

LN2322ELT1G

N-Channel 20V (D-S) MOSFET

1. FEATURES

- Low Gate Threshold Voltage
- Fast Switching Speed
- Gate-Source ESD Protected
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.

2. APPLICATIONS

- Battery Management Application
- Power Management Functions
- DC-DC Converters

3. ORDERING INFORMATION

| Device | Marking | Shipping |
|-------------|---------|-----------------|
| LN2322ELT1G | 2ED | 3000/Tape&Reel |
| LN2322ELT3G | 2ED | 10000/Tape&Reel |

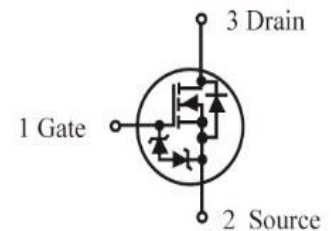
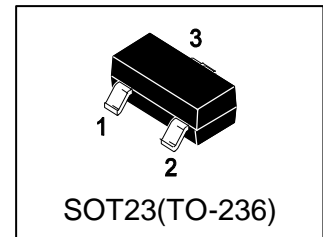
4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

| Parameter | Symbol | Limits | Unit |
|--------------------------|--------|--------|------|
| Drain-to-Source Voltage | VDSS | 20 | V |
| Gate-to-Source Voltage | VGS | ±12 | V |
| Avalanche Current | IAS | 14 | A |
| Avalanche energy L=0.1mH | EAS | 9.8 | mJ |
| Continuous Drain Current | ID | 8 | A |
| Pulsed Drain Current | IDM | 26 | A |

5. THERMAL CHARACTERISTICS

| Parameter | Symbol | Limits | Unit |
|--|---------|----------|------|
| Maximum Power Dissipation | PD | 0.9 | W |
| Thermal Resistance, Junction-to-Ambient(Note 1) | RθJA | 140 | °C/W |
| Junction and Storage temperature | TJ,Tstg | -55~+150 | °C |

1. 1-in² 2oz Cu PCB board.



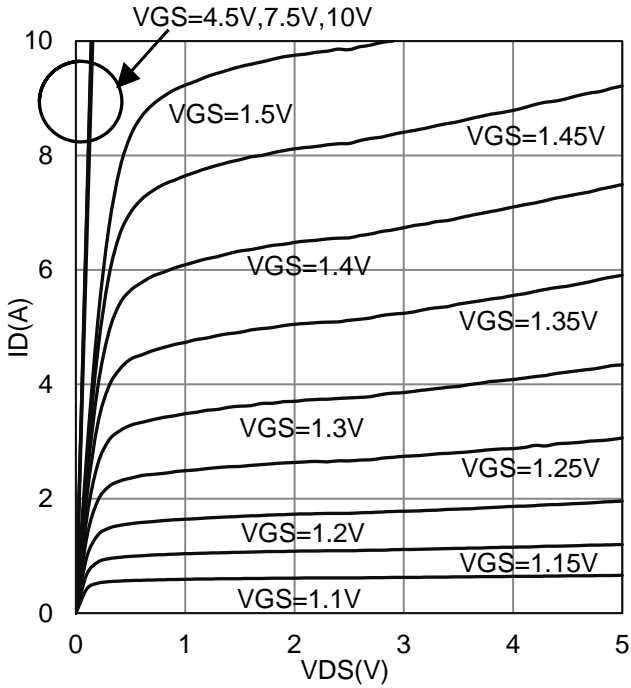
6. ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | Min. | Typ. | Max. | Unit | |
|--|--|---------|------|----------------|------|----|
| Static | | | | | | |
| Drain-Source Breakdown Voltage (VGS =0V, ID =250μA) | V(BR)DSS | 20 | - | - | V | |
| Gate Threshold Voltage (VDS =VGS , ID =250μA) | VGS(th) | 0.5 | 0.7 | 1 | V | |
| Gate Leakage Current (VDS =0V, VGS =± 10V) | IGSS | - | - | ±10 | μA | |
| Zero Gate Voltage Drain Current (VDS =16V, VGS =0V) | IDSS | - | - | 1 | μA | |
| Drain-Source On-Resistance(Note 2) (VGS =4.5V, ID = 0.5A) (VGS =2.5V, ID = 0.5A) (VGS =1.8V, ID = 0.5A) | RDS(ON) | - | - | 25 40 42 | mΩ | |
| Diode Forward Voltage (ISD = 0.5 A, VGS = 0 V) | VSD | - | 0.7 | 1.3 | V | |
| Dynamic | | | | | | |
| Total Gate Charge | Qg (VDS =10V, VGS =4.5V, ID =6.5A) | Qg | - | 12.5 | - | nC |
| Gate-Source Charge | | Qgs | - | 1.1 | - | |
| Gate-Drain Charge | | Qgd | - | 3.6 | - | |
| Input Capacitance | Ciss (VDS =10V, VGS =0V, f=1MHz) | Ciss | - | 1050 | - | pF |
| Output Capacitance | | Coss | - | 112 | - | |
| Reverse Transfer Capacitance | | Crss | - | 105 | - | |
| Turn-On Delay Time | td(on) (VDS =10V, RL = 1.5Ω, VGS =5V, RGEN =3.1Ω) | td(on) | - | 6 | - | ns |
| Turn-On Rise Time | | tr | - | 3.6 | - | |
| Turn-Off Delay Time | | td(off) | - | 26 | - | |
| Turn-Off Fall Time | | tf | - | 6.7 | - | |
| Gate-Resistance (VDS = 0 V, VGS = 0 V, f = 1 MHz) | Rg | - | TBD | - | Ω | |

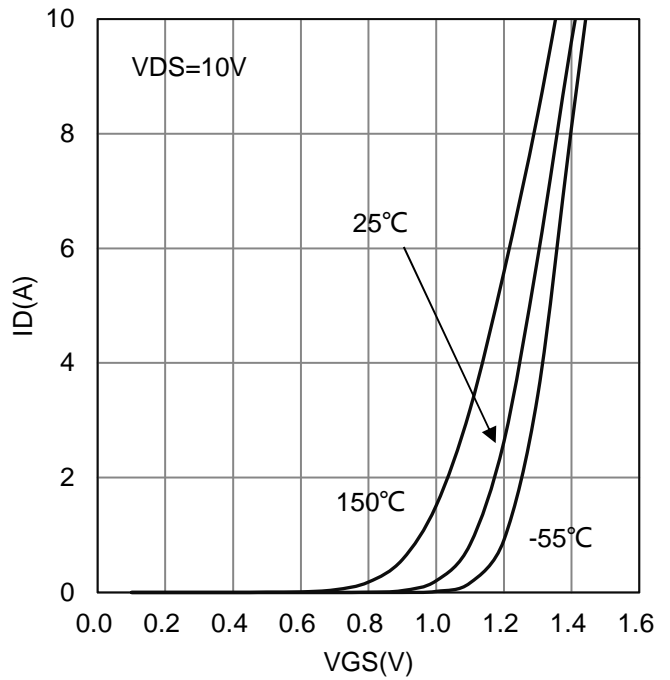
2. Pulse test; pulse width ≤ 300us, duty cycle ≤ 2%

3. Matsuki Electric/ Force mos reserves the right to improve product design, functions and reliability without notice.

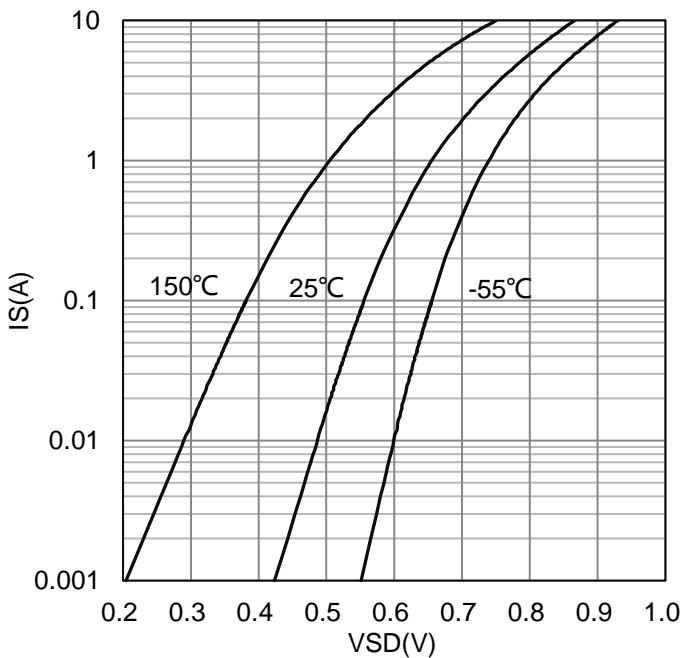
7. ELECTRICAL CHARACTERISTICS CURVES



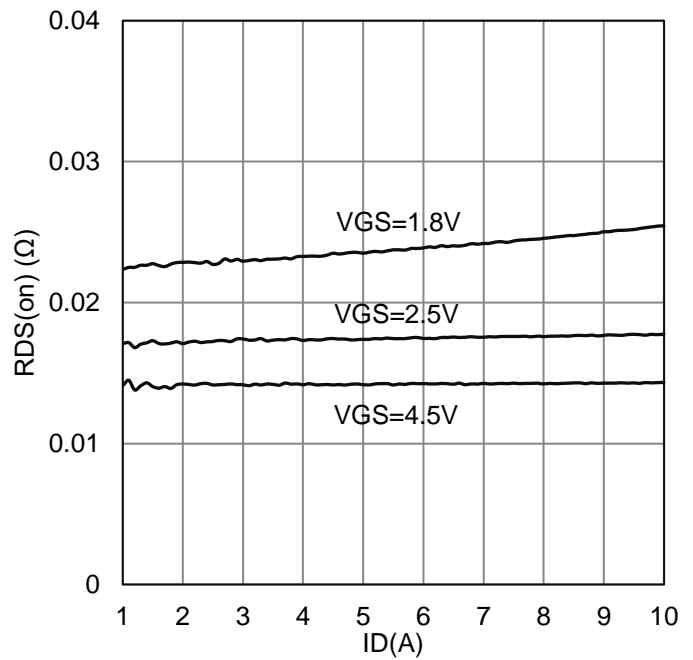
ID vs. VDS



ID vs. VGS

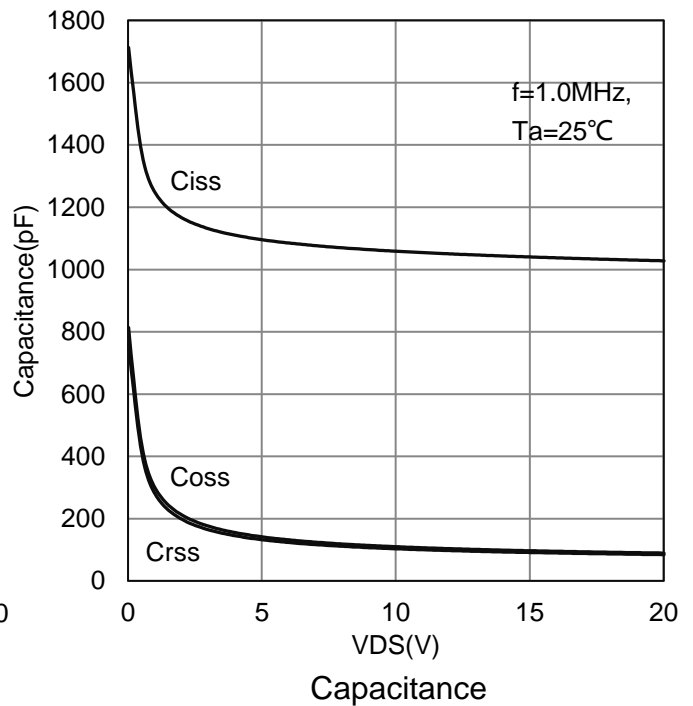
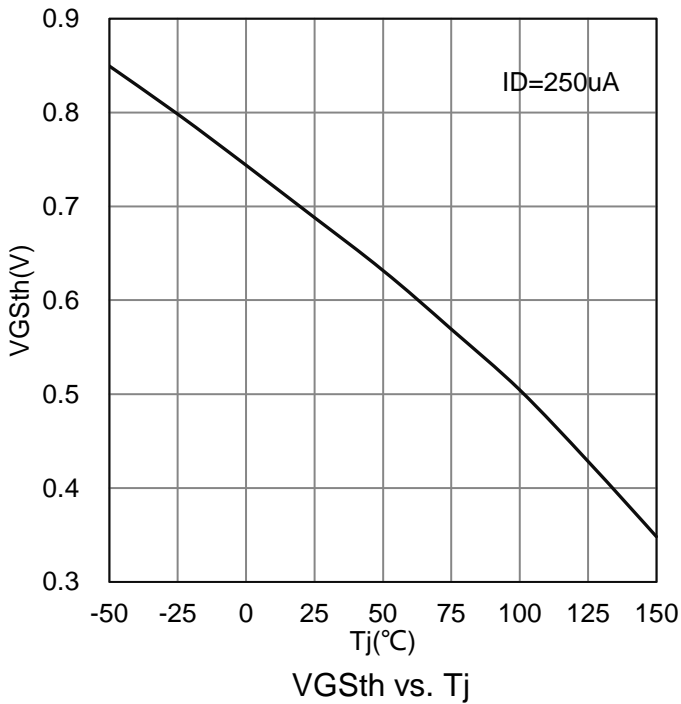
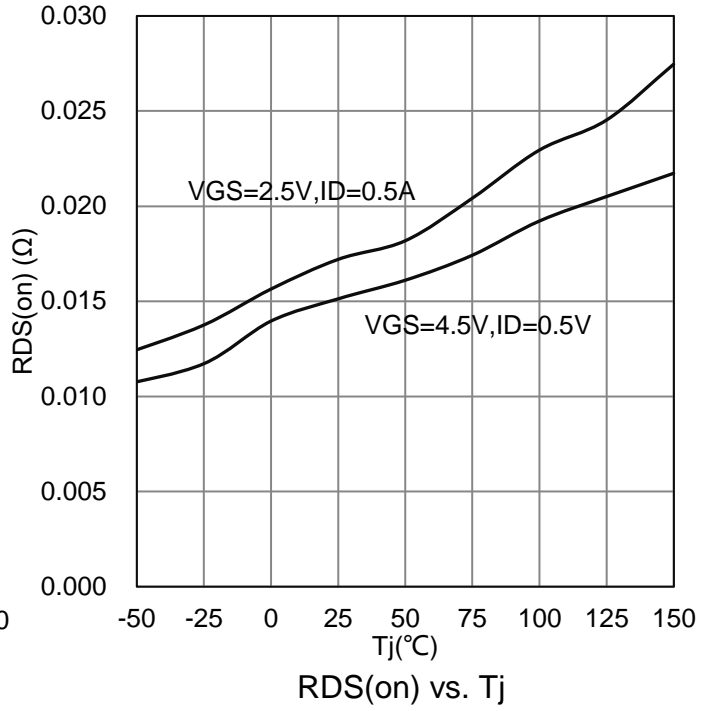
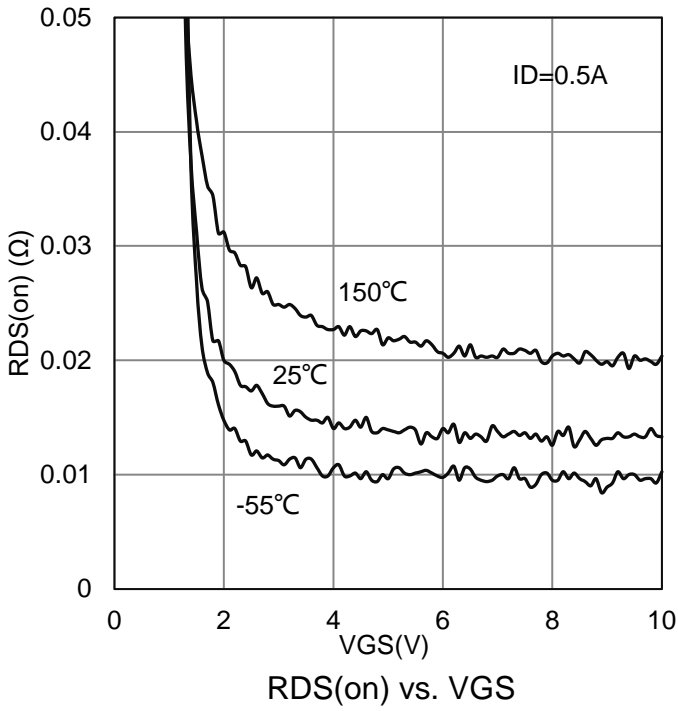


IS vs. VSD



RDS(on) vs. ID

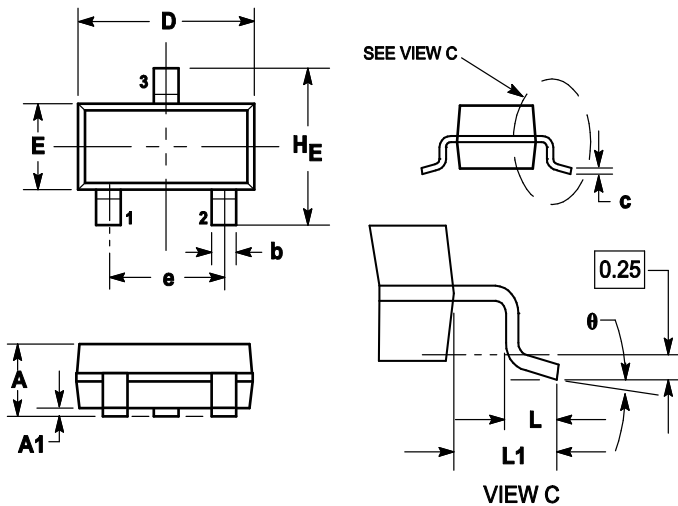
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8. OUTLINE AND DIMENSIONS

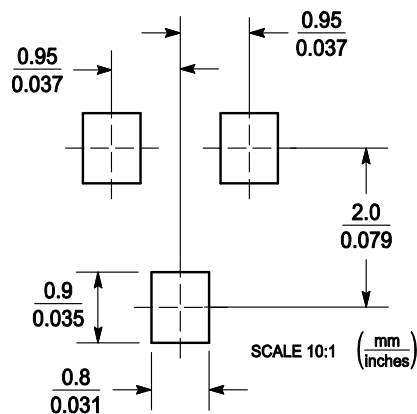
Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



| DIM | MILLIMETERS | | | INCHES | | |
|-----|-------------|------|------|--------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.89 | 1 | 1.11 | 0.035 | 0.04 | 0.044 |
| A1 | 0.01 | 0.06 | 0.1 | 0.001 | 0.002 | 0.004 |
| b | 0.37 | 0.44 | 0.5 | 0.015 | 0.018 | 0.02 |
| c | 0.09 | 0.13 | 0.18 | 0.003 | 0.005 | 0.007 |
| D | 2.80 | 2.9 | 3.04 | 0.11 | 0.114 | 0.12 |
| E | 1.20 | 1.3 | 1.4 | 0.047 | 0.051 | 0.055 |
| e | 1.78 | 1.9 | 2.04 | 0.07 | 0.075 | 0.081 |
| L | 0.10 | 0.2 | 0.3 | 0.004 | 0.008 | 0.012 |
| L1 | 0.35 | 0.54 | 0.69 | 0.014 | 0.021 | 0.029 |
| HE | 2.10 | 2.4 | 2.64 | 0.083 | 0.094 | 0.104 |
| θ | 0° | --- | 10° | 0° | --- | 10° |

9. SOLDERING FOOTPRINT



DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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[>>LRC\(乐山无线电\)](#)