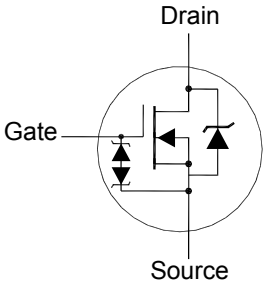
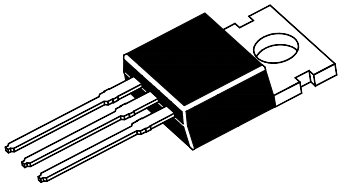
# SFTN6011

## N-Channel Enhancement Mode Power MOSFET



TO-220FB Plastic Package
1.Gate 2.Drain 3.Source

**Absolute Maximum Ratings**

| Parameter | | Symbol | Value | Unit |
|---|---|---|---|---|
| Gate-Source Voltage | | $V_{GS}$ | ± 20 | V |
| Drain Current | $T_C$ = 25℃<br>$T_C$ = 100℃ | $I_D$ | 11<br>7 | A |
| Peak Drain Current | | $I_{DM}$ | 22 | A |
| Power Dissipation | $T_C$ = 25℃ | $P_{tot}$ | 125 | W |
| Operating Junction and Storage Temperature Range | | $T_J$, $T_{stg}$ | - 55 to + 150 | ℃ |

**Thermal Characteristics**

| Parameter | Symbol | Max. | Unit |
|---|---|---|---|
| Maximum Thermal Resistance from Juntion to Case | $R_{\theta JC}$ | 1 | ℃/W |
| Maximum Thermal Resistance from Juntion to Ambient | $R_{\theta JA}$ | 62 | ℃/W |

**Winning Team**
**互創國際**

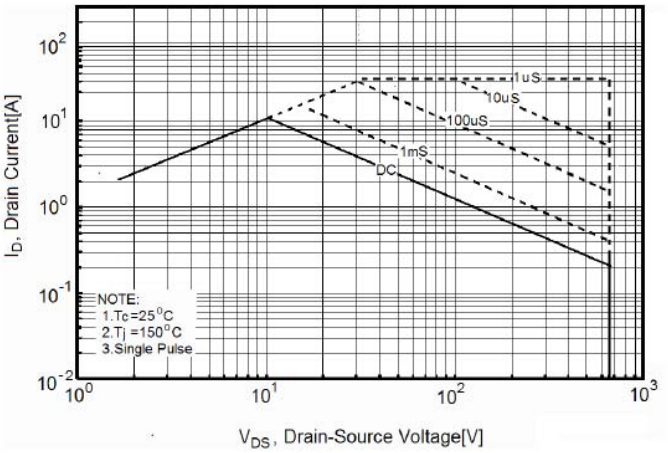
*Dated: 03/05/2017*

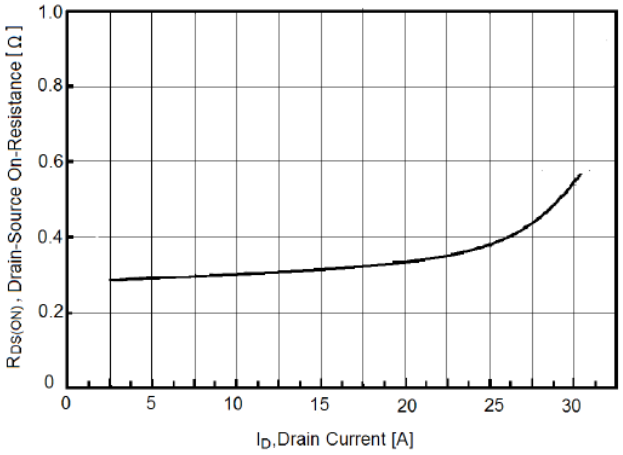
**Characteristics at $T_C$ = 25℃ unless otherwise specified**

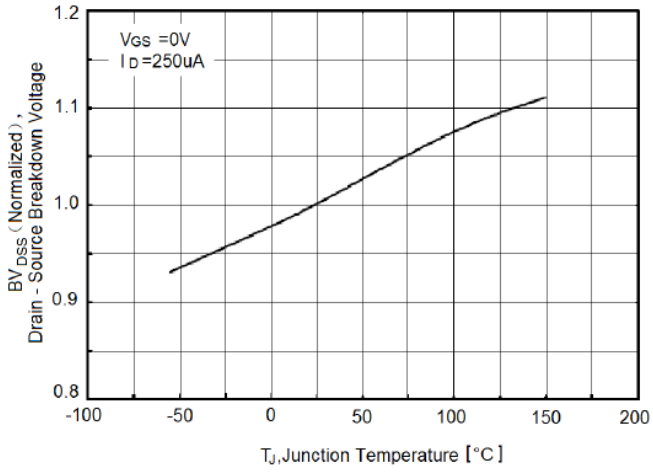
| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Drain-Source Breakdown Voltage at $I_D$ = 0.25 mA | $BV_{DSS}$ | 600 | - | - | V |
| Drain-Source Leakage Current at $V_{DS}$ = 600 V, $T_J$ = 25℃ / $T_J$ = 150℃ | $I_{DSS}$ | - / - | - / - | 25 / 250 | μA |
| Gate Leakage Current at $V_{GS}$ = ± 20 V | $I_{GSS}$ | - | - | ± 100 | nA |
| Gate-Source Threshold Voltage at $V_{DS}$ = $V_{GS}$, $I_D$ = 500 μA | $V_{GS(th)}$ | 3.5 | - | 5.5 | V |
| Drain-Source On-State Resistance at $V_{GS}$ = 10 V, $I_D$ = 7 A | $R_{DS(on)}$ | - | - | 0.38 | Ω |
| Input Capacitance at $V_{GS}$ = 0 V, $V_{DS}$ = 25 V, f = 1 MHz | $C_{iss}$ | - | 1460 | - | pF |
| Output Capacitance at $V_{GS}$ = 0 V, $V_{DS}$ = 25 V, f = 1 MHz | $C_{oss}$ | - | 610 | - | pF |
| Reverse Transfer Capacitance at $V_{GS}$ = 0 V, $V_{DS}$ = 25 V, f = 1 MHz | $C_{rss}$ | - | 21 | - | pF |
| Turn-On Delay Time at $I_D$ = 11 A, $V_{DD}$ = 350 V, $V_{GS}$ = 10 V, $R_G$= 6.8 Ω | $t_{d(on)}$ | - | 130 | - | ns |
| Turn-On Rise Time at $I_D$ = 11 A, $V_{DD}$ = 350 V, $V_{GS}$ = 10 V, $R_G$= 6.8 Ω | $t_r$ | - | 35 | - | ns |
| Turn-Off Delay Time at $I_D$ = 11 A, $V_{DD}$ = 350 V, $V_{GS}$ = 10 V, $R_G$= 6.8 Ω | $t_{d(off)}$ | - | 150 | 225 | ns |
| Turn-Off Fall Time at $I_D$ = 11 A, $V_{DD}$ = 350 V, $V_{GS}$ = 10 V, $R_G$= 6.8 Ω | $t_f$ | - | 20 | 30 | ns |

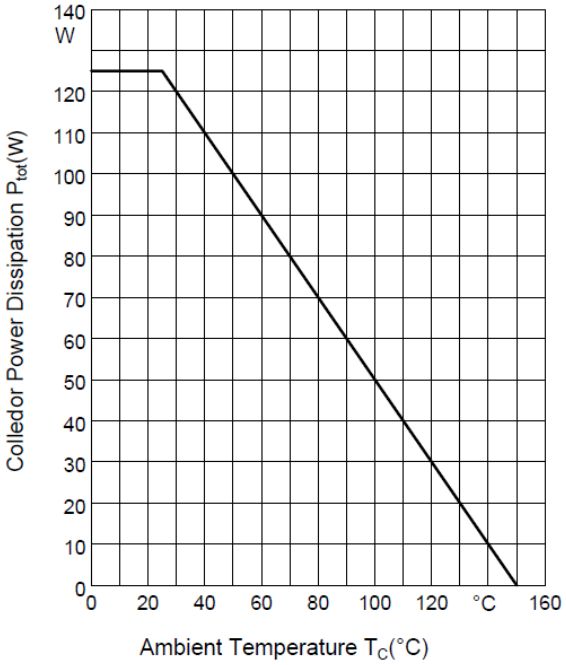
**Drain-Source Body Diode Rating Characteristics**

| Parameter | Symbol | Max. | Unit |
|---|---|---|---|
| Source Drain Current | $I_{SD}$ | 11 | A |
| Source Drain Current - Pulsed | $I_{SDM}$ | 22 | A |
| Drain-Source Diode Forward Voltage at $I_{SD}$ = 18 A | $V_{SD}$ | 1.2 | V |



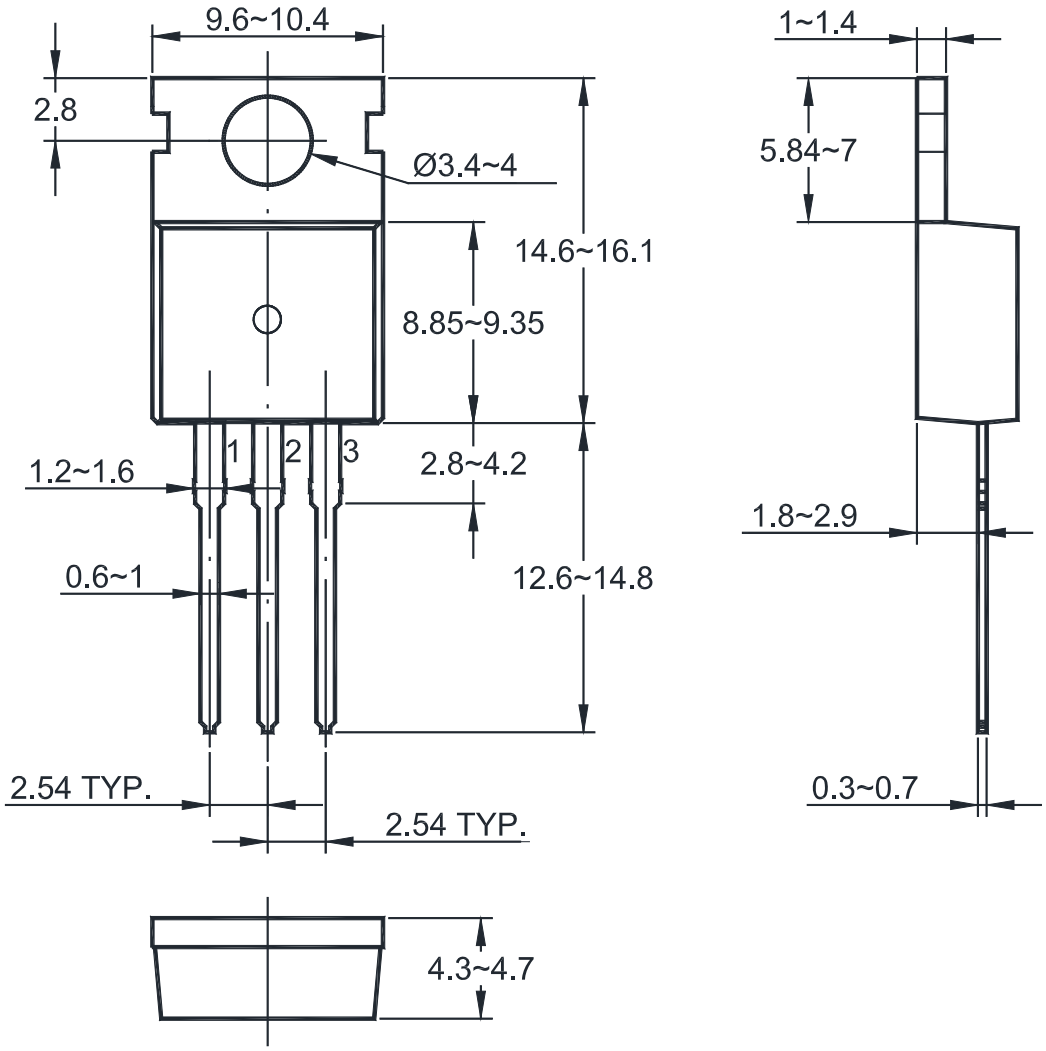




**Winning Team**
**互創國際**

*Dated: 03/05/2017*

## TO-220FB Package Outline Dimensions (Units: mm)




**Winning Team**
**互創國際**

*Dated: 03/05/2017*