

# 10N65

## 主要参数

|                                |               |
|--------------------------------|---------------|
| $I_D$                          | 10A           |
| $V_{DS}$                       | 650 V         |
| $R_{DS(on)}$ (@ $V_{GS}=10V$ ) | 0.96 $\Omega$ |

## Main Characteristics

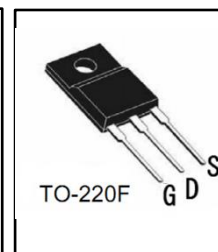
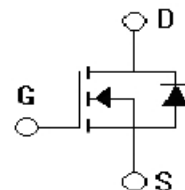
## 用途

高频开关电源  
LED 电源

## Applications

High efficiency switch mode power supplies  
LED power supplies

## 封装 Package



## 产品特性

低栅极电荷  
开关速度快  
产品全部经过雪崩测试  
高抗  $dv/dt$  能力  
RoHS 产品

## Features

Low gate charge  
Fast switching  
100% avalanche tested  
Improved  $dv/dt$  capability  
RoHS product

## 产品中有害有毒物质或元素的名称及含量

| 部件名称<br>含量要求 | 有害物质或元素                                                                                  |        |        |                 |               |                 |
|--------------|------------------------------------------------------------------------------------------|--------|--------|-----------------|---------------|-----------------|
|              | 铅 (Pb)                                                                                   | 汞 (Hg) | 镉 (Cd) | 六价铬<br>(Cr(VI)) | 多溴联苯<br>(PBB) | 多溴二苯醚<br>(PBDE) |
|              | ≤0.1%                                                                                    | ≤0.1%  | ≤0.01% | ≤0.1%           | ≤0.1%         | ≤0.1%           |
| 引线框          | ○                                                                                        | ○      | ○      | ○               | ○             | ○               |
| 塑封树脂         | ○                                                                                        | ○      | ○      | ○               | ○             | ○               |
| 管 芯          | ○                                                                                        | ○      | ○      | ○               | ○             | ○               |
| 内引线          | ○                                                                                        | ○      | ○      | ○               | ○             | ○               |
| 焊 料          | ×                                                                                        | ○      | ○      | ○               | ○             | ○               |
| 明            | <p>○：表示该元素的含量在 SJ/T11363-2006 标准的限量要求以下。</p> <p>×：表示该元素的含量超出 SJ/T11363-2006 标准的限量要求。</p> |        |        |                 |               |                 |

绝对最大额定值Absolute Ratings (Tc=25℃)

| 项 目<br>Parameter                                               | 符 号<br>Symbol    | 数 值<br>Value |         | 单位<br>Unit |
|----------------------------------------------------------------|------------------|--------------|---------|------------|
| 最高漏极—源极直流电压<br>Drain-Source Voltage                            | V <sub>DSS</sub> | 650          |         | V          |
| 连续漏极电流<br>Drain Current -continuous                            | I <sub>D</sub>   | 10.0         |         | A          |
| 最大脉冲漏极电流（注 1）<br>Drain Current – pulse（note 1）                 | I <sub>DM</sub>  | 40.0         |         | A          |
| 最高栅源电压<br>Gate-Source Voltage                                  | V <sub>GSS</sub> | ±30          |         | V          |
| 耗散功率<br>Power Dissipation                                      | P <sub>D</sub>   | TO-220       | TO-220F | W          |
|                                                                |                  | 178          | 59.5    |            |
| 最高结温<br>Operating Junction Temperature                         | T <sub>J</sub>   | +150         |         | ℃          |
| 存储温度<br>Storage Temperature Range                              | T <sub>STG</sub> | -55~+150     |         | ℃          |
| 引线最高焊接温度<br>Maximum Lead Temperature for Soldering<br>Purposes | T <sub>L</sub>   | 300          |         | ℃          |

\*漏极电流由最高结温限制

\*Drain current limited by maximum junction temperature

## 电特性 Electrical Characteristics

| 项 目<br>Parameter                                                      | 符 号<br>Symbol | 测试条件<br>Tests conditions                          | 最小<br>Min | 典型<br>Typ | 最大<br>Max | 单位<br>Units |
|-----------------------------------------------------------------------|---------------|---------------------------------------------------|-----------|-----------|-----------|-------------|
| 关态特性 Off –Characteristics                                             |               |                                                   |           |           |           |             |
| 漏—源击穿电压<br>Drain-Source Voltage                                       | $BV_{DSS}$    | $I_D=250\mu A$ , $V_{GS}=0V$                      | 650       | -         | -         | V           |
| 零栅压下漏极漏电流<br>Zero Gate Voltage Drain Current                          | $IDSS$        | $V_{DS}=650V$ , $V_{GS}=0V$ ,<br>$TC=25^{\circ}C$ | -         | -         | 1         | $\mu A$     |
| 正向栅极体漏电流<br>Forward Gate-body leakage current                         | $I_{GSSF}$    | $V_{DS}=0V$ , $V_{GS}=+30V$                       | -         | 10        | 100       | nA          |
| 反向栅极体漏电流<br>Reverse Gate-body leakage current                         | $I_{GSSR}$    | $V_{DS}=0V$ , $V_{GS}=-30V$                       | -         | 10        | -100      | nA          |
| 通态特性 On-Characteristics                                               |               |                                                   |           |           |           |             |
| 阈值电压<br>Gate Threshold Voltage                                        | $V_{GS(th)}$  | $V_{DS} = V_{GS}$ , $I_D=250\mu A$                | 2.0       | -         | 4.0       | V           |
| 静态导通电阻<br>Static Drain-Source On-Resistance                           | $R_{DS(ON)}$  | $V_{GS}=10V$ , $I_D=5.0A$                         | -         | -         | 0.96      | $\Omega$    |
| 漏—源二极管特性及最大额定值 Drain-Source Diode Characteristics and Maximum Ratings |               |                                                   |           |           |           |             |
| 正向最大连续电流<br>Maximum Continuous Drain                                  | $I_S$         |                                                   | -         | -         | 10        | A           |
| 正向最大脉冲电流<br>Maximum Pulsed Drain-Source                               | $I_{SM}$      |                                                   | -         | -         | 40        | A           |
| 正向压降<br>Drain-Source Diode Forward                                    | $V_{FSD}$     | $V_{GS}=0V$ , $I_S=10.0A$                         | -         | -         | 1.4       | V           |

热特性 Thermal Characteristics

| 项 目<br>Parameter                                   | 符 号<br>Symbol | 最大<br>Max |         | 单 位<br>Unit |
|----------------------------------------------------|---------------|-----------|---------|-------------|
|                                                    |               | T0-220    | T0-220F |             |
| 结到管壳的热阻<br>Thermal Resistance, Junction to Case    | Rth(j-c)      | 0.7       | 2.009   | °C/W        |
| 结到环境的热阻<br>Thermal Resistance, Junction to Ambient | Rth(j-A)      | 62.5      | 42.8    | °C/W        |

注释:

- 1: 脉冲测试: 脉冲宽度≤300μs, 占空比≤2%  
2: 基本与工作温度无关

Pulse Test: Pulse Width ≤300μs, Duty Cycle≤2%  
Essentially independent of operating temperature