# 双 P 沟道 MOSFET ( 共漏极 )

ELM582061A–S



## ■概要

ELM582061A–S 是 P 沟道低输入电容、低工作电压、低导通电阻的大电流 MOSFET，内藏有两个 MOSFET。

## ■特点

- Vds=–20V
- Id=–4.5A
- Rds(on)=56mΩ (Vgs=–4.5V)
- Rds(on)=70mΩ (Vgs=–2.5V)
- Rds(on)=96mΩ (Vgs=–1.8V)

## ■绝对最大额定值

如没有特别注明时, Ta=25℃

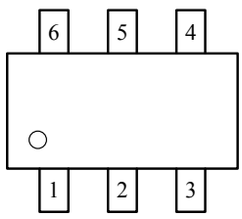
| 项目 | | 记号 | 规格范围 | 单位 |
|---|---|---|---|---|
| 漏极 – 源极电压 | | Vds | –20 | V |
| 栅极 – 源极电压 | | Vgs | ± 12 | V |
| 漏极电流（定常）(Tj=150℃) | Ta=25℃ | Id | –4.5 | A |
| | Ta=70℃ | | –2.8 | |
| 漏极电流（脉冲） | | Idm | –15 | A |
| 容许功耗 | Tc=25℃ | Pd | 2.0 | W |
| | Tc=70℃ | | 1.3 | |
| 动作结合部温度 | | Tj | 150 | ℃ |
| 保存温度范围 | | Tstg | –55 ~ 150 | ℃ |

## ■热特性

| 项目 | 记号 | 典型值 | 最大值 | 单位 |
|---|---|---|---|---|
| 最大结合部 – 环境热阻 | Rθja | | 120 | ℃/W |

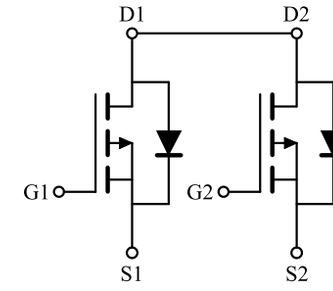
## ■引脚配置图

SOT–26(俯视图)




| 引脚编号 | 引脚名称 |
|---|---|
| 1 | SOURCE1 |
| 2 | DRAIN1/DRAIN2 |
| 3 | SOURCE2 |
| 4 | GATE2 |
| 5 | DRAIN1/DRAIN2 |
| 6 | GATE1 |

## ■电路图

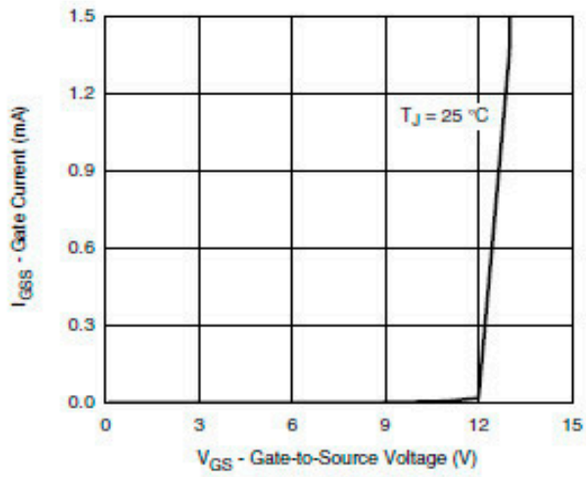


## ■电特性

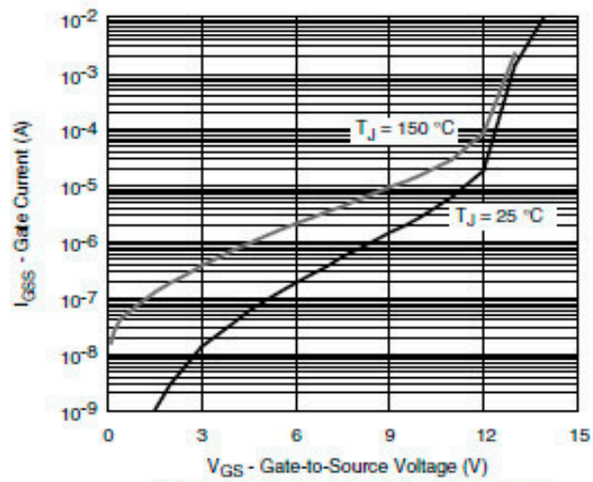
如没有特别注明时, Ta=25℃

| 项目 | 记号 | 条件 | | 最小值 | 典型值 | 最大值 | 单位 |
|---|---|---|---|---|---|---|---|
| 静态特性 | | | | | | | |
| 漏极 – 源极击穿电压 | BVdss | Id=–250μA, Vgs=0V | | –20 | | | V |
| 栅极接地时漏极电流 | Idss | Vds=–16V, Vgs=0V | | | | –1 | μA |
| | | | Ta=85℃ | | | –10 | |
| 栅极漏电电流 | Igss | Vds=0V, Vgs= ± 12V | | | | ± 100 | nA |
| 栅极阈值电压 | Vgs(th) | Vds=Vgs, Id=–250μA | | –0.4 | | –0.8 | V |
| 导通时漏极电流 | Id(on) | Vgs=–4.5V, Vds≧–5V | | –6 | | | A |
| | | Vgs=–2.5V, Vds≧–5V | | –4 | | | |
| 漏极 – 源极导通电阻 | Rds(on) | Vgs=–4.5V, Id=–4.5A | | | 50 | 56 | mΩ |
| | | Vgs=–2.5V, Id=–3.2A | | | 60 | 70 | |
| | | Vgs=–1.8V, Id=–2.8A | | | 80 | 96 | |
| 正向跨导 | Gfs | Vds=–5V, Id=–3.6A | | | 10 | | S |
| 二极管正向压降 | Vsd | Is=–1.6A, Vgs=0V | | | –0.85 | –1.20 | V |
| 寄生二极管最大连续电流 | Is | | | | | –1.6 | A |
| 动态特性 | | | | | | | |
| 输入电容 | Ciss | Vgs=0V, Vds=–10V, f=1MHz | | | 780 | | pF |
| 输出电容 | Coss | | | | 115 | | pF |
| 反馈电容 | Crss | | | | 55 | | pF |
| 开关特性 | | | | | | | |
| 总栅极电荷 | Qg | Vgs=–4.5V, Vds=–10V Id≡–4.0A | | | 8.0 | 12.0 | nC |
| 栅极 – 源极电荷 | Qgs | | | | 0.9 | | nC |
| 栅极 – 漏极电荷 | Qgd | | | | 3.0 | | nC |
| 导通延迟时间 | td(on) | Vgs=–4.5V, Vds=–10V Id≡–4.0A, RL=2.3Ω Rgen=1Ω | | | 0.2 | 0.3 | ns |
| 导通上升时间 | tr | | | | 1.0 | 1.5 | ns |
| 关闭延迟时间 | td(off) | | | | 4.0 | 6.0 | ns |
| 关闭下降时间 | tf | | | | 2.0 | 3.0 | ns |

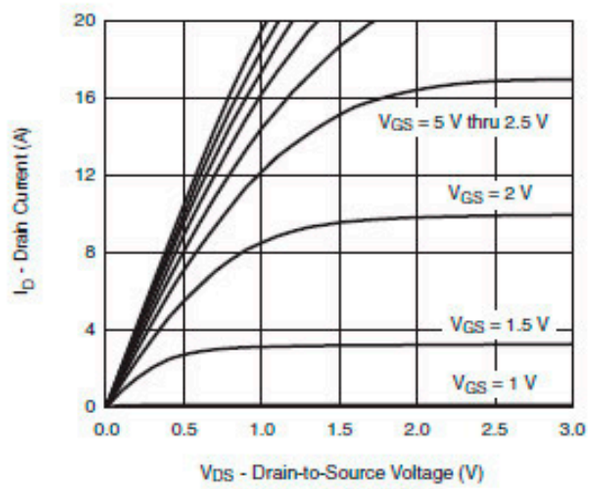
## ■标准特性和热特性曲线



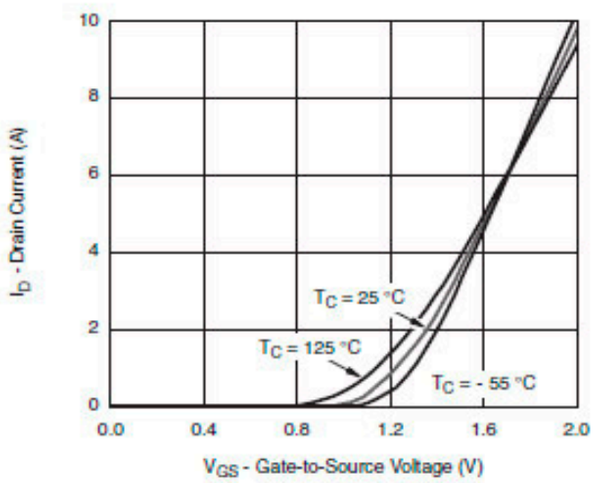

**Gate Current vs. Gate-Source Voltage**



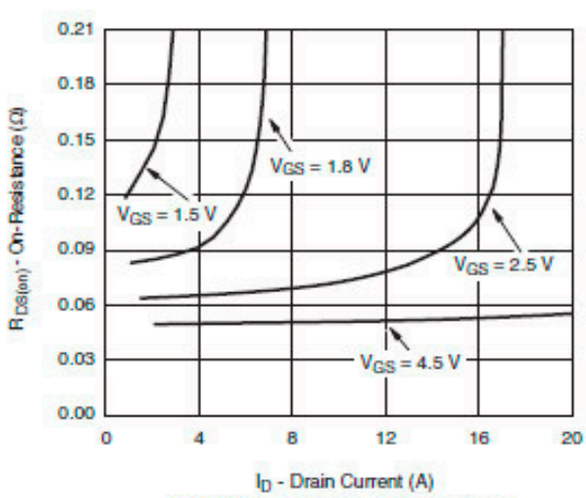

**Gate Current vs. Gate-Source Voltage**



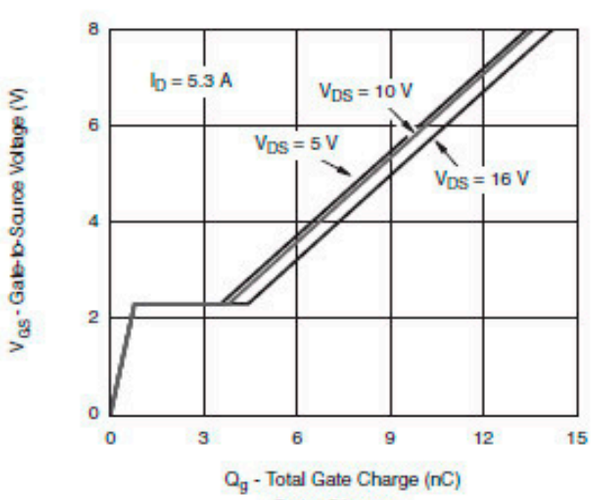

**Output Characteristics**



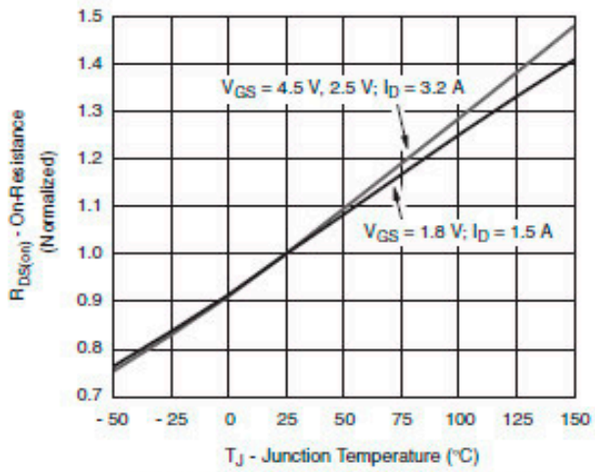

**Transfer Characteristics**



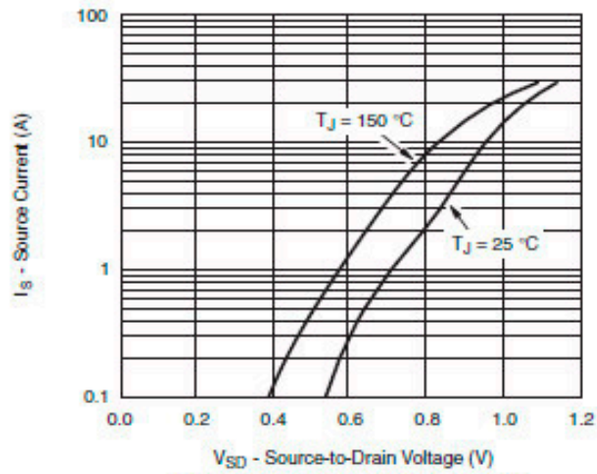

**On-Resistance vs. Drain Current**



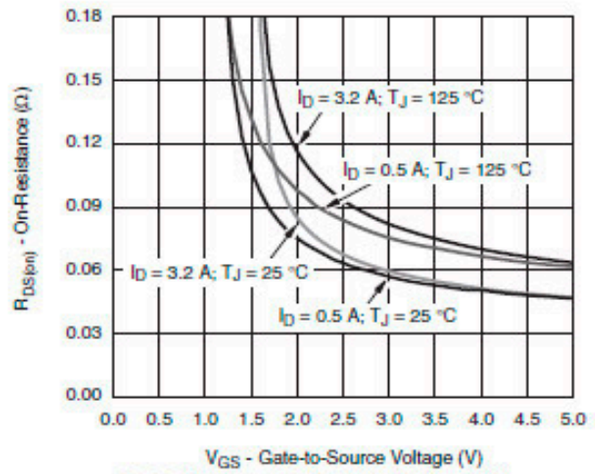

**Gate Charge**



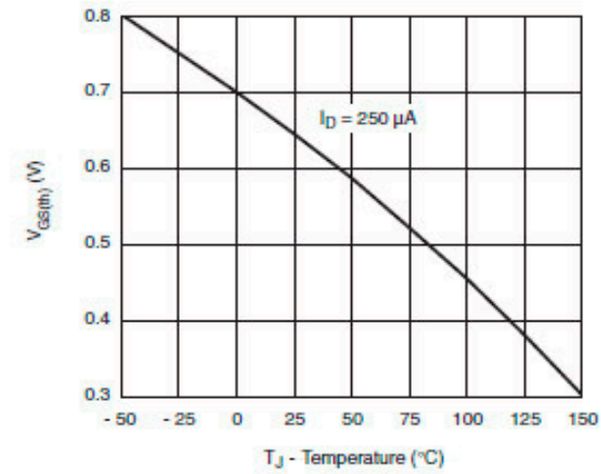

**On-Resistance vs. Junction Temperature**



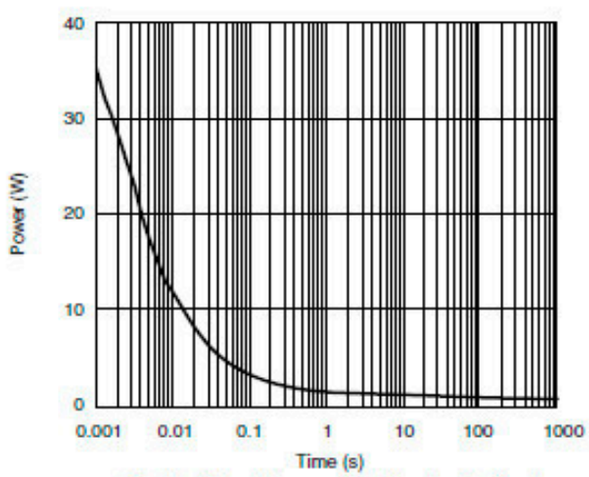

**Soure-Drain Diode Forward Voltage**



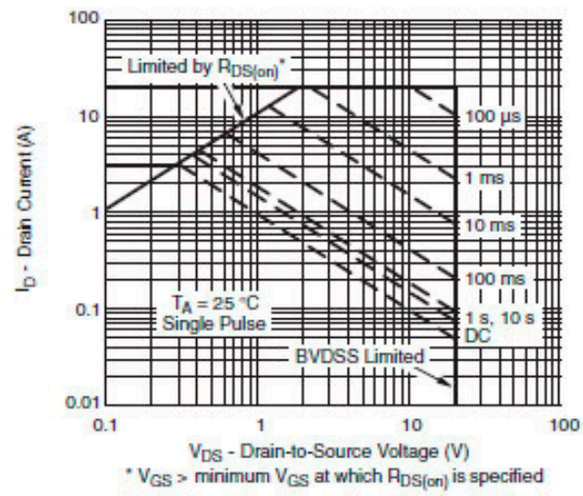

**On-Resistance vs. Gate-to-Source Voltage**




**Threshold Voltage**



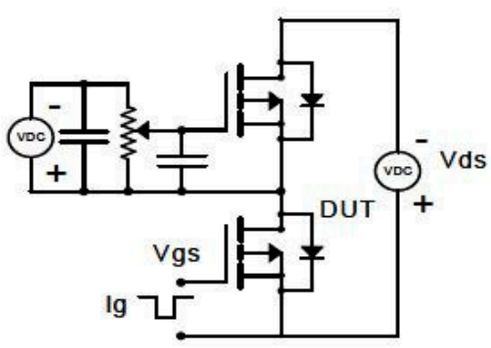

**Single Pulse Power, Junction-to-Ambient**

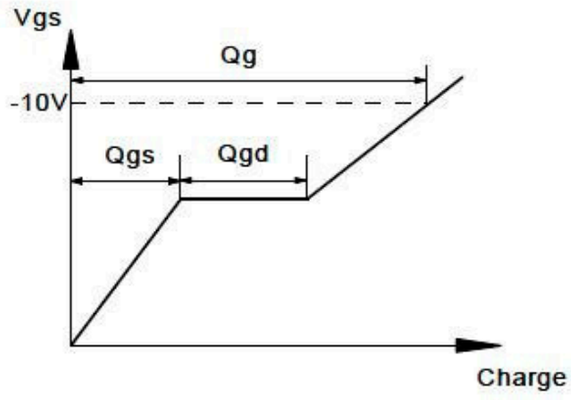



**Safe Operating Area, Junction-to-Ambient**

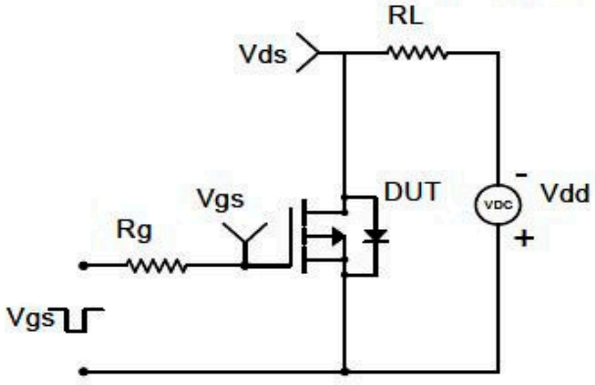
## ■试验电路图和测试波形图

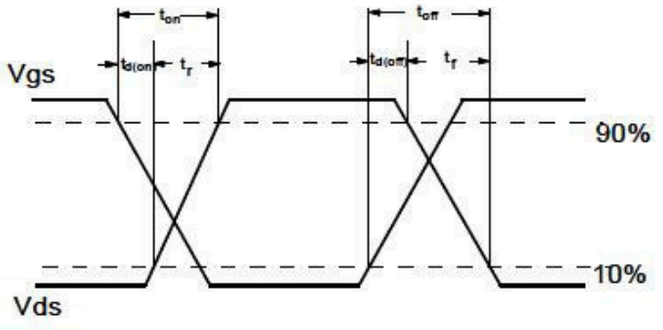
Gate Charge Test Circuit & Waveform




Resistive Switching Test Circuit & Waveforms




Diode Recovery Test Circuit & Waveforms