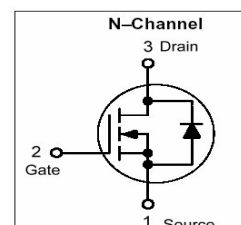
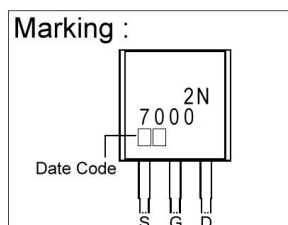
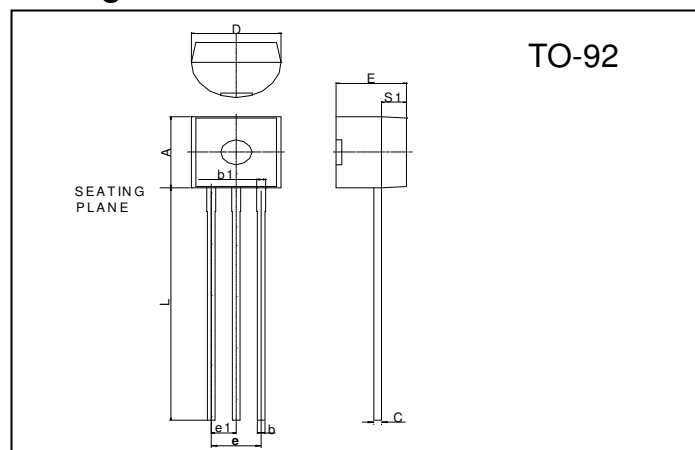


## G2N7000 N-CHANNEL ENHANCEMENT MODE MOSFET

### Description

The G2N7000 is designed for high voltage, high speed applications such as switching regulators, converters, solenoid and relay drivers.

### Package Dimensions



| REF. | Millimeter |      | REF. | Millimeter |       |
|------|------------|------|------|------------|-------|
|      | Min.       | Max. |      | Min.       | Max.  |
| A    | 4.45       | 4.7  | D    | 4.44       | 4.7   |
| S1   | 1.02       | -    | E    | 3.30       | 3.81  |
| b    | 0.36       | 0.51 | L    | 12.70      | -     |
| b1   | 0.36       | 0.76 | e1   | 1.150      | 1.390 |
| C    | 0.36       | 0.51 | e    | 2.42       | 2.66  |

### Absolute Maximum Ratings at Ta = 25°C

| Parameter  |                   | Symbol   | Ratings    | Unit |
|--|-------------------|----------|------------|------|
| Operating Junction and Storage Temperature Range                               |                   | Tj, Tstg | -55 ~ +150 | °C   |
| Drain-Source Voltage   |                   | Vdss     | 60         | V    |
| Gate-Source Voltage<br>-Continuous<br>-Non-repetitive (tp ≤ 50us)              |                   | Vgs      | ±20        | V    |
|  |                   | Vgsm     | ±40        | V    |
| Drain Current<br>-Continuous<br>- Pulsed                                       |                   | Id       | 200        | mA   |
|  |                   | Idm      | 500        |      |
| Power Dissipation  | Ta=25°C           | Pd       | 0.35       | W    |
|  | Derate above 25°C |          | 2.8        |      |
| Thermal Resistance ,Junction-to-Ambient  |                   | RθJA     | 357        | °C/W |
| Maximum Lead Temperature for Soldering Purposes,1/16" from case for 10 seconds |                   | TL       | 300        | °C   |

### Electrical Characteristics (Tc= 25°C unless otherwise noted)

| Parameter                               | Symbol   | Min. | Typ. | Max. | Unit | Test Conditions         |
|---|----------|------|------|------|------|-------------------------|
| Drain-Source Breakdown Voltage          | V(BR)DSS | 60   | -    | -    | V    | VGS=0, ID=250uA         |
| Gate Threshold Voltage                  | VGS(th)  | 0.8  | -    | 3.0  | V    | VDS= VGS, ID=1.0mA      |
| Gate Body Leakage Current               | IGSS     | -    | -    | ±100 | nA   | VGS=±20V, VDS=0         |
| Zero Gate Voltage Drain Current         | IDSS     | -    | -    | 1    | uA   | VDS=60V, VGS=0          |
| On-State Drain Current                  | ID(ON)   | 75   | -    | -    | mA   | VGS=4.5V, VDS=10V       |
| Static Drain-Source on-State Resistance | RDS(ON)  | -    | -    | 5.0  | Ω    | VGS=10V, ID=500mA       |
|   |          | -    | -    | 6.0  |      | VGS=4.5V, ID=75mA       |
| Drain-Source on-Voltage                 | VDS(ON)  | -    | -    | 2.5  | V    | VGS=10V, ID=500mA       |
|   |          | -    | -    | 0.45 |      | VGS=4.5V, ID=75mA       |
| Forward Transconductance                | GFS      | 100  | -    | -    | mS   | VDS=10 V, ID=200mA      |
| Input Capacitance                       | Ciss     | -    | -    | 60   | pF   | VDS=25V, VGS=0V, f=1MHz |
| Output Capacitance                      | Coss     | -    | -    | 25   |      |                         |
| Reverse Transfer Capacitance            | Crss     | -    | -    | 5    |      |                         |

**Switching Characteristics** (Note 1)

|                     |           |   |   |    |    |  |
|---------------------|-----------|---|---|----|----|--|
| Turn-on Delay Time  | $t_{on}$  | - | - | 10 | ns | $V_{DD}=15V, I_D=500mA$<br>$R_G=25\Omega, R_L=30\Omega, V_{gen}=10V$ |
| Turn-off Delay Time | $t_{off}$ | - | - | 10 |    |  |

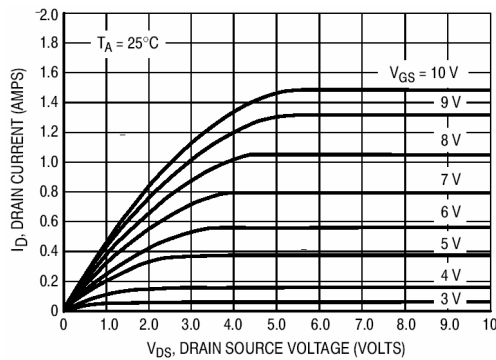
Note 1. Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty cycle  $\leq 2\%$ .**Characteristics Curve**

Figure 1. Ohmic Region

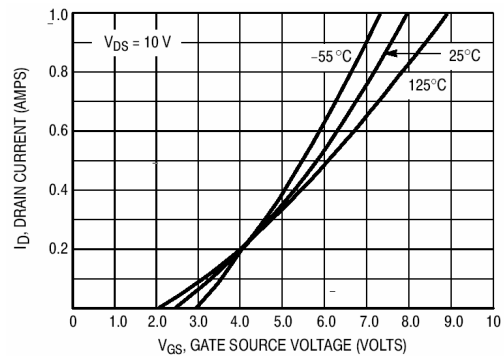


Figure 2. Transfer Characteristics

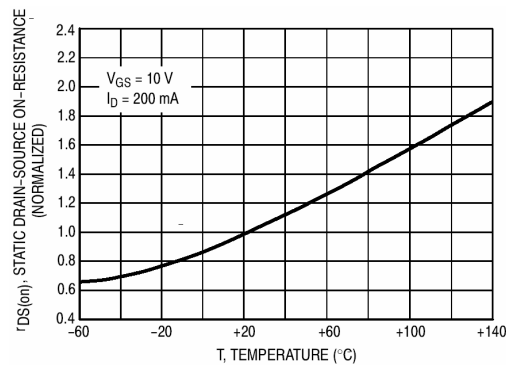


Figure 3. Temperature versus Static Drain-Source On-Resistance

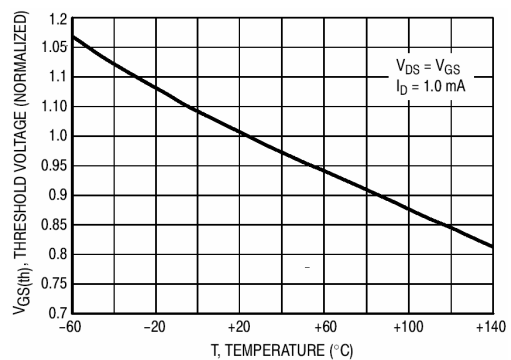


Figure 4. Temperature versus Gate Threshold Voltage

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