

Product Summary

| $V_{(BR)DSS}$ | $R_{DS(on)TYP}$ | I_D |
|---------------|-----------------|-------|
| 20V | 19.5mΩ@4.5V | 5A |
| | 24mΩ@2.5V | |

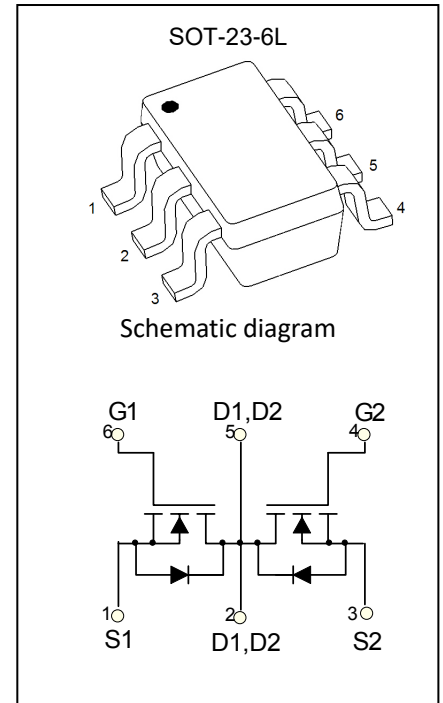
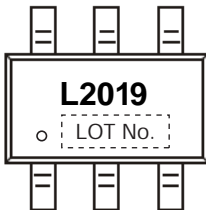
Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$
- Low Gate Charge
- High Power and Current Handling Capability
- Surface Mount Package

Application

- Battery Protection
- Load Switch
- Power Management

MARKING:



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|--|-----------------|-----------|---------------|
| Drain-Source Voltage | V_{DS} | 20 | V |
| Gate-Source Voltage | V_{GS} | ± 10 | V |
| Continuous Drain Current | I_D | 5 | A |
| Pulsed Drain Current ¹ | I_{DM} | 21 | A |
| Power Dissipation | P_D | 1.5 | W |
| Thermal Resistance from Junction to Ambient ² | $R_{\theta JA}$ | 83.3 | $^{\circ}C/W$ |
| Junction Temperature | T_J | 150 | $^{\circ}C$ |
| Storage Temperature | T_{STG} | -55~ +150 | $^{\circ}C$ |

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

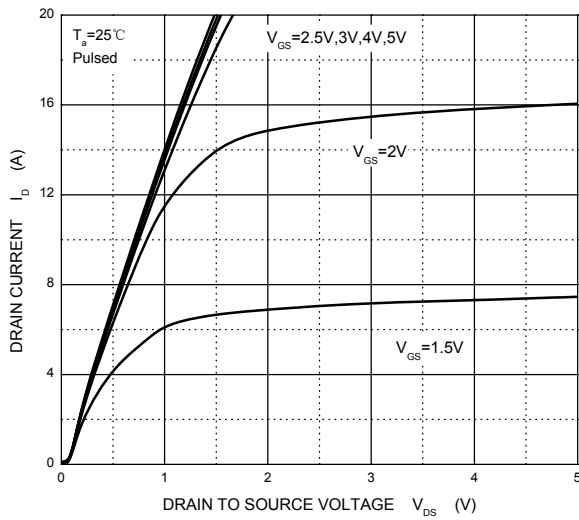
| Parameter | Symbol | Test Condition | Min | Type | Max | Unit |
|--|----------------------|--|-----|------|------|------|
| Static Characteristics | | | | | | |
| Drain-source breakdown voltage | V _{(BR)DSS} | V _{GS} = 0V, I _D =250μA | 20 | | | V |
| Zero gate voltage drain current | I _{DSS} | V _{DS} =18V,V _{GS} = 0V | | | 1 | μA |
| Gate-body leakage current | I _{GSS} | V _{GS} =±10V, V _{DS} = 0V | | | ±100 | nA |
| Gate threshold voltage ³ | V _{GS(th)} | V _{DS} =V _{GS} , I _D =250μA | 0.5 | 0.7 | 1.2 | V |
| Drain-source on-resistance ³ | R _{DS(on)} | V _{GS} =4.5V, I _D =3A | | 19.5 | 27 | mΩ |
| | | V _{GS} =2.5V, I _D =3A | | 24 | 35 | |
| Forward Transconductance ³ | g _{fs} | V _{DS} =5V , I _D =4.5A | 5 | | | S |
| Diode Forward Voltage | V _{SD} | V _{GS} =0V , I _S =1.25A | | | 1.2 | V |
| Dynamic characteristics⁴ | | | | | | |
| Input Capacitance | C _{iss} | V _{DS} =8V,V _{GS} =0V,f =1MHz | | 755 | | pF |
| Output Capacitance | C _{oss} | | | 130 | | |
| Reverse Transfer Capacitance | C _{rss} | | | 112 | | |
| Switching Characteristics⁴ | | | | | | |
| Total Gate Charge | Q _g | V _{DS} =10V , V _{GS} =4.5V , I _D =4A | | 9 | | nC |
| Gate-Source Charge | Q _{gs} | | | 1.8 | | |
| Gate-Drain Charge | Q _{gd} | | | 2.2 | | |
| Turn-on delay time | t _{d(on)} | V _{DD} =10V , V _{GS} =4V , I _D =1A R _G =10Ω | | 15 | | ns |
| Turn-on rise time | t _r | | | 4 | | |
| Turn-off delay time | t _{d(off)} | | | 36 | | |
| Turn-off fall time | t _f | | | 15 | | |

Note :

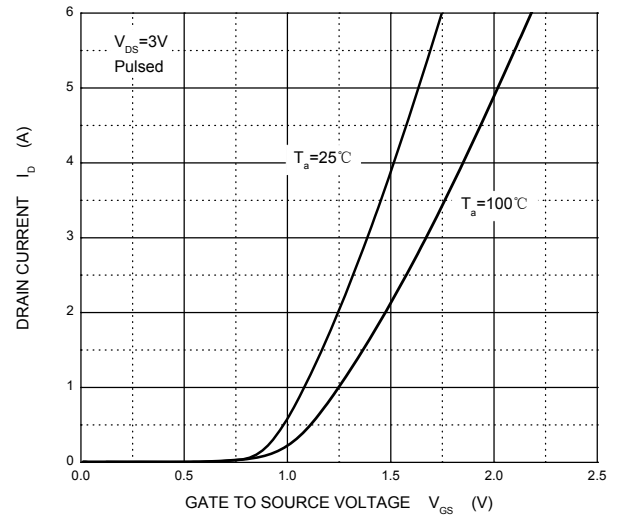
- 1.Repetitive rating: Pluse width limited by maximum junction temperature
- 2.Surface mounted on FR4 board using 1 square inch pad size,1oz single-side copper.
- 3.Pulse test : Pulse width≤300μs, duty cycle≤2%.
- 4.Guaranteed by design, not subject to production.

Typical Electrical and Thermal Characteristics

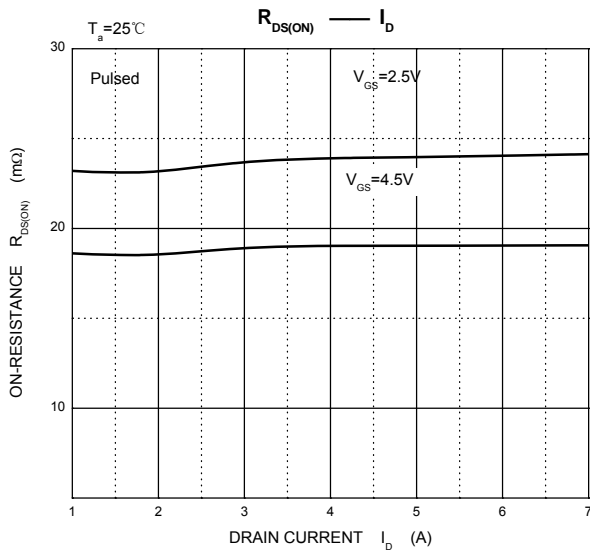
Output Characteristics



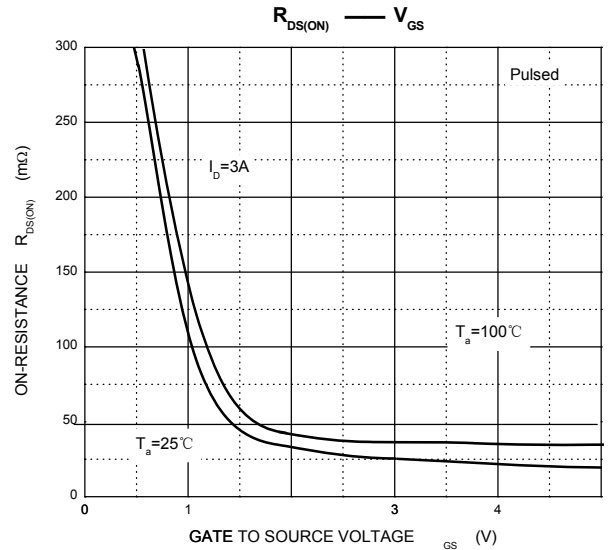
Transfer Characteristics



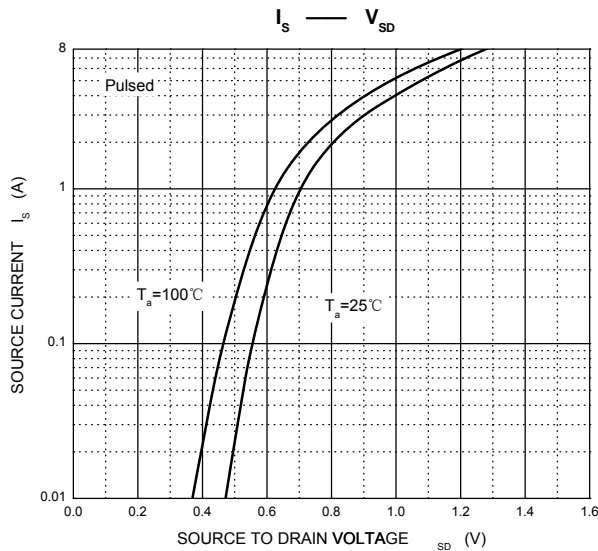
$R_{DS(ON)}$ — I_D



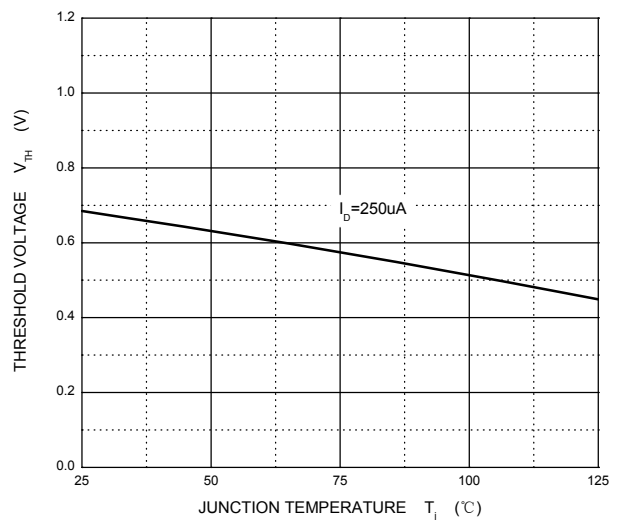
$R_{DS(ON)}$ — V_{GS}



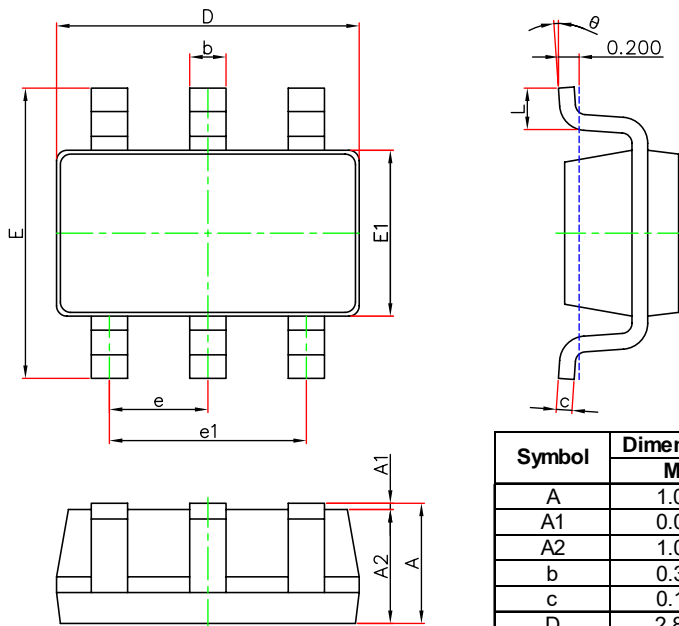
I_S — V_{SD}



Threshold Voltage



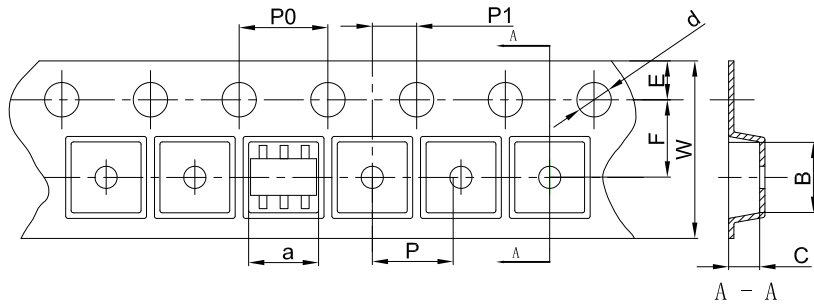
SOT-23-6L Package Information



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|----------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.050 | 1.250 | 0.041 | 0.049 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 1.050 | 1.150 | 0.041 | 0.045 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.100 | 0.200 | 0.004 | 0.008 |
| D | 2.820 | 3.020 | 0.111 | 0.119 |
| E1 | 1.500 | 1.700 | 0.059 | 0.067 |
| E | 2.650 | 2.950 | 0.104 | 0.116 |
| e | 0.950(BSC) | | 0.037(BSC) | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.300 | 0.600 | 0.012 | 0.024 |
| θ | 0° | 8° | 0° | 8° |

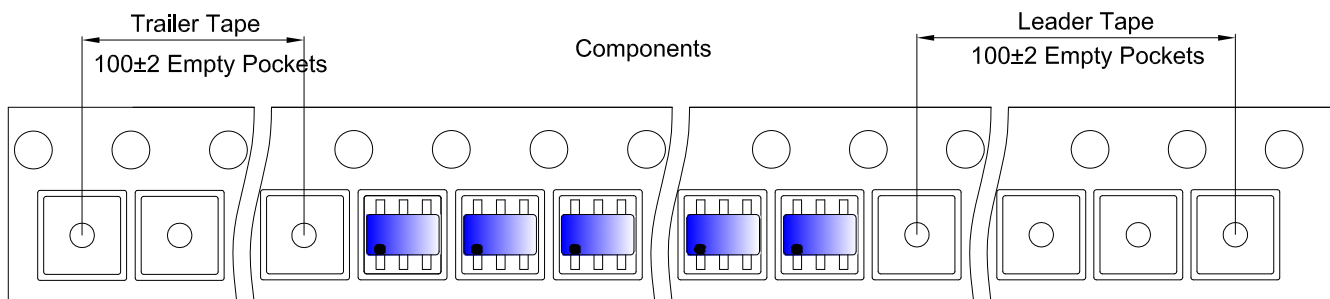
SOT-23-6L Tape and Reel

SOT-23-6L Embossed Carrier Tape

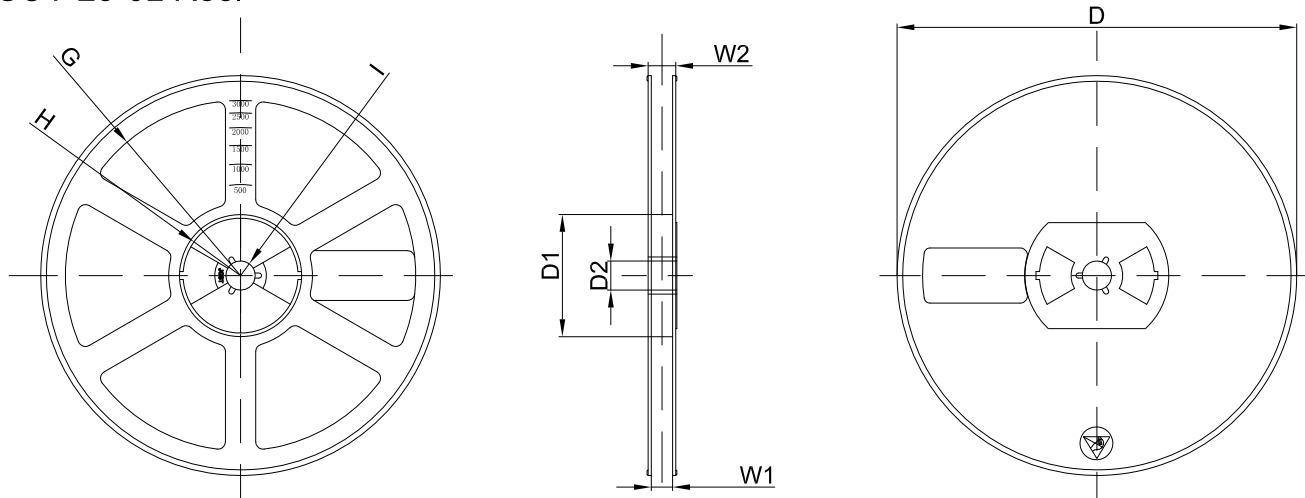


| Dimensions are in millimeter | | | | | | | | | | | |
|------------------------------|------|------|------|-------|------|------|------|------|------|------|--|
| Pkg type | a | B | C | d | E | F | P0 | P | P1 | W | |
| SOT-23-6L | 3.17 | 3.23 | 1.37 | Ø1.55 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 | |

SOT-23-6L Tape Leader and Trailer



SOT-23-6L Reel



| Dimensions are in millimeter | | | | | | | | |
|------------------------------|---------|-------|-------|--------|--------|-------|------|-------|
| Reel Option | D | D1 | D2 | G | H | I | W1 | W2 |
| 7" Dia | Ø180.00 | 60.00 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 13.10 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) | G.W.(kg) |
|----------|-----------|------------|--------------|-------------|-----------------|----------|
| 3000 pcs | 7 inch | 30,000 pcs | 203×203×195 | 120,000 pcs | 438×438×220 | |

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)