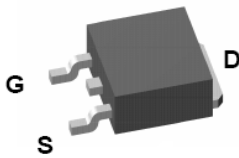


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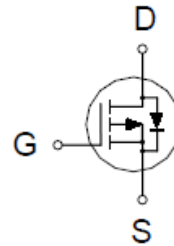
P-Channel Logic Level Enhancement Mode MOSFET

PRODUCT SUMMARY

| $V_{(BR)DSS}$ | $R_{DS(ON)}$ | I_D |
|---------------|------------------------|-------|
| -100V | 60mΩ @ $V_{GS} = -10V$ | -20A |



TO-252



ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ °C}$ Unless Otherwise Noted)

| PARAMETERS/TEST CONDITIONS | | SYMBOL | LIMITS | UNITS |
|--|-----------------------|----------------|------------|-------|
| Drain-Source Voltage | | V_{DS} | -100 | V |
| Gate-Source Voltage | | V_{GS} | ±20 | |
| Continuous Drain Current | $T_C = 25\text{ °C}$ | I_D | -20 | A |
| | $T_C = 100\text{ °C}$ | | -12 | |
| Pulsed Drain Current ¹ | | I_{DM} | -60 | |
| Avalanche Current | | I_{AS} | -54 | |
| Avalanche Energy | $L = 0.1\text{mH}$ | E_{AS} | 149 | mJ |
| Power Dissipation | $T_C = 25\text{ °C}$ | P_D | 50 | W |
| | $T_C = 100\text{ °C}$ | | 20 | |
| Operating Junction & Storage Temperature Range | | T_J, T_{STG} | -55 to 150 | °C |

THERMAL RESISTANCE RATINGS

| THERMAL RESISTANCE | SYMBOL | TYPICAL | MAXIMUM | UNITS |
|---------------------|-----------------|---------|---------|--------|
| Junction-to-Case | $R_{\theta JC}$ | | 2.5 | °C / W |
| Junction-to-Ambient | $R_{\theta JA}$ | | 75 | |

¹Pulse width limited by maximum junction temperature.

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P-Channel Logic Level Enhancement Mode MOSFET

ELECTRICAL CHARACTERISTICS (T_J = 25 °C, Unless Otherwise Noted)

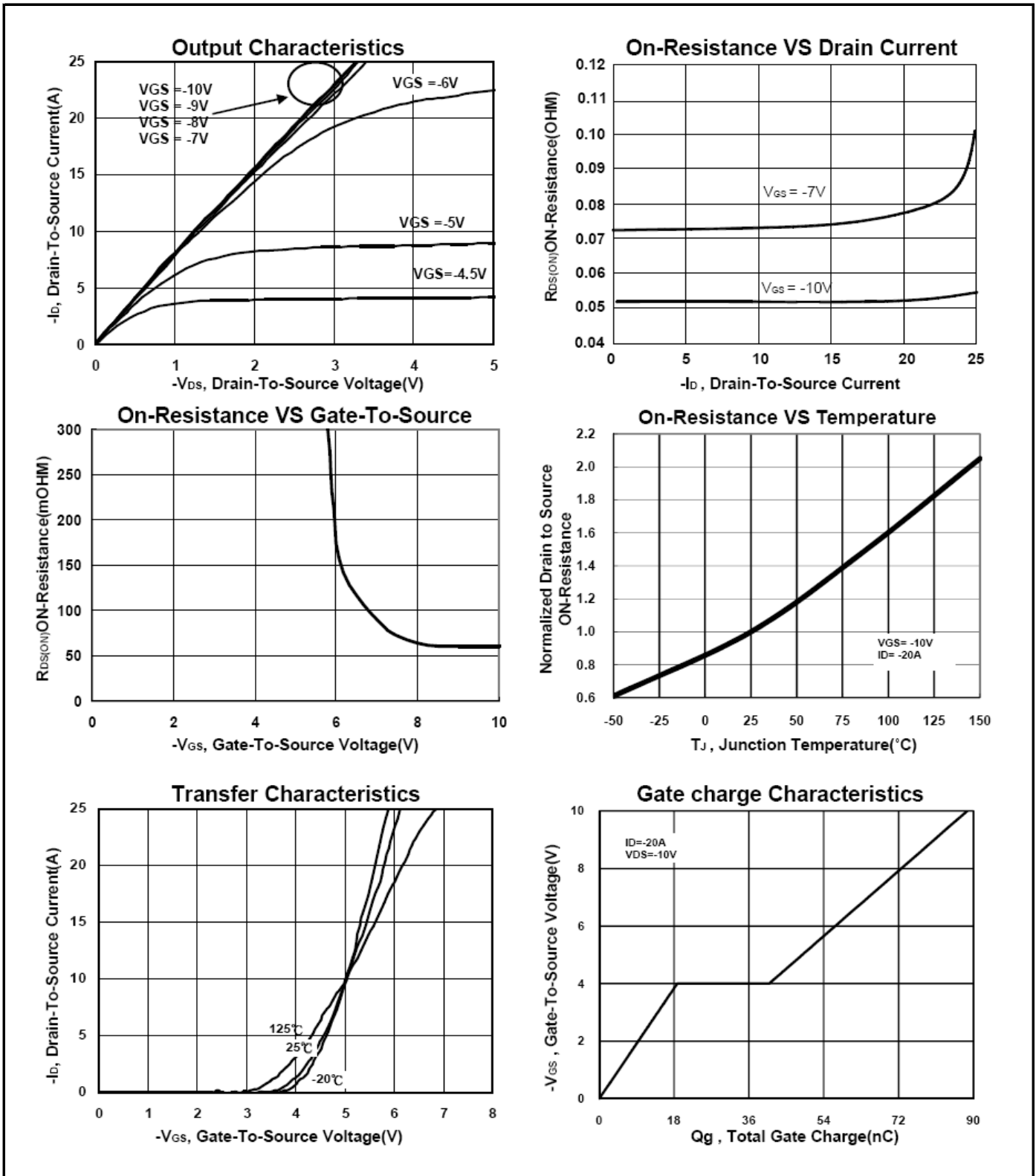
| PARAMETER | SYMBOL | TEST CONDITIONS | LIMITS | | | UNIT |
|---|----------------------|--|--------|------|------|------|
| | | | MIN | TYP | MAX | |
| STATIC | | | | | | |
| Drain-Source Breakdown Voltage | V _{(BR)DSS} | V _{GS} = 0V, I _D = -250μA | -100 | | | V |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} = V _{GS} , I _D = -250μA | -1.5 | -2.7 | -4 | V |
| Gate-Body Leakage | I _{GSS} | V _{DS} = 0V, V _{GS} = ±20V | | | ±250 | nA |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} = -80V, V _{GS} = 0V | | | -1 | μA |
| | | V _{DS} = -80V, V _{GS} = 0V, T _J = 125 °C | | | -10 | |
| On-State Drain Current ¹ | I _{D(ON)} | V _{DS} = -5V, V _{GS} = -10V | -60 | | | A |
| Drain-Source On-State Resistance ¹ | R _{DS(ON)} | V _{GS} = -7V, I _D = -18A | | 53 | 72 | mΩ |
| | | V _{GS} = -10V, I _D = -20A | | 51 | 60 | |
| Forward Transconductance ¹ | g _{fs} | V _{DS} = -5V, I _D = -20A | | 35 | | S |
| DYNAMIC | | | | | | |
| Input Capacitance | C _{iss} | V _{GS} = 0V, V _{DS} = -25V, f = 1MHz | | 4960 | | pF |
| Output Capacitance | C _{oss} | | | 224 | | |
| Reverse Transfer Capacitance | C _{rss} | | | 167 | | |
| Gate Resistance | R _g | V _{GS} = 0V, V _{DS} = 0V, f = 1MHz | | 4.6 | | Ω |
| Total Gate Charge ² | Q _g | V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = -10V, I _D = -20A | | 90 | | nC |
| Gate-Source Charge ² | Q _{gs} | | | 19 | | |
| Gate-Drain Charge ² | Q _{gd} | | | 24 | | |
| Turn-On Delay Time ² | t _{d(on)} | V _{DS} = -20V, I _D ≅ -1A, V _{GS} = -10V, R _{GS} = 6Ω | | 20 | | nS |
| Rise Time ² | t _r | | | 25 | | |
| Turn-Off Delay Time ² | t _{d(off)} | | | 120 | | |
| Fall Time ² | t _f | | | 125 | | |
| SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C) | | | | | | |
| Continuous Current | I _S | | | | -20 | A |
| Forward Voltage ¹ | V _{SD} | I _F = -20A, V _{GS} = 0V | | | -1.3 | V |
| Reverse Recovery Time | t _{rr} | I _F = -20A, dI _F /dt = 100A / μS | | 84.3 | | nS |
| Reverse Recovery Charge | Q _{rr} | | | 256 | | nC |

¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

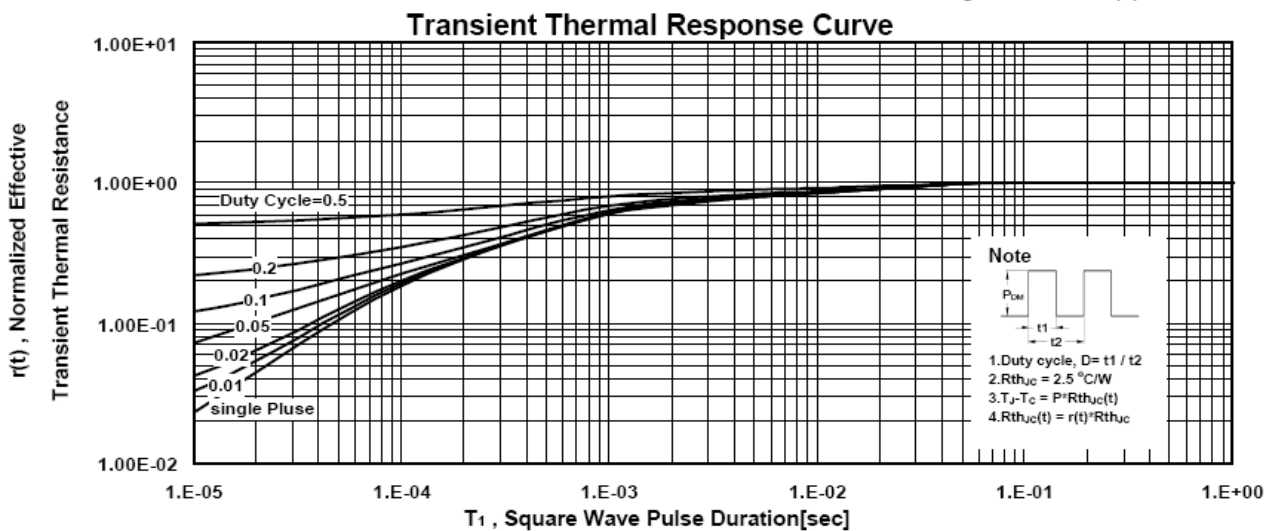
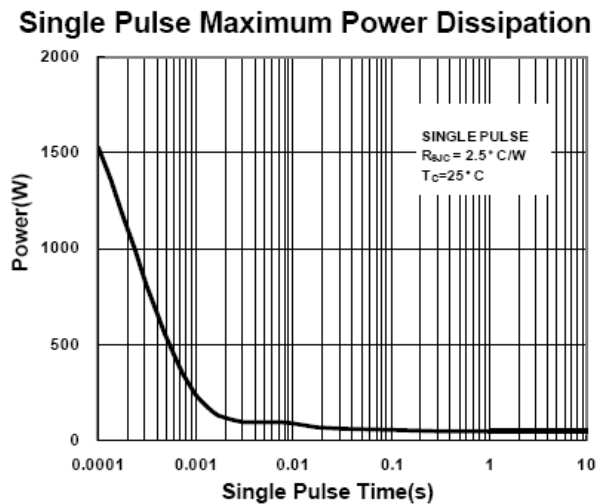
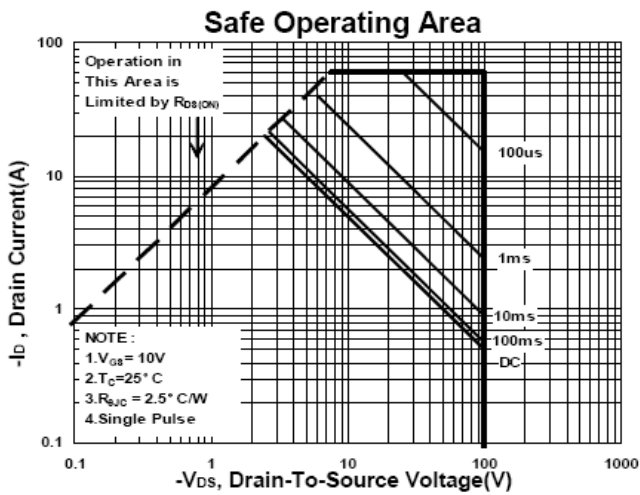
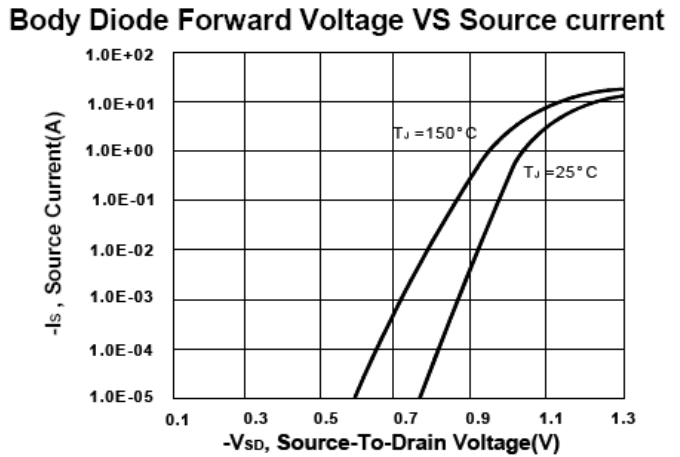
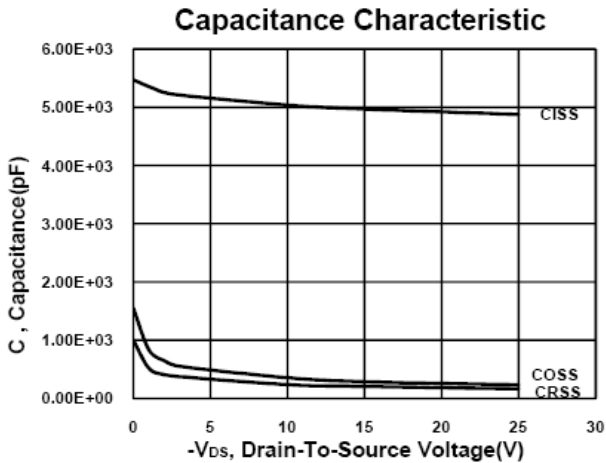
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P-Channel Logic Level Enhancement Mode MOSFET



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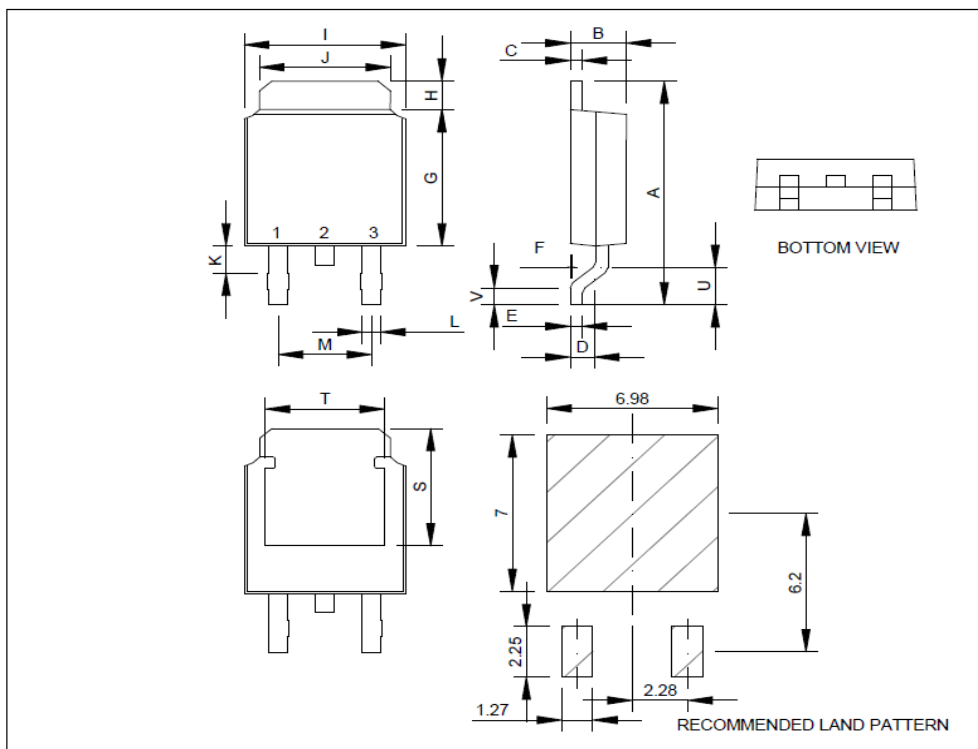
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P-Channel Logic Level Enhancement Mode MOSFET

Package Dimension

TO-252 (DPAK) MECHANICAL DATA

| Dimension | mm | | | Dimension | mm | | |
|-----------|------|------|-------|-----------|------|------|------|
| | Min. | Typ. | Max. | | Min. | Typ. | Max. |
| A | 8.9 | 10 | 10.41 | J | 4.8 | | 5.64 |
| B | 2.1 | 2.2 | 2.4 | K | 0.15 | | 1.1 |
| C | 0.4 | 0.5 | 0.61 | L | 0.4 | 0.76 | 0.89 |
| D | 0.82 | 1.2 | 1.5 | M | 4.2 | 4.58 | 5 |
| E | 0.4 | 0.5 | 0.61 | S | 4.9 | 5.1 | 5.3 |
| F | 0 | | 0.2 | T | 4.6 | 4.75 | 5.44 |
| G | 5.3 | 6.1 | 6.3 | U | 1.4 | | 1.78 |
| H | 0.9 | | 1.7 | V | 0.55 | 1.25 | 1.7 |
| I | 6.3 | 6.5 | 6.8 | | | | |



*因为各家封装模具不同而外观略有所差异，不影响电性及Layout。

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