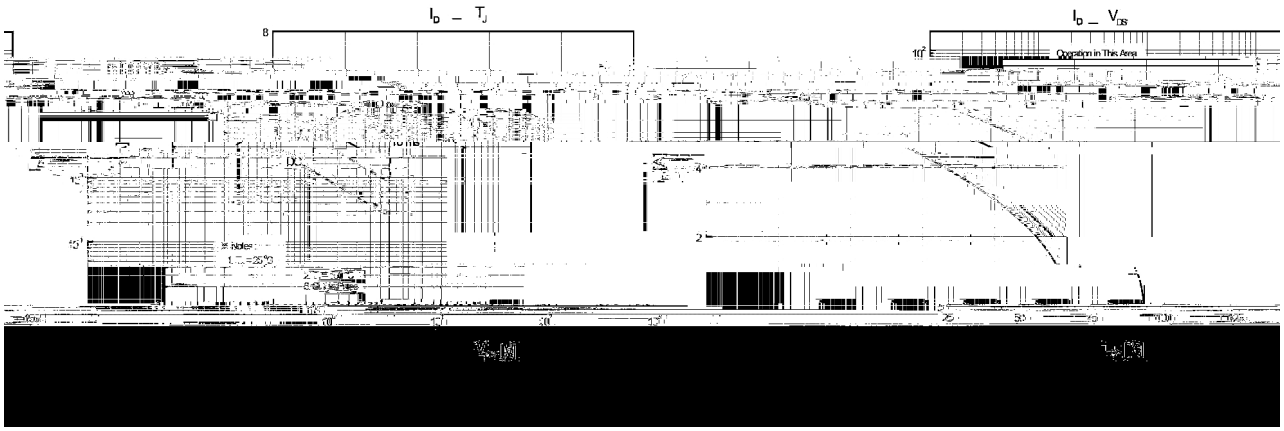
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## ≠ ∃ ÃΈ ∨ ∫ / Electrical Characteristic Curve



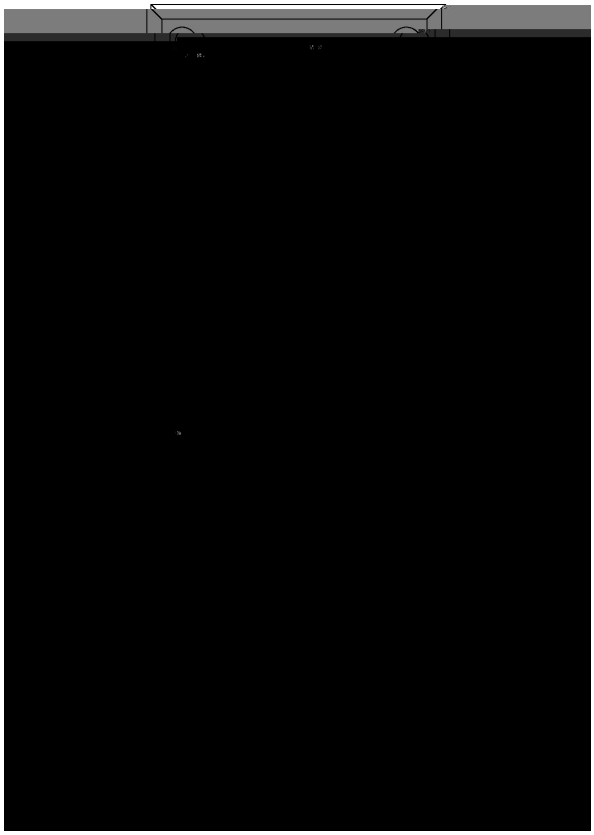






**BRFL7N65**

## ł. Ļ"Ω / Marking Instructions



BR

7N65

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Note:

| | |
|---|---|
| BR: | Company Code |
| 7N65: | Product Type Code |
| ****: | Lot No. Code, code change with Lot No |