





# YJS03NP10A

## NMOS Electrical Characteristics ( $T_J=25$ unless otherwise noted)

| Parameter                       | Symbol     | Conditions                        | Min | Typ | Max | Units |
|---------------------------------|------------|-----------------------------------|-----|-----|-----|-------|
| <b>Static Parameter</b>         |            |                                   |     |     |     |       |
| Drain-Source Breakdown Voltage  | $BV_{DSS}$ | $V_{GS}=0V, I_D=250$              | 100 | -   | -   | V     |
| Zero Gate Voltage Drain Current | $I_{DSS}$  | $V_{DS}=100V, V_{GS}=0V$          | -   | -   | 1   |       |
|                                 |            | $V_{DS}=100V, V_{GS}=0V, T_J=150$ | -   | -   | 100 |       |



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| Parameter                         | Symbol       | Conditions                         | Min  | Typ  | Max       | Units |
|-----------------------------------|--------------|------------------------------------|------|------|-----------|-------|
| <b>Static Parameter</b>           |              |                                    |      |      |           |       |
| Drain-Source Breakdown Voltage    | $BV_{DSS}$   | $V_{GS}=0V, I_D=-250$              | -100 | -    | -         | V     |
| Zero Gate Voltage Drain Current   | $I_{DSS}$    | $V_{DS}=-100V, V_{GS}=0V$          | -    | -    | -1        |       |
|                                   |              | $V_{DS}=-100V, V_{GS}=0V, T_J=150$ | -    | -    | -100      |       |
| Gate-Body Leakage Current         | $I_{GSS}$    | $V_{GS}=\pm 20V, V_{DS}=0V$        | -    | -    | $\pm 100$ | nA    |
| Gate Threshold Voltage            | $V_{GS(th)}$ | $V_{DS}=V_{GS}, I_D=-250$          | -1   | -1.7 | -2.5      | V     |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}=-10V, I_D=-3A$<br>$V_{GS}$ | -    | 85   | 110       | m     |



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## NMOS Typical Electrical and Thermal Characteristics Diagrams

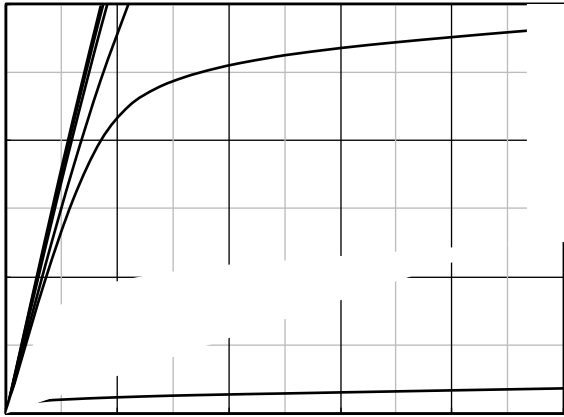
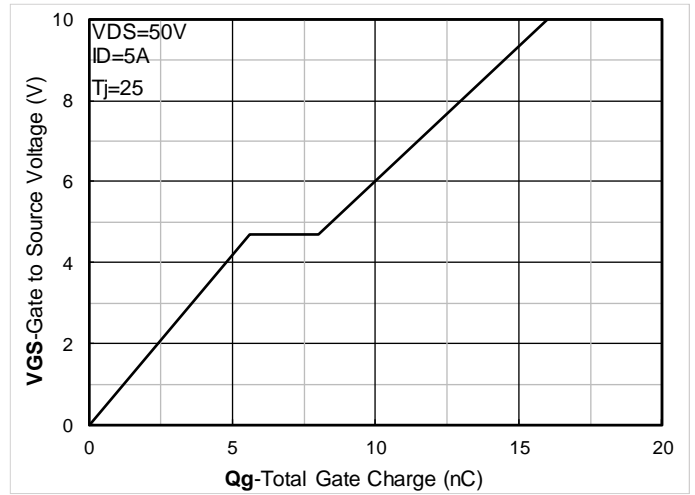
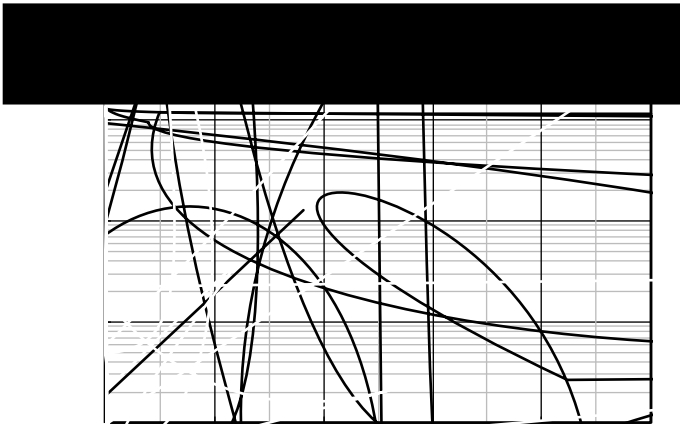


Figure 1. Output Characteristics

Figure 2. Transfer Characteristics





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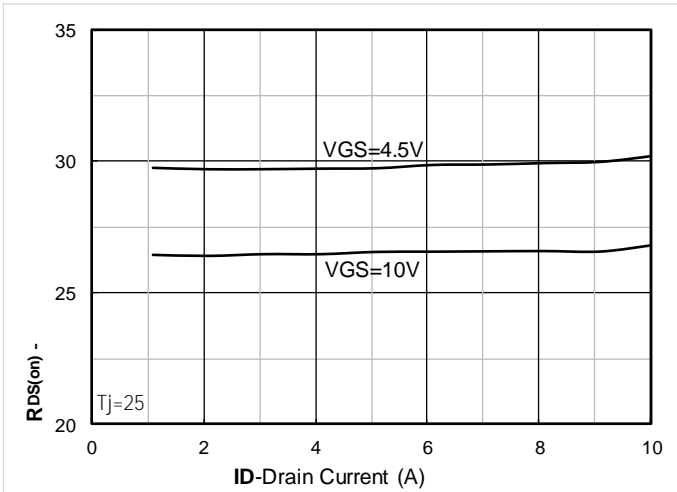


Figure 7.  $R_{DS(on)}$  VS Drain Current

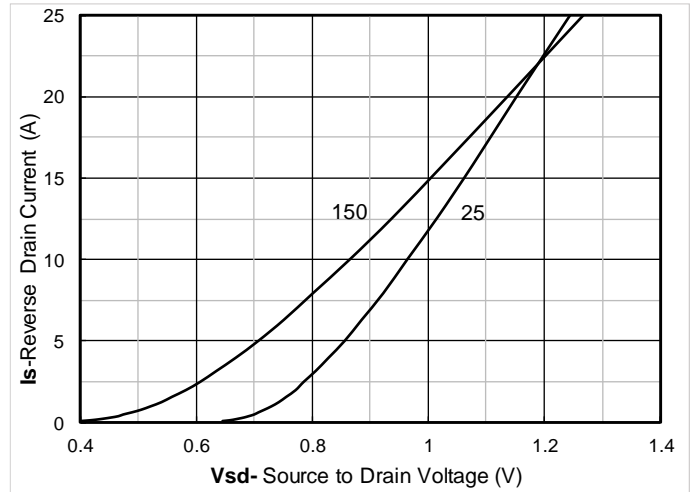


Figure 8. Forward characteristics of reverse diode

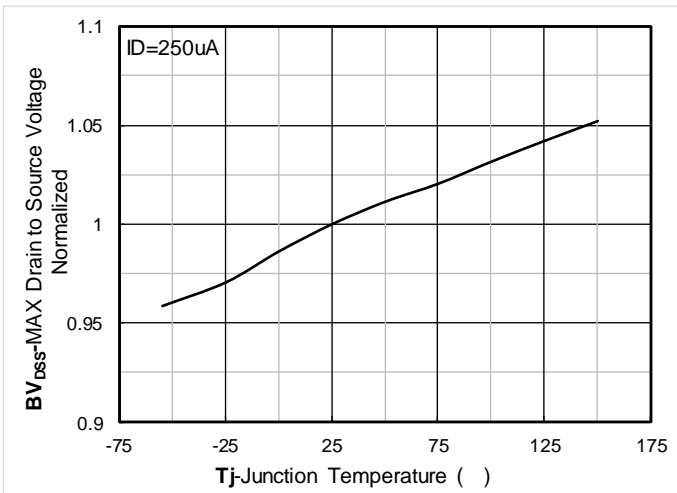


Figure 9. Normalized breakdown voltage

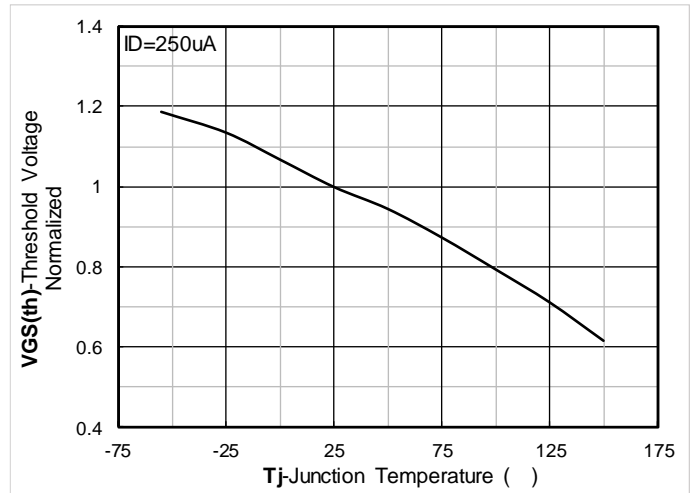


Figure 10. Normalized Threshold voltage

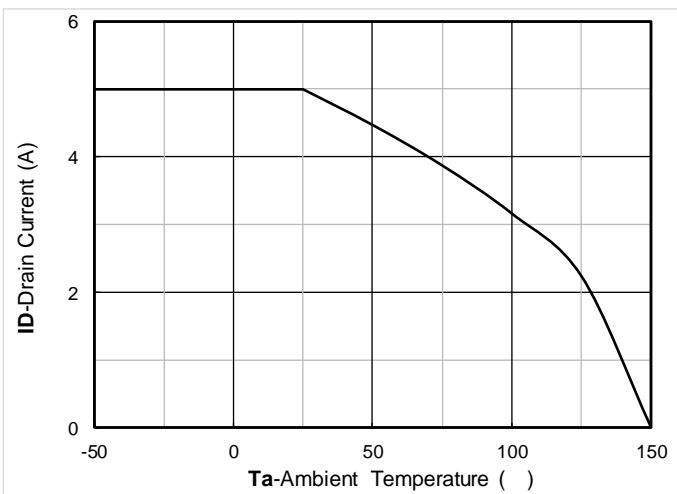


Figure 11. Current dissipation

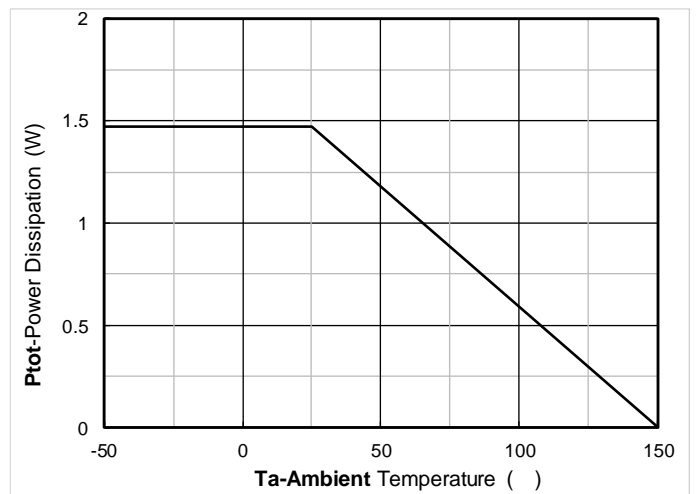


Figure 12. Power dissipation



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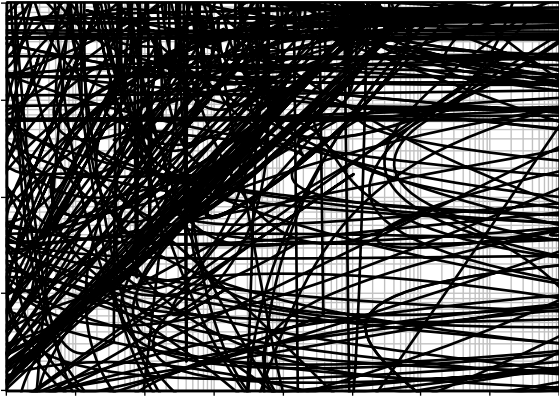


Figure 13. Maximum Transient Thermal Impedance

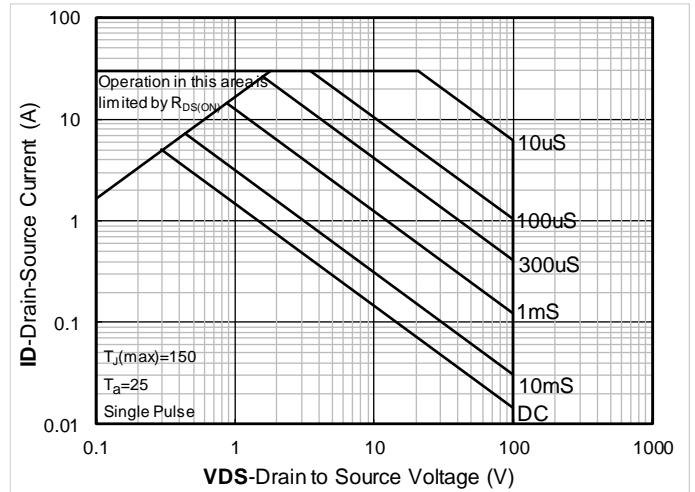


Figure 14. Safe Operation Area

## PMOS Typical Electrical and Thermal Characteristics Diagrams

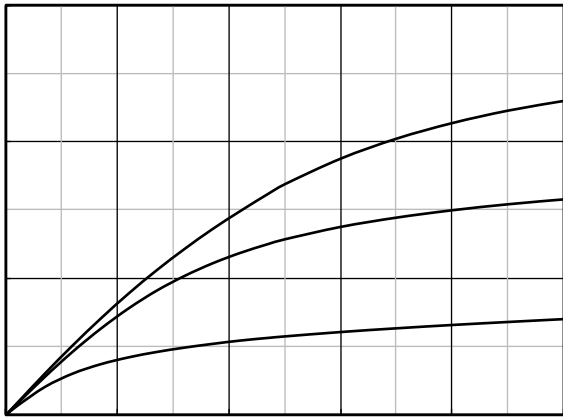


Figure 1. Output Characteristics

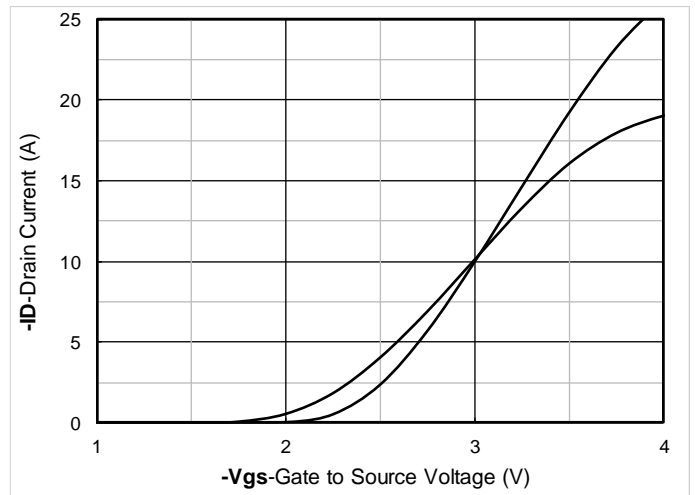


Figure 2. Transfer Characteristics



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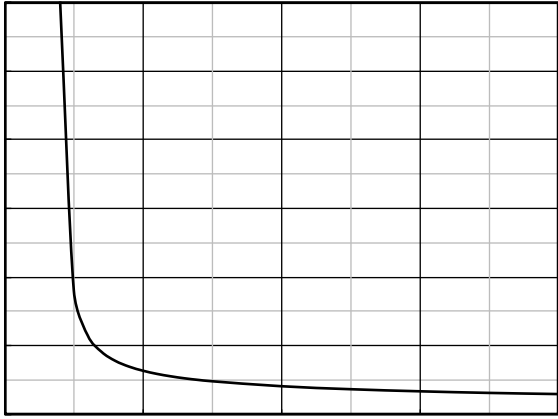


Figure 5. On-Resistance vs Gate to Source Voltage

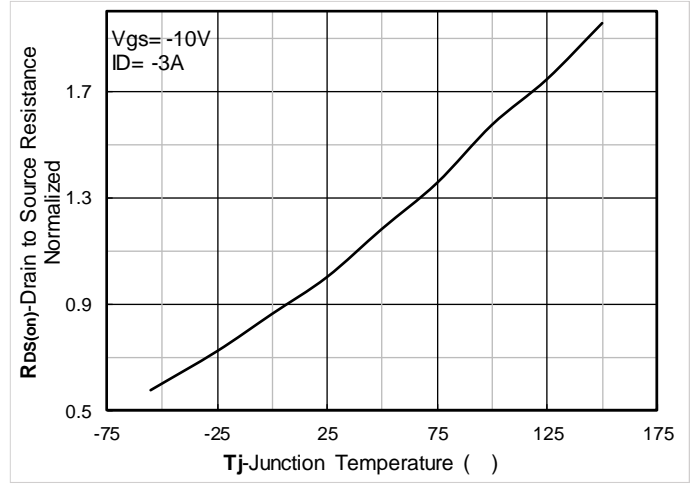


Figure 6. Normalized On-Resistance

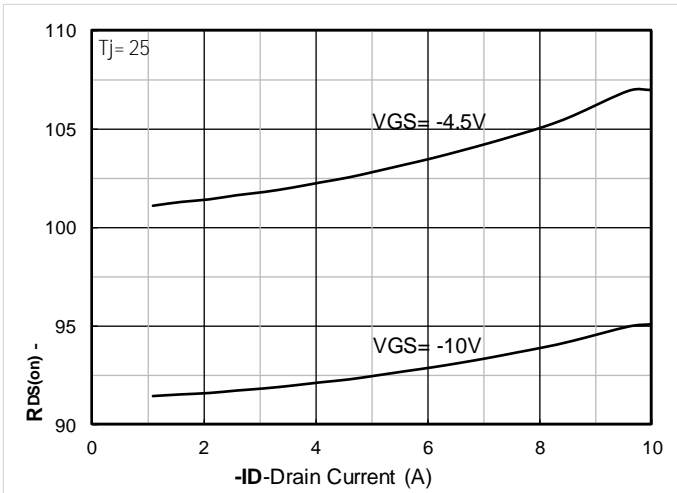


Figure 7.  $R_{DS(on)}$  VS Drain Current

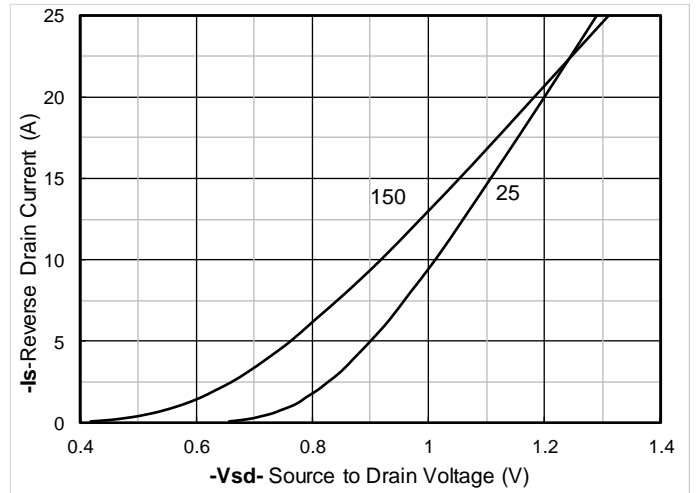


Figure 8. Forward characteristics of reverse diode

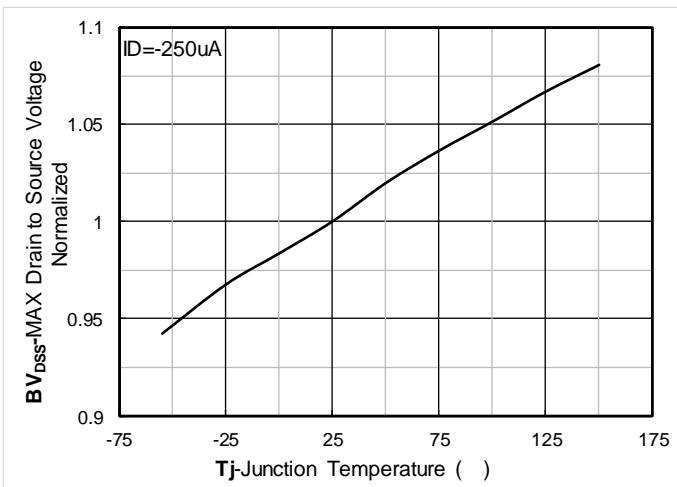


Figure 9. Normalized breakdown voltage

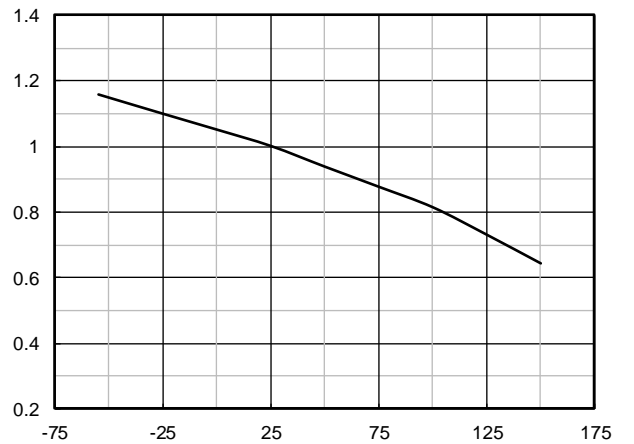


Figure 10. Normalized Threshold voltage







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