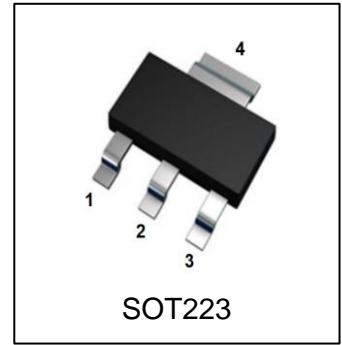


LP035N060TZHG

P-Channel 60V Power MOSFET

1. FEATURES

- Low thermal impedance
- Fast switching speed
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

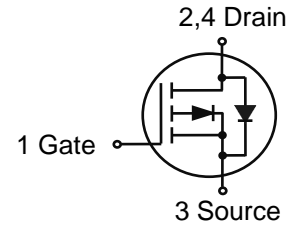


2. APPLICATIONS

- Power Tools
- DC/DC Conversion
- Motor Control

3. DEVICE MARKING AND ORDERING INFORMATION

| Device | Marking | Shipping |
|---------------|---------|----------------|
| LP035N060TZHG | GE | 1000/Tape&Reel |



4. MAXIMUM RATINGS(Ta = 25°C)

| Parameter | Symbol | Limits | Unit |
|--|-----------|----------|------|
| Drain-Source Voltage | VDS | -60 | V |
| Gate-Source Voltage | VGS | ±20 | |
| Continuous Drain Current (Note1) | ID | -3.5 | A |
| Pulsed Drain Current (Note2) | IDM | -14 | |
| Avalanche Current (L = 0.1mH) | IAS | 12 | A |
| Avalanche Energy (L = 0.1mH) | EAS | 7.2 | mJ |
| Power Dissipation (Note1) | PD | 1.9 | W |
| Operating Junction and Storage Temperature Range | TJ , Tstg | -55~+150 | °C |

5. THERMAL CHARACTERISTICS

| Parameter | Symbol | Limits | Unit |
|--|--------|--------|------|
| Thermal Resistance,Junction-to-Ambient(Note 1) | RθJA | 65 | °C/W |
| Thermal Resistance,Junction-to-Case | RθJC | 15 | °C/W |

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

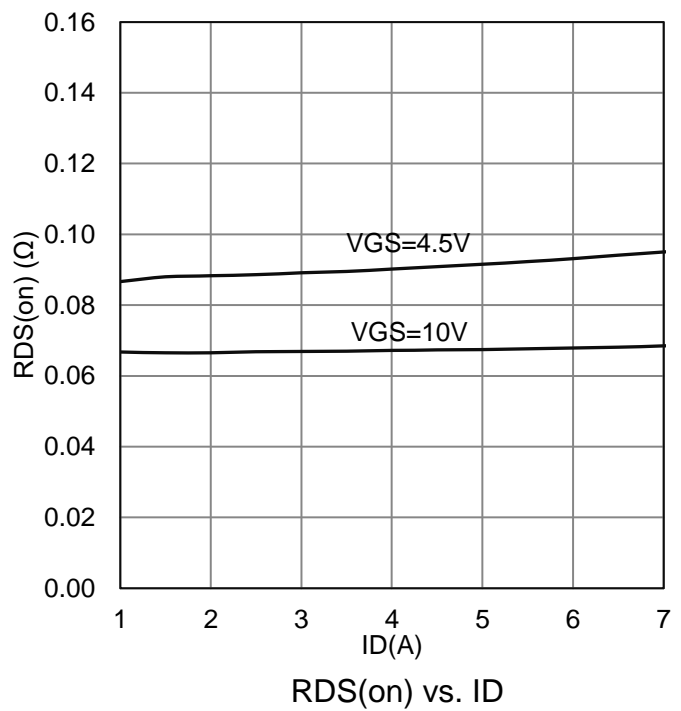
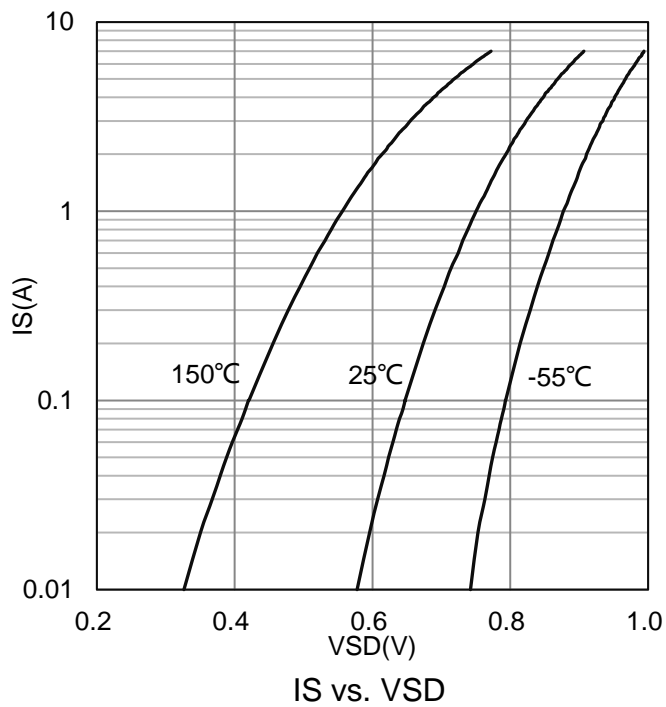
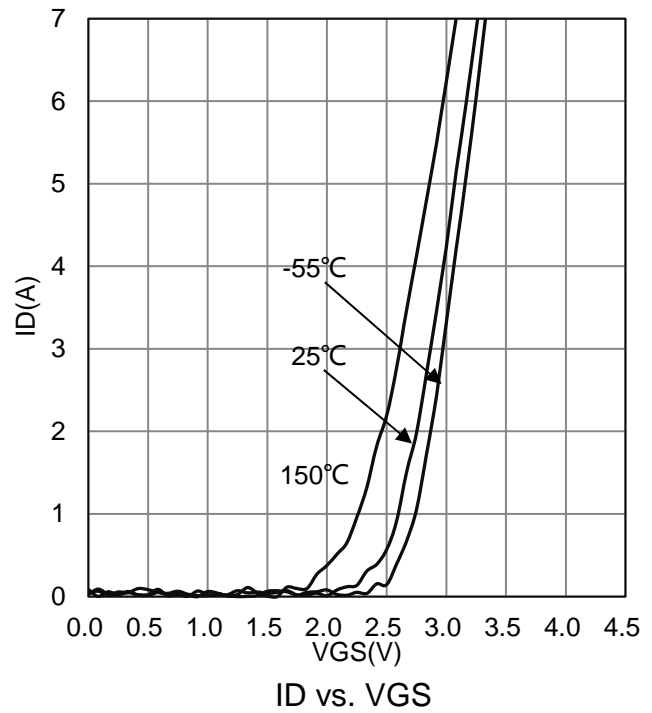
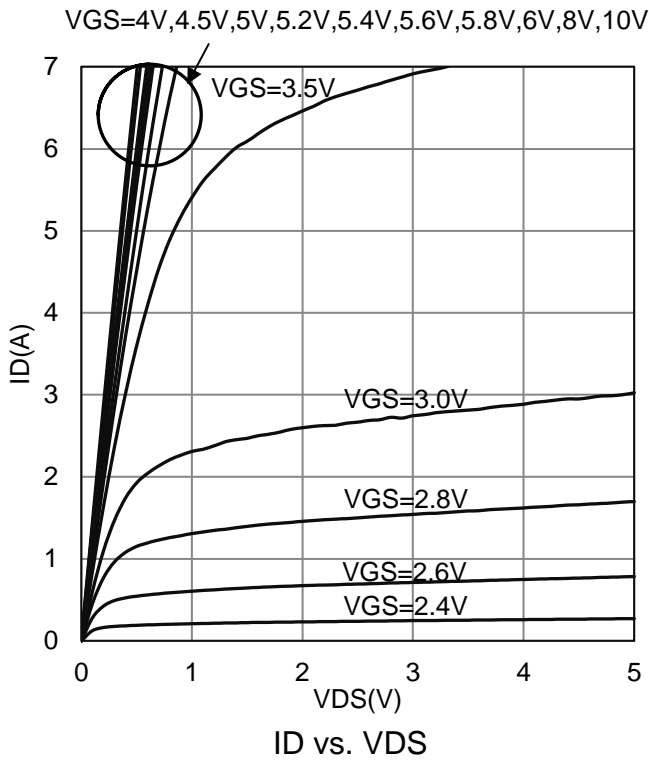
2.Pulse width limited by maximum junction temperature

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

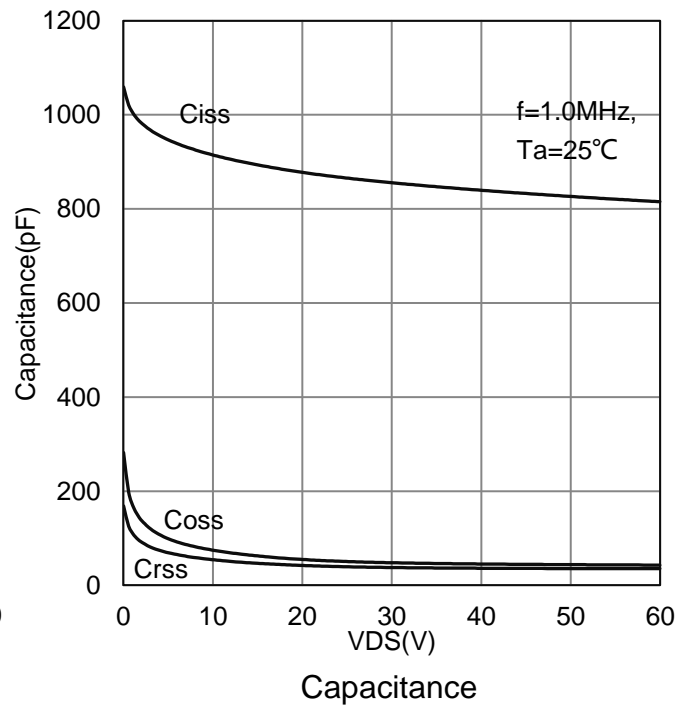
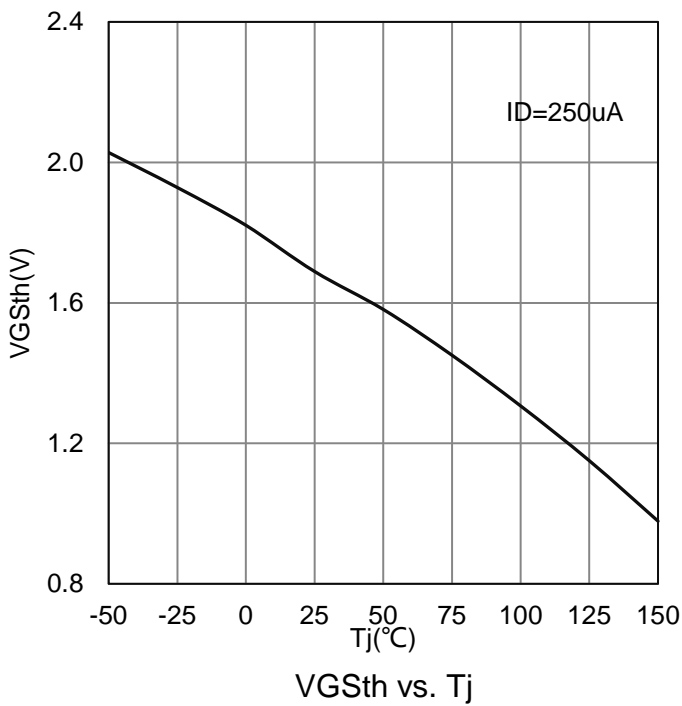
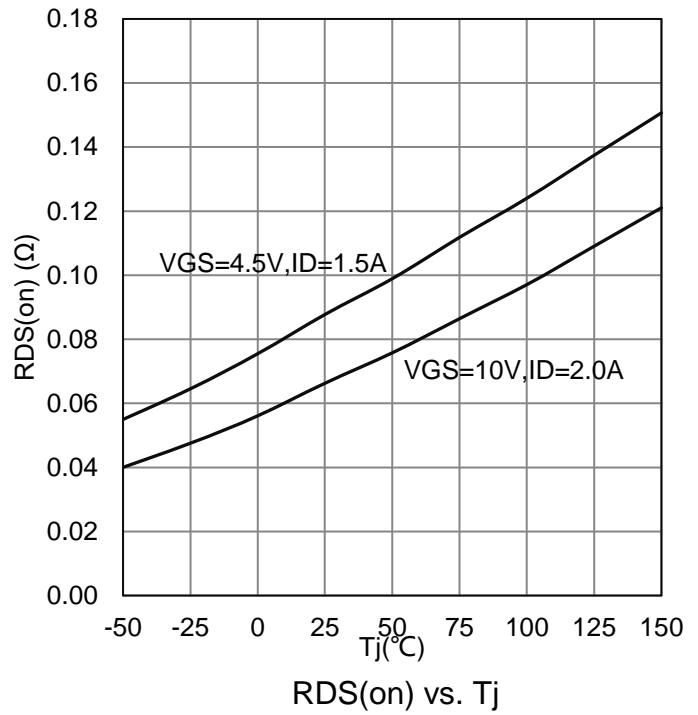
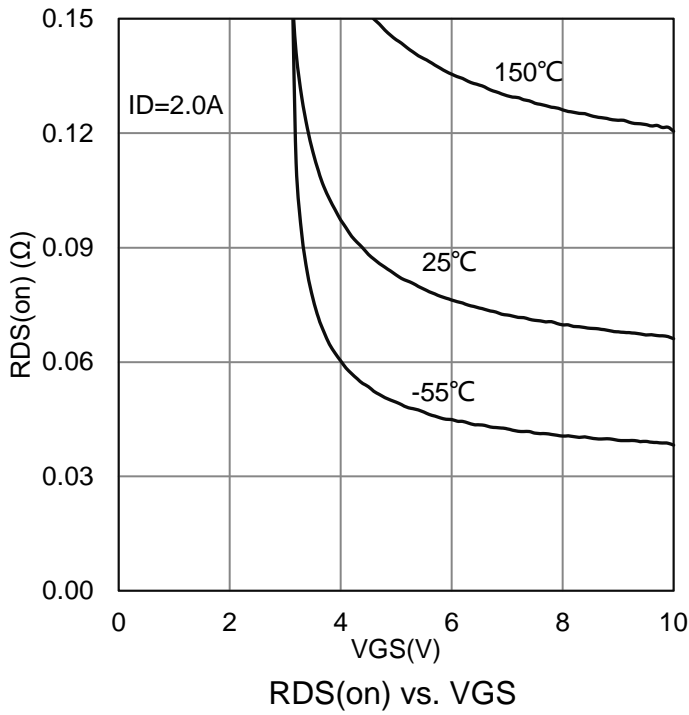
| Characteristic | Symbol | Min. | Typ. | Max. | Unit | |
|--|--|---------|------|-----------|------|----|
| Static | | | | | | |
| Drain to Source Breakdown Voltage (VGS = 0 V, ID = -250 μA) | BVDSS | -60 | - | - | V | |
| Gate Threshold Voltage (VDS = VGS, ID = -250 μA) | VGS(th) | -1 | - | -2.5 | V | |
| Gate-Body leakage current (VDS = 0 V, VGS = ±20 V) | IGSS | - | - | ± 100 | nA | |
| Zero Gate Voltage Drain Current (VDS = -48 V, VGS = 0 V) | IDSS | - | - | -1 | μA | |
| Drain-to-Source On-Resistance(Note 3) (VGS = -10 V, ID = -2 A) (VGS = -4.5 V, ID = -1.5 A) | RDS(ON) | - | - | 85 115 | mΩ | |
| Diode Forward Voltage (IS = -2 A, VGS = 0 V) | VSD | - | - | -1.2 | V | |
| Dynamic | | | | | | |
| Total Gate Charge | (VDS = -30 V, VGS = -4.5 V, ID = -2 A) | Qg | - | 7.3 | - | nC |
| Gate to Source Charge | | Qgs | - | 2.3 | - | |
| Gate to Drain Charge | | Qgd | - | 3 | - | |
| Turn-on Delay Time | (VDD= -30 V, RL = 15 Ω, ID= -2 A, VGEN= -10 V RGEN = 3 Ω) | td(on) | - | 6 | - | nS |
| Rise Time | | tr | - | 6.5 | - | |
| Turn-Off Delay Time | | td(off) | - | 45 | - | |
| Fall Time | | tf | - | 19 | - | |
| Input Capacitance | (VDS = -30 V, VGS = 0 V, f = 1 MHz) | Ciss | - | 863 | - | pF |
| Output Capacitance | | Coss | - | 48 | - | |
| Reverse Transfer Capacitance | | Crss | - | 39 | - | |

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

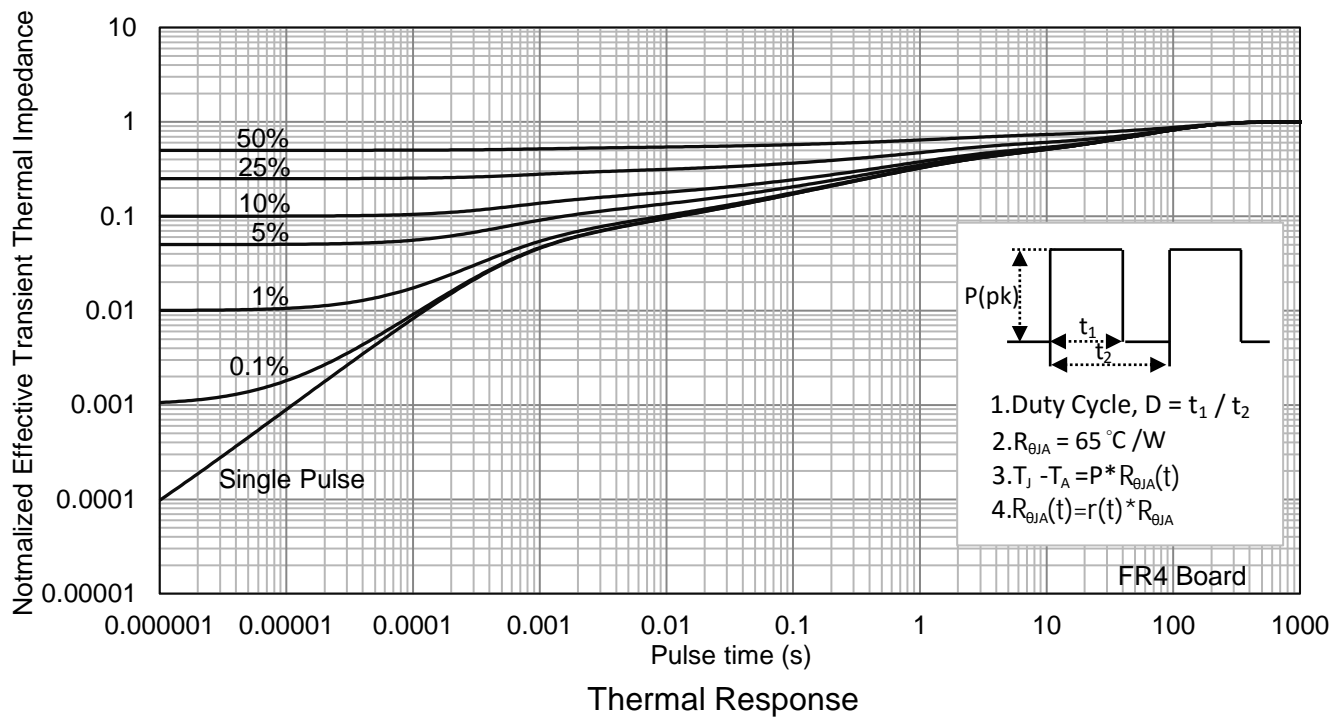
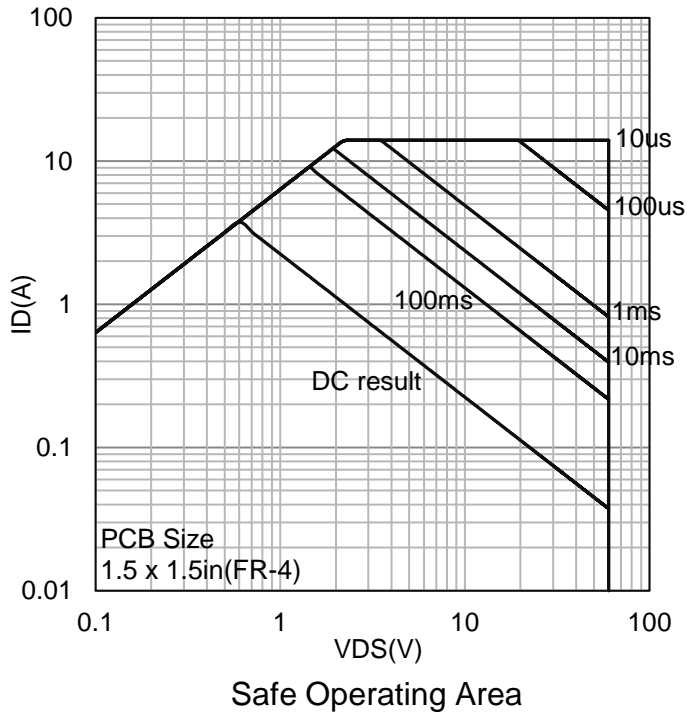
7. ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

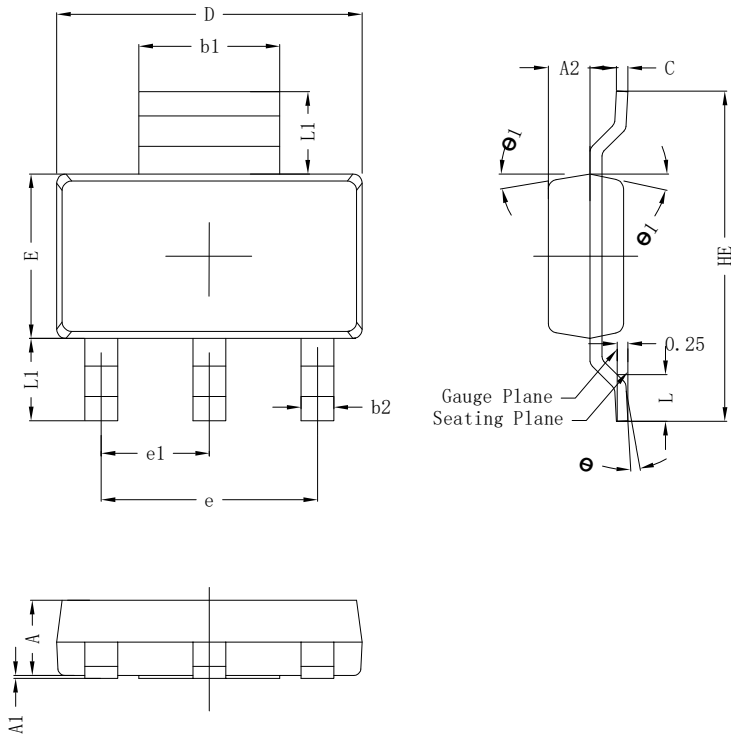


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8.OUTLINE AND DIMENSIONS

SOT223

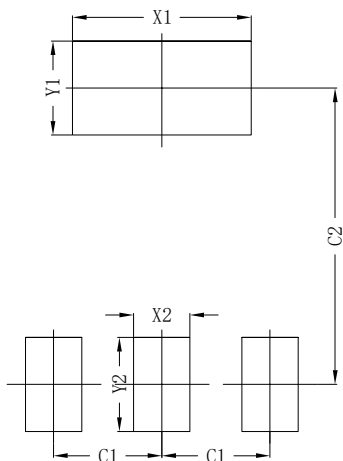


| SOT223 | | | |
|----------------------|-----------|------|------|
| DIM | MIN | NOR | MAX |
| A | 1.50 | 1.60 | 1.70 |
| A1 | 0.00 | 0.05 | 0.10 |
| A2 | 0.80 | 0.90 | 1.00 |
| b1 | 2.90 | 3.02 | 3.10 |
| b2 | 0.60 | 0.72 | 0.80 |
| c | 0.20 | 0.27 | 0.35 |
| D | 6.30 | 6.50 | 6.70 |
| E | 3.30 | 3.50 | 3.70 |
| e | 4.60BSC | | |
| e1 | 2.30BSC | | |
| HE | 6.80 | 7.00 | 7.20 |
| L | 0.80 | 1.00 | 1.20 |
| L1 | 1.75(REF) | | |
| θ | 0°~8° | | |
| θ 1 | 8° | 10° | 12° |
| 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



| SOT223 | |
|--------|------|
| DIM | (mm) |
| X1 | 3.80 |
| Y1 | 2.00 |
| X2 | 1.20 |
| Y2 | 2.00 |
| C1 | 2.30 |
| C2 | 6.30 |

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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- All information contained in this document is current as of the issuing date and subject to change without any prior notice. Before purchasing or using LRC's Products, please confirm the latest information with a LRC sales representative.

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