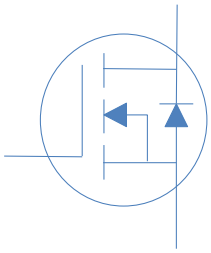
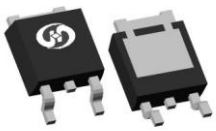
# 80V N-Ch Power MOSFET

| | | | |
|---|---|---|---|
| $V_{DS}$ | | 80 | V |
| $R_{DS(on),typ}$ | $V_{GS}$=10V | 3.1 | m |
| $R_{DS(on),typ}$ | $V_{GS}$=4.5V | 4.3 | m |
| $I_{D\ (Silicon\ Limited)}$ | | 140 | A |
| $I_{D\ (Package\ Limited)}$ | | 120 | A |





| Part Number | Package | Marking |
|---|---|---|
| HGD035N08AL | TO-252 | GD035N08AL |

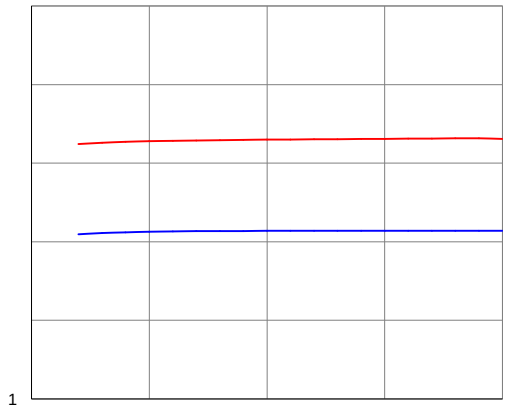
## Absolute Maximum Ratings at $T_j$=25℃ (unless otherwise specified)

| Parameter | Symbol | Conditions | Value | Unit |
|---|---|---|---|---|
| Continuous Drain Current (Silicon Limited) | $I_D$ | $T_C$=25℃ | 140 | A |
| | | $T_C$=100℃ | 99 | |
| Continuous Drain Current (Package Limited | | $T_C$=25℃ | 120 | |
| Drain to Source Voltage | $V_{DS}$ | - | 80 | V |
| Gate to Source Voltage | $V_{GS}$ | - | ±20 | V |
| Pulsed Drain Current | $I_{DM}$ | - | 400 | A |
| Avalanche Energy, Single Pulse | $E_{AS}$ | L=0.1mH, $T_C$=25℃ | 80 | mJ |
| Power Dissipation | $P_D$ | $T_C$=25℃ | 150 | W |
| Operating and Storage Temperature | $T_J$, $T_{stg}$ | - | -55 to175 | ℃ |

## Absolute Maximum Ratings

| Parameter | Symbol | Max | Unit |
|---|---|---|---|
| Thermal Resistance Junction-Ambient | $R_{JA}$ | 46 | ℃/W |
| Thermal Resistance Junction-Case | $R_{JC}$ | 1 | ℃/W |

| Fig 1. Typical Output Characteristics | Figure 2. On-Resistance vs. Gate-Source Voltage |
|---|---|
| | |

| Figure 3. On-Resistance vs. Drain Current and Gate Voltage | Figure 4. Normalized On-Resistance vs. Junction Temperature |
|---|---|
|  | |

| Figure 5. Typical Transfer Characteristics | Figure 6. Typical Source-Drain Diode Forward Voltage |
|---|---|
| | |

Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage

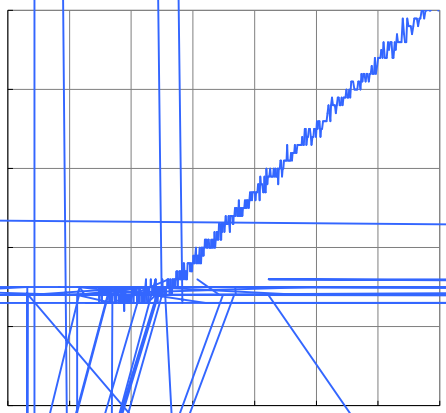


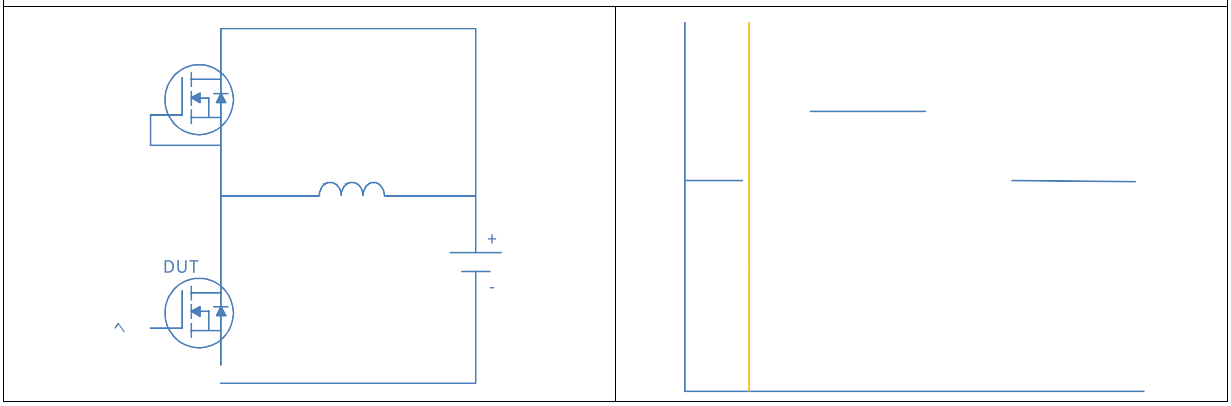
Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

Figure 9. Maximum Safe Operating Area

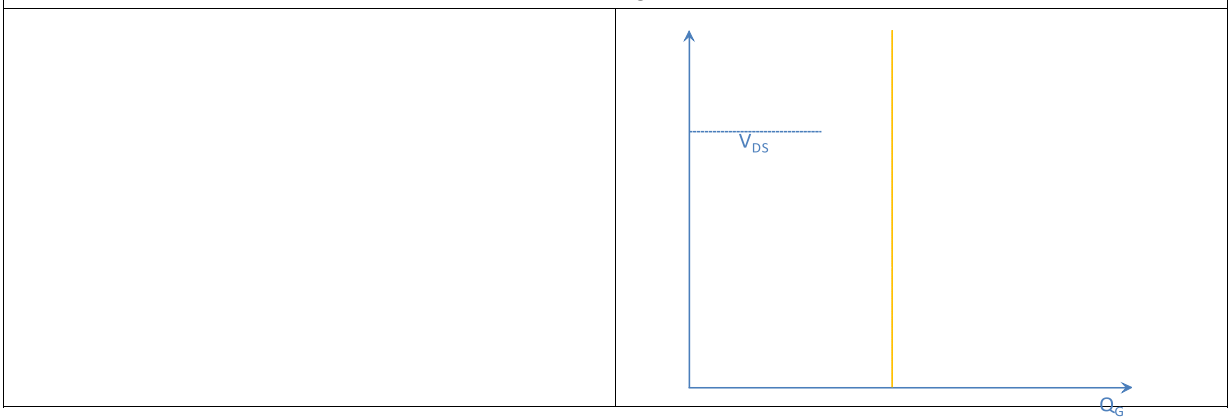
Figure 10. Maximun Drain Current vs. Case Temperature

Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient

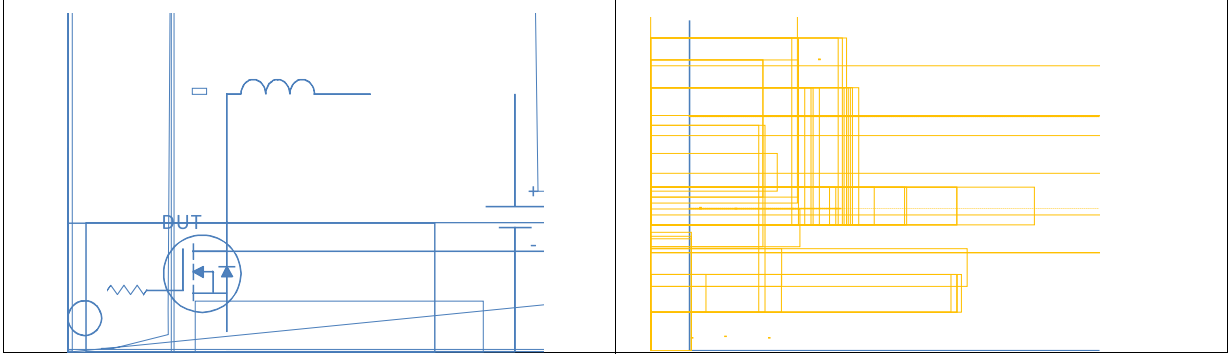
## Inductive switching Test



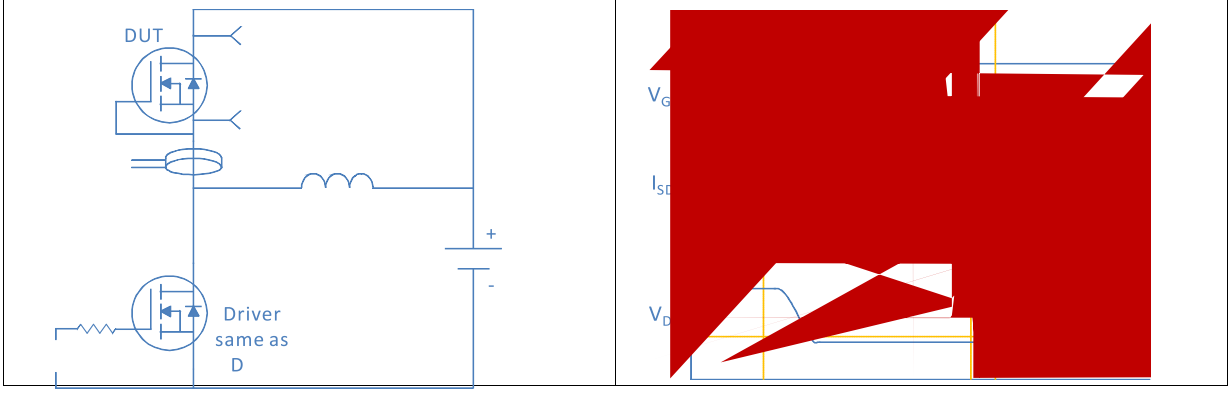

## Gate Charge Test




## Uclamped Inductive Switching (UIS) Test

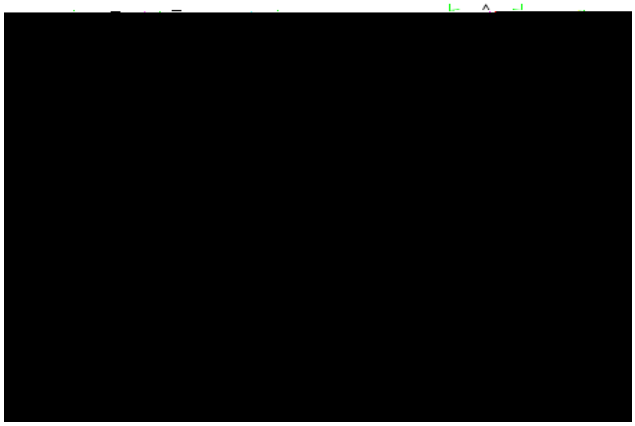



## Diode Recovery Test

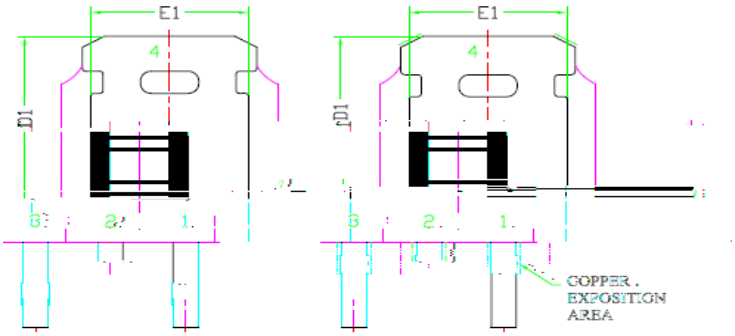


Package Outline

**TO-252, 3 leads**



| SYMBOL | DIMENSIONAL REQMTS | | |
|---|---|---|---|
| | MIN | NOM | MAX |
| E | 6.40 | 6.60 | 6.731 |
| L | 1.40 | 1.52 | 1.77 |
| L1 | 2.743 REF | | |
| L2 | 0.508 BSC | | |
| L3 | 0.89 | -- | 1.27 |
| L4 | 0.64 | -- | 1.01 |
| L5 | -- | -- | -- |
| D | 6.00 | 6.10 | 6.223 |




SINGLE ROW(NEW) MATRIX L/F