

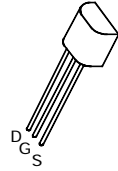
N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

ZVN3310A

ISSUE 2 – MARCH 94

FEATURES

- * 100 Volt V_{DS}
- * $R_{DS(on)} = 10\Omega$



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

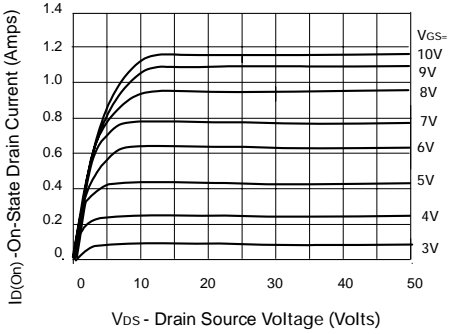
| PARAMETER | SYMBOL | VALUE | UNIT |
|---|----------------|-------------|-------------|
| Drain-Source Voltage | V_{DS} | 100 | V |
| Continuous Drain Current at $T_{amb}=25^{\circ}C$ | I_D | 200 | mA |
| Pulsed Drain Current | I_{DM} | 2 | A |
| Gate-Source Voltage | V_{GS} | ± 20 | V |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | P_{tot} | 625 | mW |
| Operating and Storage Temperature Range | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

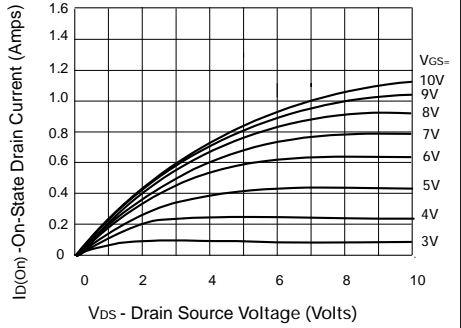
| PARAMETER | SYMBOL | MIN. | MAX. | UNIT | CONDITIONS. |
|---|--------------|------|---------|--------------------|---|
| Drain-Source Breakdown Voltage | BV_{DSS} | 100 | | V | $I_D=1mA, V_{GS}=0V$ |
| Gate-Source Threshold Voltage | $V_{GS(th)}$ | 0.8 | 2.4 | V | $I_D=1mA, V_{DS}=V_{GS}$ |
| Gate-Body Leakage | I_{GSS} | | 20 | nA | $V_{GS}=\pm 20V, V_{DS}=0V$ |
| Zero Gate Voltage Drain Current | I_{DSS} | | 1 50 | μA μA | $V_{DS}=100V, V_{GS}=0$ $V_{DS}=80V, V_{GS}=0V, T=125^{\circ}C(2)$ |
| On-State Drain Current(1) | $I_{D(on)}$ | 500 | | mA | $V_{DS}=25V, V_{GS}=10V$ |
| Static Drain-Source On-State Resistance (1) | $R_{DS(on)}$ | | 10 | Ω | $V_{GS}=10V, I_D=500mA$ |
| Forward Transconductance(1)(2) | g_{fs} | 100 | | mS | $V_{DS}=25V, I_D=500mA$ |
| Input Capacitance (2) | C_{iss} | | 40 | pF | $V_{DS}=25V, V_{GS}=0V, f=1MHz$ |
| Common Source Output Capacitance (2) | C_{oss} | | 15 | pF | |
| Reverse Transfer Capacitance (2) | C_{rss} | | 5 | pF | |
| Turn-On Delay Time (2)(3) | $t_{d(on)}$ | | 5 | ns | $V_{DD}\approx 25V, I_D=500mA$ |
| Rise Time (2)(3) | t_r | | 7 | ns | |
| Turn-Off Delay Time (2)(3) | $t_{d(off)}$ | | 6 | ns | |
| Fall Time (2)(3) | t_f | | 7 | ns | |

ZVN3310A

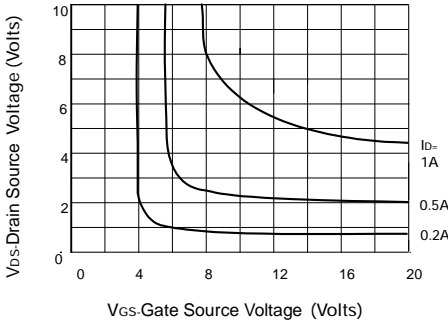
TYPICAL CHARACTERISTICS



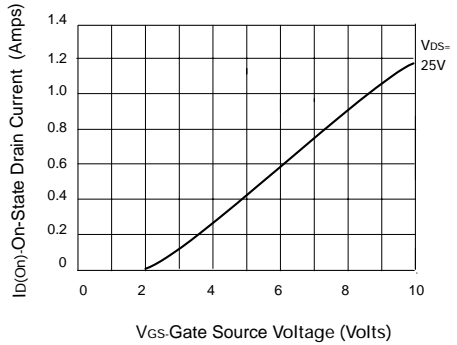
Output Characteristics



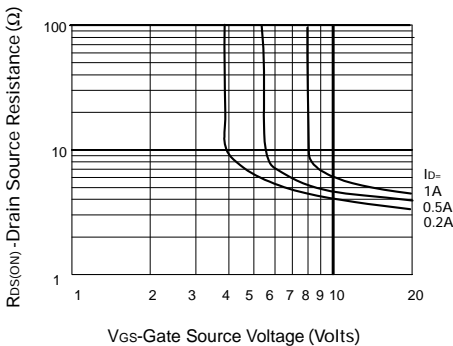
Saturation Characteristics



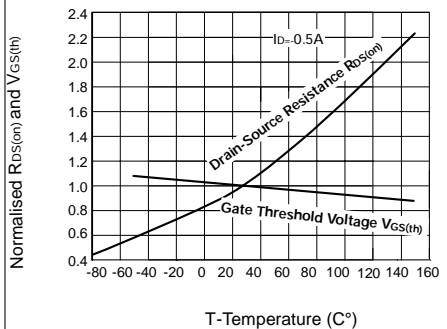
Voltage Saturation Characteristics



Transfer Characteristics



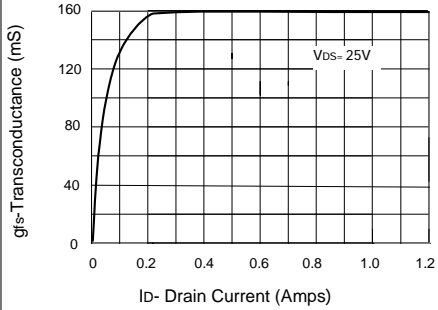
On-resistance vs gate-source voltage



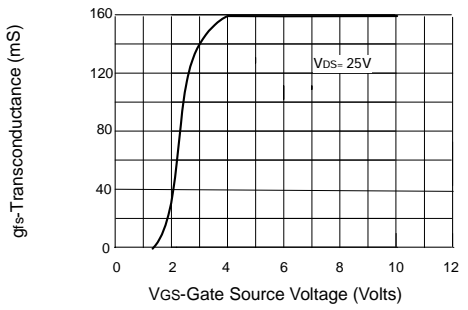
Normalised $R_{DS(on)}$ and $V_{GS(th)}$ vs Temperature

ZVN3310A

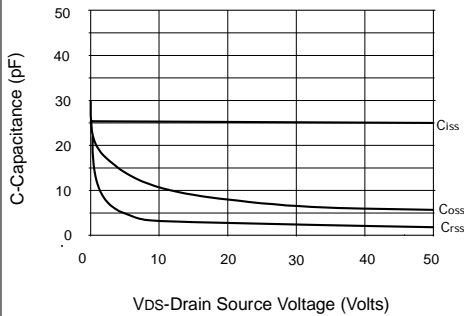
TYPICAL CHARACTERISTICS



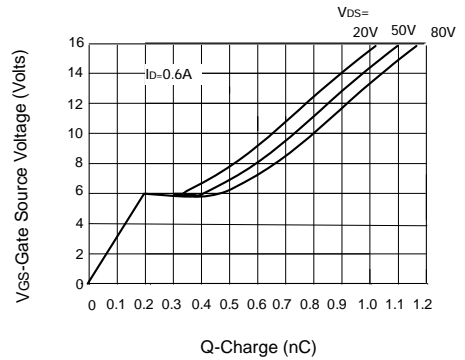
Transconductance v drain current



Transconductance v gate-source voltage



Capacitance v drain-source voltage



Gate charge v gate-source voltage

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Diodes Incorporated:](#)

[ZVN3310A](#) [ZVN3310ASTZ](#)