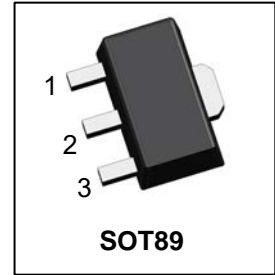


N2670TZHG

60V N-Channel Enhancement Mode MOSFET

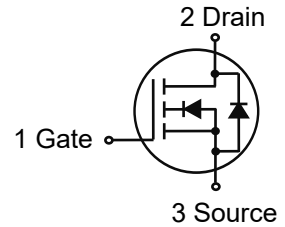
1. FEATURES

- Low RDS(on) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.



2. APPLICATION

- Power Routing
- DC/DC Conversion
- Motor Drives



3. ORDERING INFORMATION

| Device | Marking | Shipping |
|-----------|---------|----------------|
| N2670TZHG | 6N | 1000/Tape&Reel |

4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

| Parameter | Symbol | Limits | Unit |
|-------------------------------|--------|----------|------|
| Drain-to-Source Voltage | VDSS | 60 | V |
| Gate-to-Source Voltage | VGS | ±20 | V |
| Continuous Drain Current | ID | TA =25°C | 4.6 |
| | | TA =70°C | 3.5 |
| Pulsed Drain Current (Note 1) | IDM | 18 | A |
| Avalanche Current(L=0.1mH) | IAS | 12 | A |
| Avalanche energy(L=0.1mH) | EAS | 7.2 | mJ |

1.Pulse width limited by maximum junction temperature.

5. THERMAL CHARACTERISTICS

| Parameter | Symbol | Limits | Unit |
|---|---------|----------|------|
| Total Device Dissipation | PD | 1.5 | W |
| Thermal Resistance, Junction-to-Ambient(Note 2) | ROJA | 85 | °C/W |
| Thermal Resistance, Junction-to-Ambient(Note 3) | ROJA | 163 | °C/W |
| Thermal Resistance, Junction-to-Case | ROJC | 35 | °C/W |
| Junction and Storage temperature | TJ,Tstg | -55~+150 | °C |

2.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.

3.Surface mounted on "30.0mm×25.0mm×1.6mm" FR4, 1 oz Cu

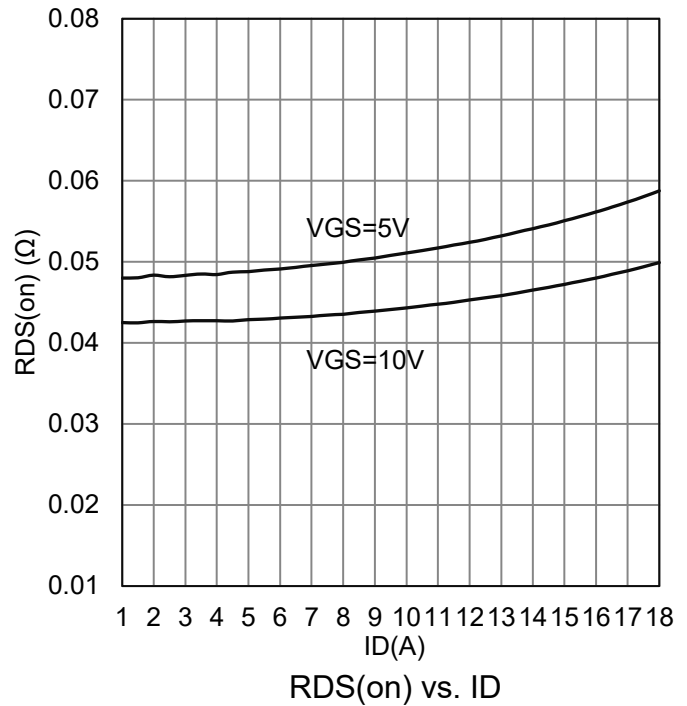
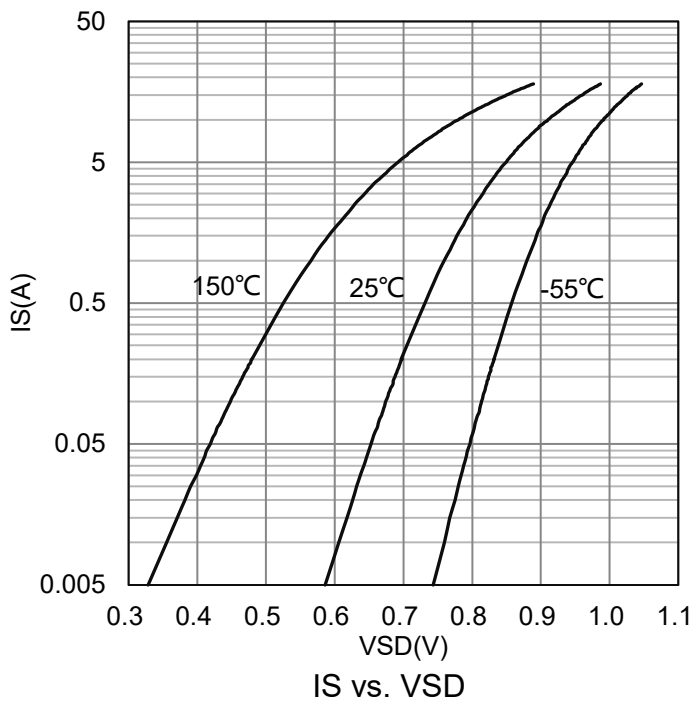
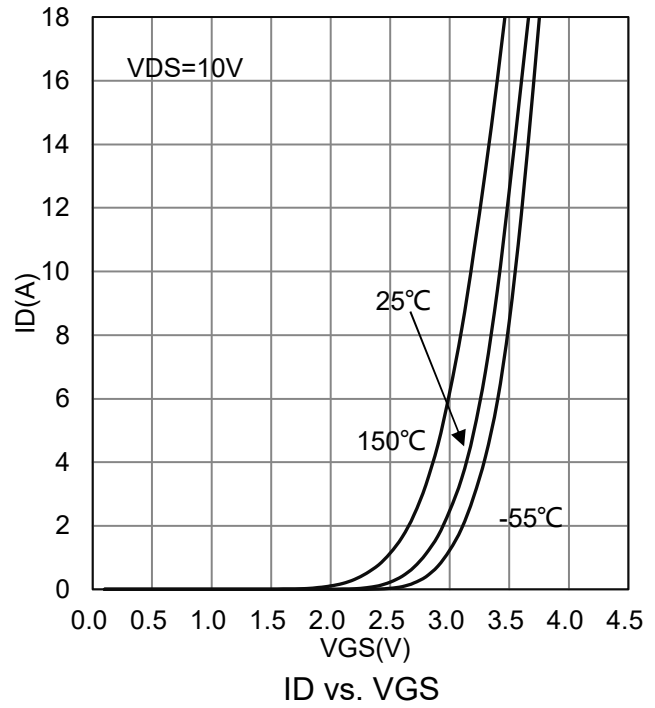
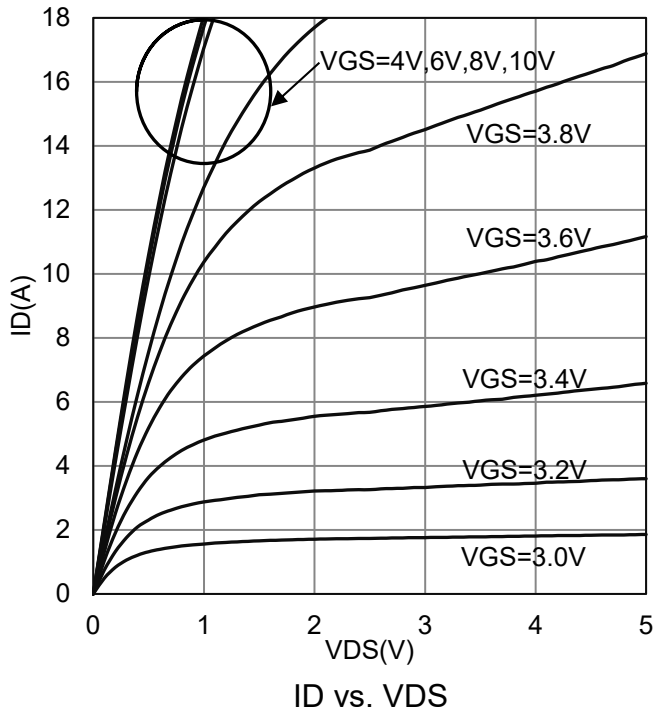


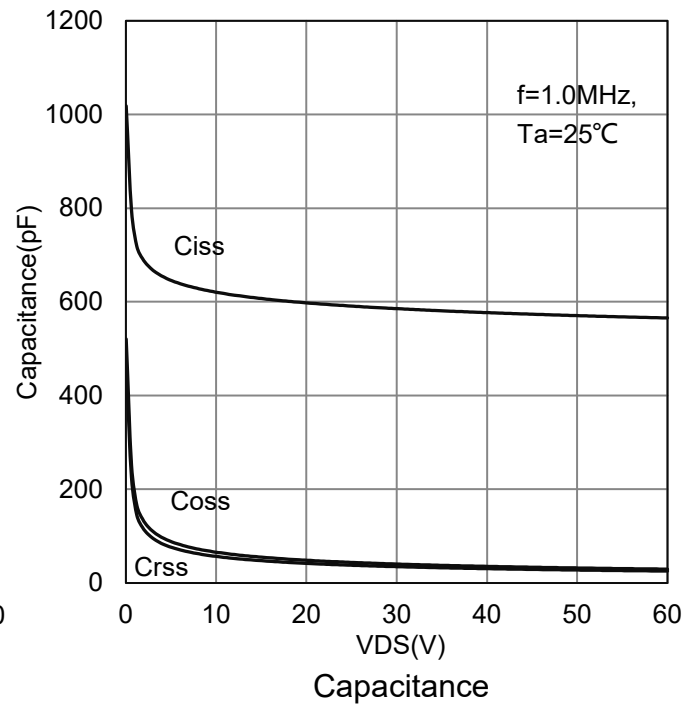
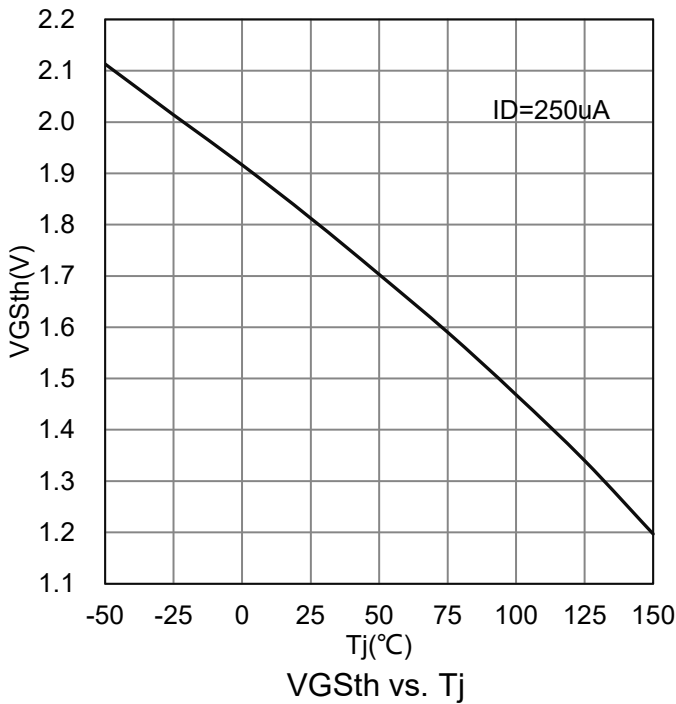
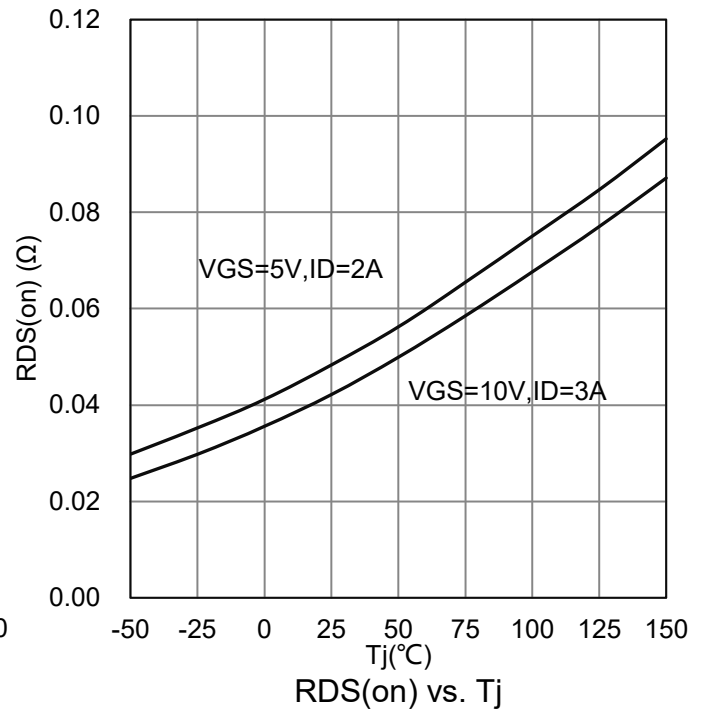
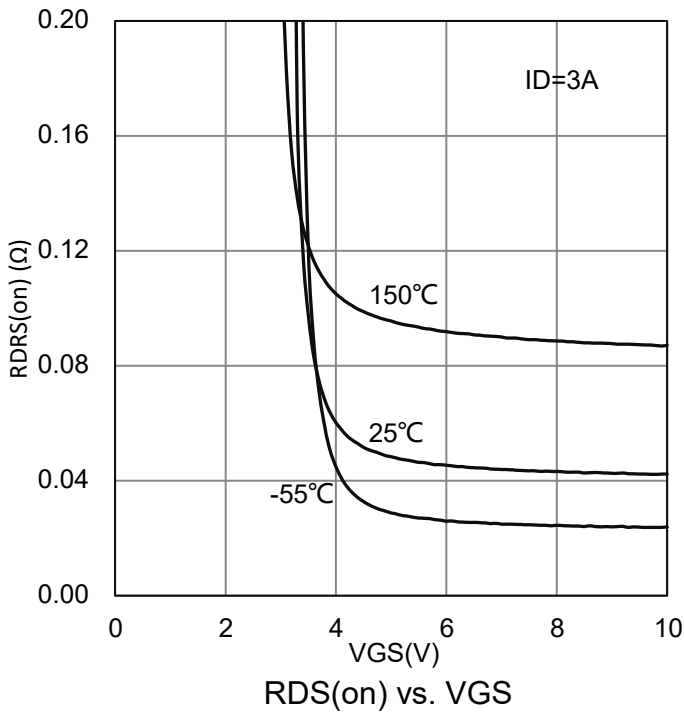
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

| Characteristic | Symbol | Min. | Typ. | Max. | Unit |
|--|---|---------|--------|----------|------|
| Static | | | | | |
| Drain–Source Breakdown Voltage (VGS = 0V, ID = 250μA) | V(BR)DSS | 60 | - | - | V |
| Gate-Source Threshold Voltage (VDS = VGS, ID = 250 μA) | VGS(th) | 1 | 2 | 3.2 | V |
| Gate-Body Leakage (VDS = 0 V, VGS = ±20 V) | IGSS | - | - | ±100 | nA |
| Zero Gate Voltage Drain Current (VDS = 48 V, VGS = 0 V) | IDSS | - | - | 1 | μA |
| Drain-Source On-Resistance(Note 4) (VGS = 10 V, ID =3 A) (VGS = 5 V, ID = 2 A) | RDS(on) | - - | - - | 70 85 | mΩ |
| Dynamic | | | | | |
| Total Gate Charge | (VDS = 30 V, VGS = 10 V, ID = 3A) | Qg | - | 14.6 | nC |
| Gate-Source Charge | | Qgs | - | 2 | |
| Gate-Drain Charge | | Qgd | - | 3.9 | |
| Turn-On Delay Time | (VDS = 30V, ID=1A,VGS = 10V RG = 6 Ω) | td(on) | - | 10 | ns |
| Rise Time | | tr | - | 12 | |
| Turn-Off Delay Time | | td(off) | - | 20 | |
| Fall Time | | tf | - | 15 | |
| Input Capacitance | (VDS = 30 V, VGS = 0 V, f = 1 MHz) | Ciss | - | 612 | pF |
| Output Capacitance | | Coss | - | 40 | |
| Reverse Transfer Capacitance | | Crss | - | 34 | |
| Gate Resistance (VDS=0V ,VGS=0V, f=1.0MHz) | Rg | - | 1.4 | - | Ω |

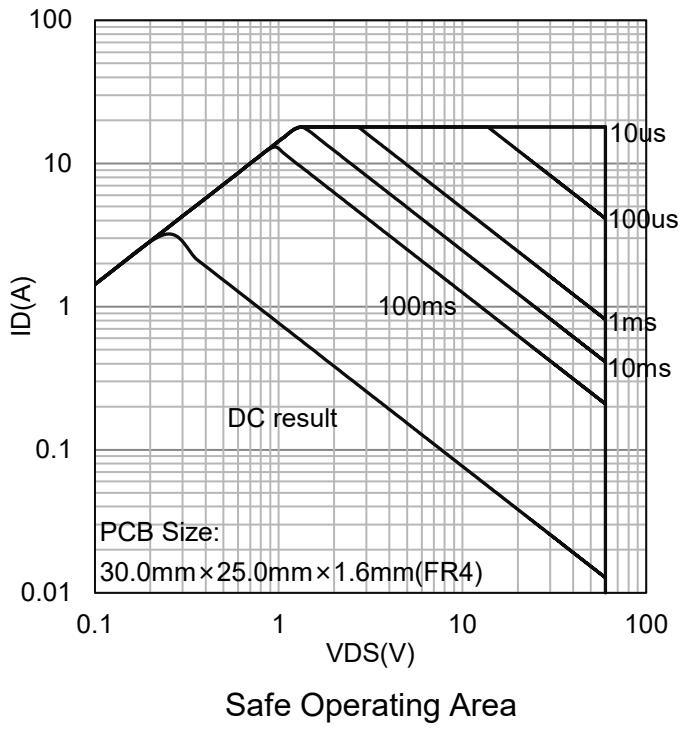
4.Pulse test: PW ≤ 300us duty cycle ≤ 2%.

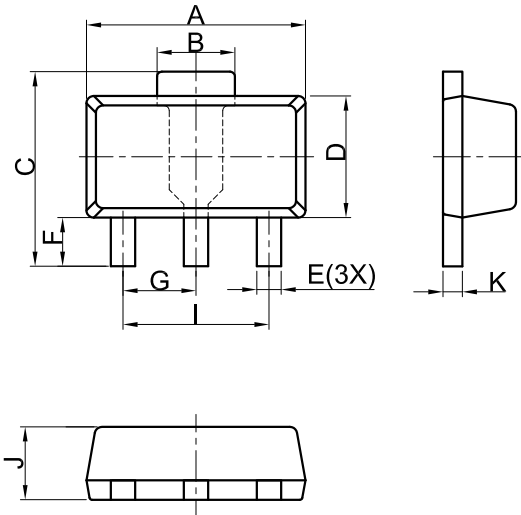


7. ELECTRICAL CHARACTERISTICS CURVES


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)


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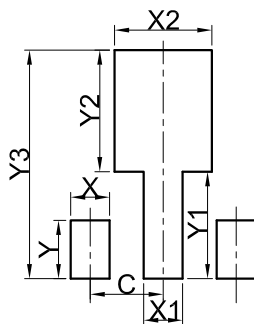


8.OUTLINE AND DIMENSIONS


| SOT89 | | | |
|----------------------|----------|------|------|
| DIM | MIN | NOR | MAX |
| A | 4.30 | 4.50 | 4.70 |
| B | 1.40 | 1.60 | 1.80 |
| C | 3.90 | 4.00 | 4.25 |
| D | 2.30 | 2.50 | 2.70 |
| E | 0.40 | 0.50 | 0.58 |
| F | 0.90 | 1.00 | 1.20 |
| G | 1.50 BSC | | |
| I | 3.00 BSC | | |
| J | 1.40 | 1.50 | 1.60 |
| K | 0.34 | 0.40 | 0.50 |
| All Dimensions in mm | | | |

GENERAL NOTES

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um
4. Protrusion or Gate Burrs shall not exceed 0.10mm per side.

9.SOLDERING FOOTPRINT


| SOT89 | |
|-------|------|
| DIM | (mm) |
| X | 0.80 |
| Y | 1.20 |
| X1 | 0.80 |
| Y1 | 2.20 |
| X2 | 2.00 |
| Y2 | 2.50 |
| C | 1.50 |
| Y3 | 4.70 |

