

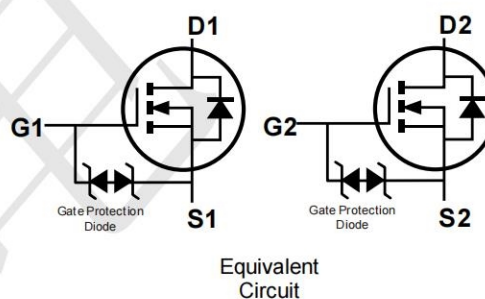
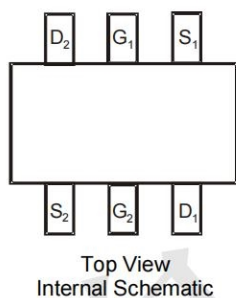
Features

- Fast switching
- Green Device Available
- Suit for 1.5V Gate Drive Applications

Application

- Notebook
- Load Switch
- Networking
- Hand-held Instruments

Package and Pin Configuration



Marking: NZ t

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Parameter | Symbol | Limit | Unit |
|--|----------------|-----------------------------|--------------------|
| Drain-Source Voltage | V_{DS} | 60 | V |
| Gate-Source Voltage | V_{GS} | ± 20 | V |
| Continuous Drain Current ($T_J = 150^{\circ}\text{C}$) | I_D | $T_A = 25^{\circ}\text{C}$ | 0.3 |
| | | $T_A = 100^{\circ}\text{C}$ | 0.19 |
| Drain Current-Pulsed (Note 1) | I_{DM} | 0.8 | A |
| Maximum Power Dissipation | P_D | 0.35 | W |
| Operating Junction and Storage Temperature Range | T_J, T_{STG} | -55 To 150 | $^{\circ}\text{C}$ |

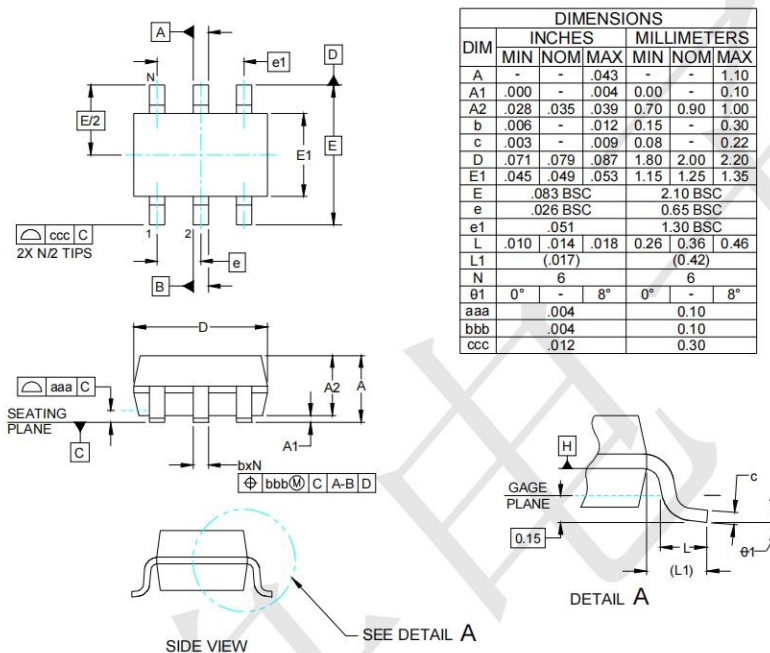
Thermal Characteristic

| | | | |
|--|-----------------|-----|-----------------------------|
| Thermal Resistance, Junction-to-Ambient (Note 2) | $R_{\theta JA}$ | 350 | $^{\circ}\text{C}/\text{W}$ |
|--|-----------------|-----|-----------------------------|

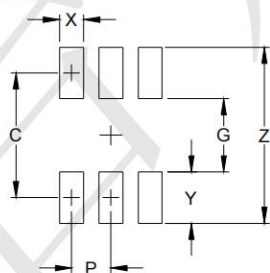
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|--|--------------|--|-----|-----|----------|----------|
| Off Characteristics | | | | | | |
| Drain-Source Breakdown Voltage | BV_{DSS} | $V_{GS}=0V, I_D=250\mu A$ | 60 | | - | V |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS}=60V, V_{GS}=0V$ | - | - | 1 | μA |
| Gate-Body Leakage Current | I_{GSS} | $V_{GS}=\pm 10V, V_{DS}=0V$ | - | - | ± 1 | μA |
| | | $V_{GS}=\pm 20V, V_{DS}=0V$ | - | | ± 10 | μA |
| On Characteristics ^(Note 3) | | | | | | |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}=V_{GS}, I_D=250\mu A$ | 1 | 1.6 | | |
| Drain-Source On-State Resistance | $R_{DS(on)}$ | $V_{GS}=4.5V, I_D=0.2A$ | - | 1.9 | 2.5 | Ω |
| | | $V_{GS}=10V, I_D=0.3A$ | - | 1.8 | 2.2 | Ω |
| Forward Transconductance | g_{FS} | $V_{DS}=10V, I_D=0.2A$ | 0.1 | - | - | S |
| Dynamic Characteristics ^(Note 4) | | | | | | |
| Input Capacitance | C_{iss} | $V_{DS}=30V, V_{GS}=0V,$ $F=1.0MHz$ | | 27 | | PF |
| Output Capacitance | C_{oss} | | | 18 | | PF |
| Reverse Transfer Capacitance | C_{rss} | | | 2 | | PF |
| Switching Characteristics ^(Note 4) | | | | | | |
| Turn-on Delay Time | $t_{d(on)}$ | $V_{DD}=30V, I_D=0.2A$ $V_{GS}=10V, R_{GEN}=10\Omega$ | - | 10 | - | nS |
| Turn-on Rise Time | t_r | | - | 50 | - | nS |
| Turn-Off Delay Time | $t_{d(off)}$ | | - | 17 | - | nS |
| Turn-Off Fall Time | t_f | | - | 10 | - | nS |
| Total Gate Charge | Q_g | $V_{DS}=10V, I_D=0.3A,$ $V_{GS}=4.5V$ | - | 1.7 | 3 | nC |
| Drain-Source Diode Characteristics | | | | | | |
| Diode Forward Voltage ^(Note 3) | V_{SD} | $V_{GS}=0V, I_S=0.2A$ | - | - | 1.2 | V |
| Diode Forward Current ^(Note 2) | I_S | | - | - | 0.3 | A |

Outline Drawing - SOT-363(2.0X2.1)



Land Pattern - SOT-363



| DIMENSIONS | | |
|------------|--------|-------------|
| DIM | INCHES | MILLIMETERS |
| C | (.073) | (1.85) |
| G | .039 | 1.00 |
| P | .026 | 0.65 |
| X | .016 | 0.40 |
| Y | .033 | 0.85 |
| Z | .106 | 2.70 |

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