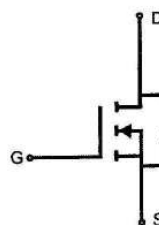


Product Summary

$$V_{DS} = 600 \text{ V}$$

$$I_D = 4 \text{ A}$$

$$R_{DS(ON)} = 2.5 \ \Omega$$



Features

- ⌚ High current handling capability
- ⌚ Rugged and reliable
- ⌚ Surface Mount package



TO-220FP

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless specified)

| Parameter | Symbol | Limit | Unit |
|---|----------|----------|------|
| Drain-Source Voltage | V_{DS} | 600 | V |
| Gate-Source Voltage | V_{GS} | ± 30 | V |
| Drain Current-Continuous | I_D | 4 | A |
| Drain-Source Diode Forward Current ^a | I_S | 4 | A |

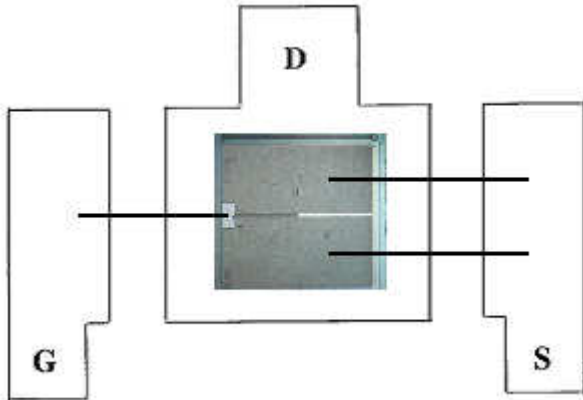
**N-Channel Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless specified)**

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|----------------------------------|--------------|-----------------------------------|-----|-----|---------|----------|
| Drain-Source Breakdown Voltage | BV_{DS} | $V_{GS} = 0V, I_D = 250\mu A$ | 600 | 670 | | V |
| Zero Gate Voltage Drain Current | I_{DS} | $V_{DS} = 600V, V_{GS} = 0V$ | | | ± 1 | μA |
| Gate-Body Leakage | I_{GS} | $V_{GS} = \pm 30V, V_{DS} = 0V$ | | | ± 1 | μA |
| Gate Threshold Voltage | V_{th} | $V_{GS} = V_{DS}, I_D = 250\mu A$ | 2.0 | 3.0 | 4.5 | V |
| Drain-Source On-State Resistance | $R_{DS(ON)}$ | $V_{GS} = 10V, I_D = 2A$ | | | 2.5 | Ω |
| Diode Forward Voltage | V_{SD} | $V_{GS} = 0V, I_D = 4A$ | | 0.8 | 1.5 | V |

Notes:

- Surface Mounted on FR4 Board, $t \leq 10\text{sec}$.
- Pulse Test: Pulse Width $\leq 300 \mu s$, Duty Cycle.
- Guaranteed by Design, not subject to production.
- All above specification values are based on Vitelic's testing machines.

Bonding Diagram

| | | | |
|-----------------------------|---|-----------------|---------------------------|
| Product | VF04N60 | | |
| Description |  <p style="text-align: center;">Front View</p> | | |
| Package Type | TO-220F (3 Lead) | | |
| Die Size (With Scribe Lane) | 2920 μ m x 2910 μ m | Scribe Lane | 80 μ m |
| Back Metal | Ti / Ni / Ag | Wafer Thickness | 250 μ m +/-10 μ m |
| Gate Pad Size | 370 μ m x 213 μ m | | |
| Die Attach | Epoxy | Gold Wire | 1 mil |
| Molding Compound | | | |