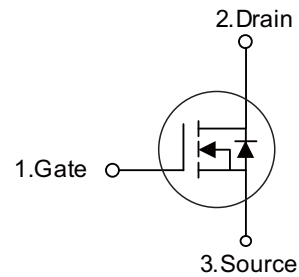


■ PRODUCT CHARACTERISTICS

| | |
|--------------------------------|------|
| VDSS | 30V |
| $R_{DS(on)Typ}(V_{GS} @=4.5V)$ | 22mΩ |
| $R_{DS(on)Typ}(V_{GS} @=2.5V)$ | 24mΩ |
| ID | 5.8 |

Symbol

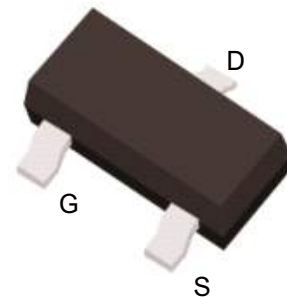


■ APPLICATIONS

Load/Power Switching
Interfacing Switching

■ FEATURES

High dense cell design for extremely low $R_{DS(ON)}$
Exceptional on-resistance and maximum DC current capability



■ ORDER INFORMATION

| Order codes | | Package | Packing |
|--------------|---------|---------|-----------------|
| Halogen-Free | Halogen | | |
| N/A | MOT3400 | SOT-23 | 3000pieces/Real |

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

| Parameter | Symbol | Value | Unit |
|------------------------------------------------------|-----------------|-----------|---------------|
| Drain-Source Voltage | V_{DS} | 30 | V |
| Gate-Source Voltage | V_{GS} | ± 12 | V |
| Continuous Drain Current | I_D | 5.8 | A |
| Drain Current-Pulsed (note 1) | I_{DM} | 30 | A |
| Power Dissipation | P_D | 350 | mW |
| Thermal Resistance from Junction to Ambient (note 2) | $R_{\theta JA}$ | 357 | $^{\circ}C/W$ |
| Junction Temperature | T_J | 150 | $^{\circ}C$ |
| Storage Temperature | T_{STG} | -55~ +150 | $^{\circ}C$ |

■ ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$, unless otherwise specified)

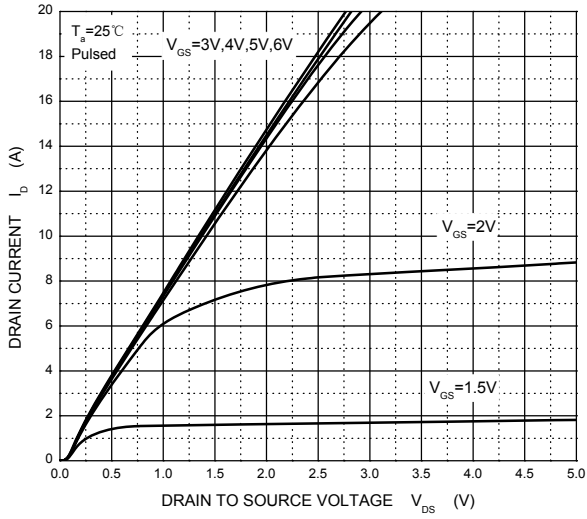
| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|---------------------------------------------------------------|---------------|-----------------------------------------------------------------------|-----|------|-----------|------------|
| Off Characteristics | | | | | | |
| Drain-source breakdown voltage | $V_{(BR)DSS}$ | $V_{GS} = 0V, I_D = 250\mu A$ | 30 | - | - | V |
| Zero gate voltage drain current | I_{DSS} | $V_{DS} = 24V, V_{GS} = 0V$ | - | - | 1 | μA |
| Gate-source leakage current | I_{GSS} | $V_{GS} = \pm 12V, V_{DS} = 0V$ | - | - | ± 100 | nA |
| On characteristics | | | | | | |
| Drain-source on-resistance (note 3) | $R_{DS(on)}$ | $V_{GS} = 10V, I_D = 5.8A$ | - | 22 | 30 | m Ω |
| | | $V_{GS} = 4.5V, I_D = 5A$ | - | 24 | 30 | m Ω |
| | | $V_{GS} = 2.5V, I_D = 4A$ | - | 31 | 40 | m Ω |
| Forward transconductance | g_{FS} | $V_{DS} = 5V, I_D = 5A$ | 8 | - | - | S |
| Gate threshold voltage | $V_{GS(th)}$ | $V_{DS} = V_{GS}, I_D = 250\mu A$ | 0.7 | - | 2.0 | V |
| Dynamic Characteristics (note 4,5) | | | | | | |
| Input capacitance | C_{iss} | $V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$ | - | 1050 | - | pF |
| Output capacitance | C_{oss} | | - | 99 | - | pF |
| Reverse transfer capacitance | C_{rss} | | - | 77 | - | pF |
| Gate resistance | R_g | $V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$ | - | - | 3.6 | Ω |
| Switching Characteristics (note 4,5) | | | | | | |
| Turn-on delay time | $t_{d(on)}$ | $V_{GS} = 10V, V_{DS} = 15V,$ $R_L = 2.7\Omega, R_{GEN} = 3\Omega$ | - | 5 | - | ns |
| Turn-on rise time | t_r | | - | 7 | - | ns |
| Turn-off delay time | $t_{d(off)}$ | | - | 40 | - | ns |
| Turn-off fall time | t_f | | - | 6 | - | ns |
| Drain-source diode characteristics and maximum ratings | | | | | | |
| Diode forward voltage (note 3) | V_{SD} | $I_S = 2.9A, V_{GS} = 0V$ | - | - | 1 | V |

Note :

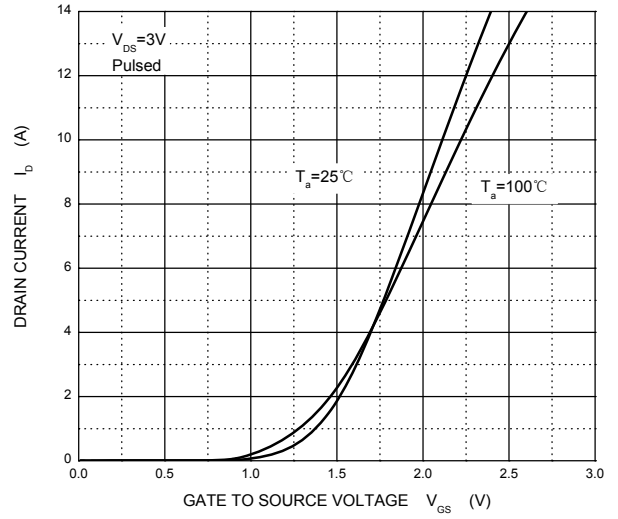
1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t < 5$ sec.
3. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production testing.

■ TYPICAL CHARACTERISTICS

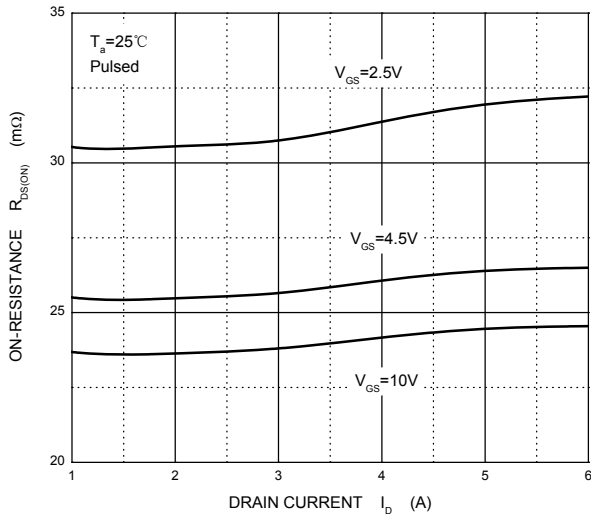
Output Characteristics



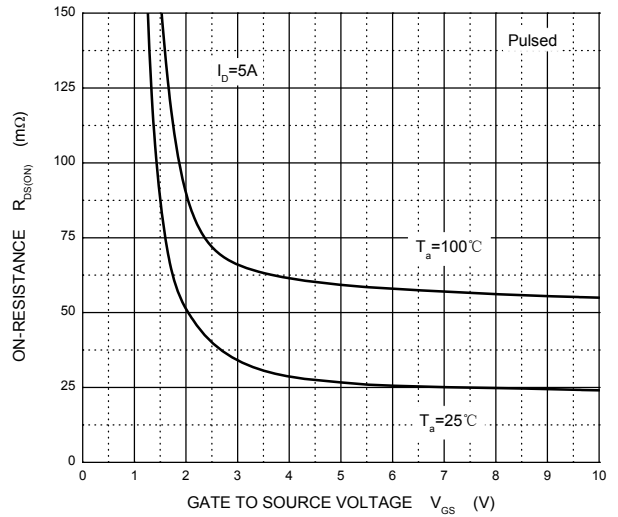
Transfer Characteristics



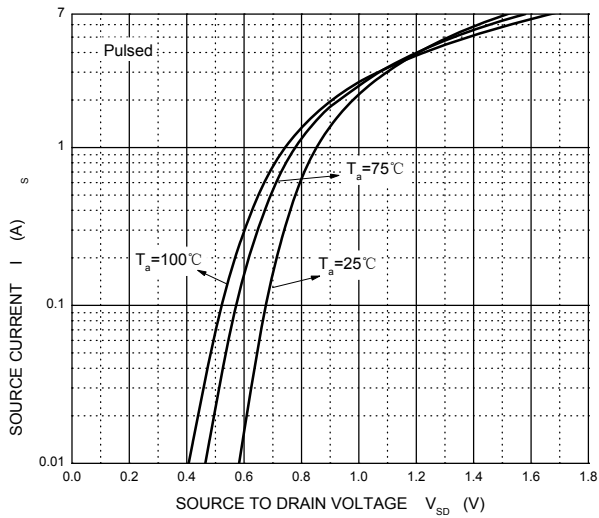
$R_{DS(ON)}$ — I_D



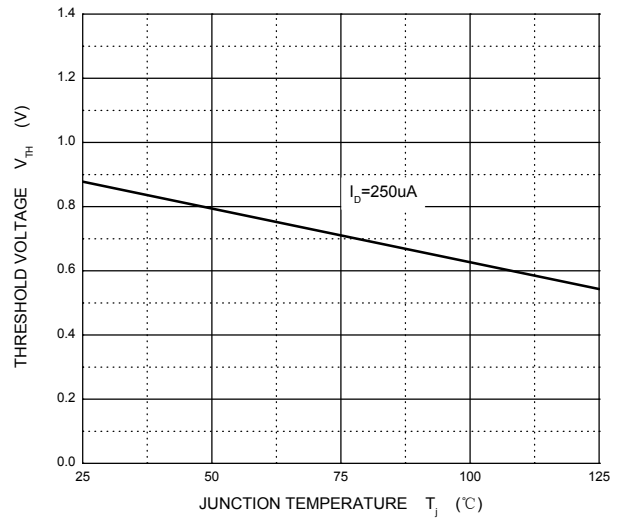
$R_{DS(ON)}$ — V_{GS}



I_s — V_{SD}

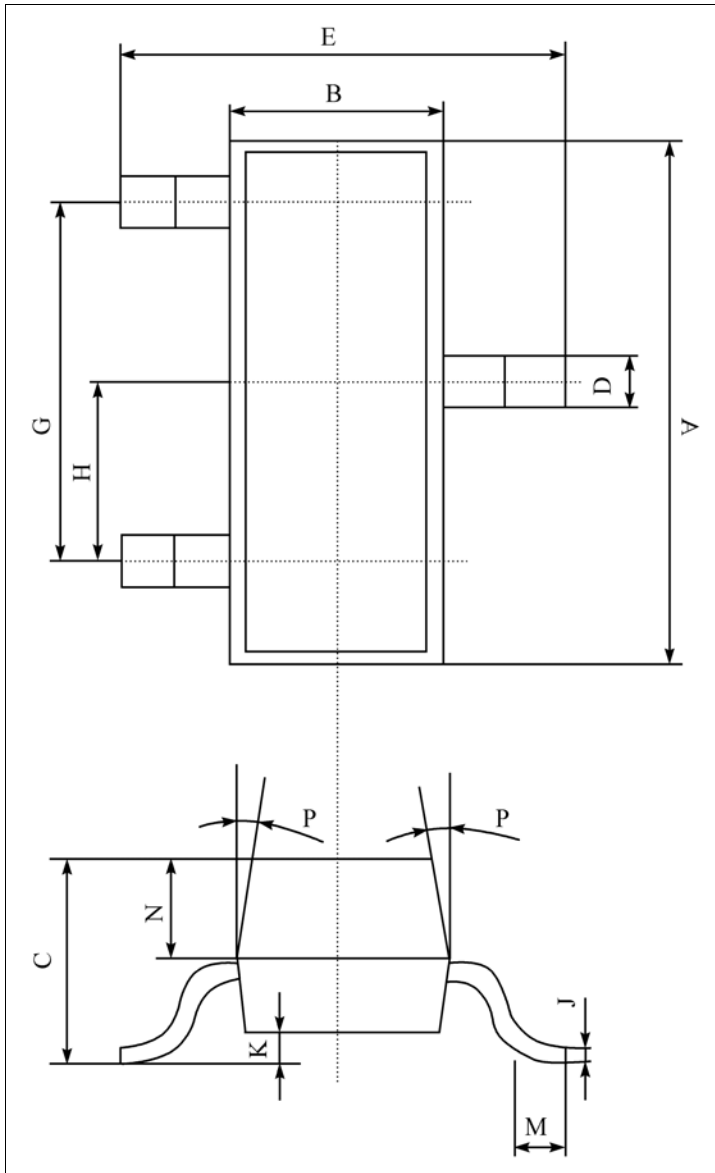


Threshold Voltage



■ SOT-23-3L PACKAGE OUTLINE DIMENSIONS

单位 (UNIT) : mm

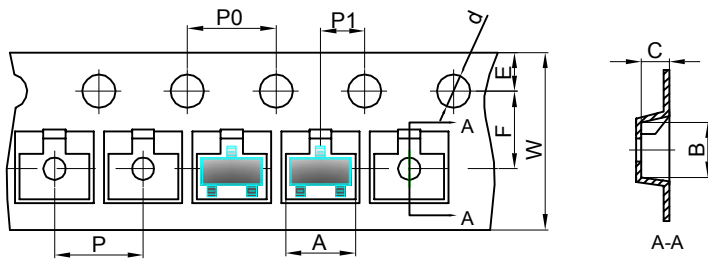


| 序号 | 数值及公差 |
|----|-----------|
| A | 2.90±0.10 |
| B | 1.30±0.10 |
| C | 1.00±0.10 |
| D | 0.40±0.10 |
| E | 2.40±0.20 |
| G | 1.90±0.10 |
| H | 0.95±0.05 |
| J | 0.13±0.05 |
| K | 0.00-0.10 |
| M | ≥0.20 |
| N | 0.60±0.10 |
| P | 7±2° |

Packing
SOT-23 包装规格
SMD片式表面贴封装
包装方式: 载带卷盘包装
Tape & Reel, 3Kpcs/Reel
每卷数量3000只 (3Kpcs/Reel)
每盒数量45000只 (45Kpcs/BOX)
每箱数量180000只 (180Kpcs/Cartons)

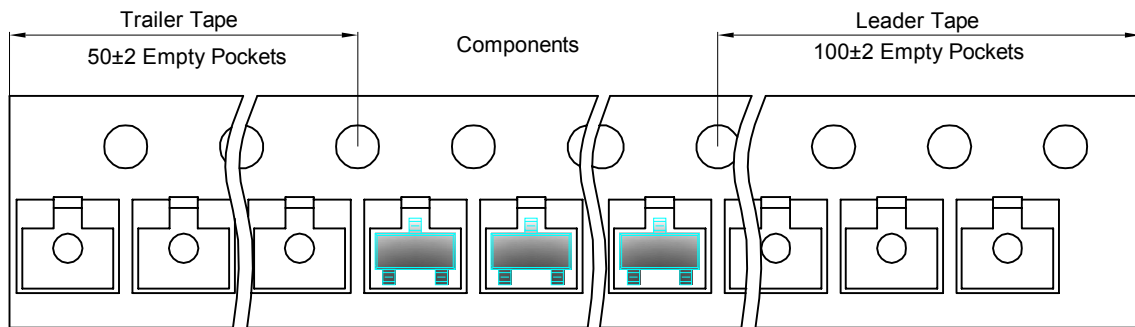
SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

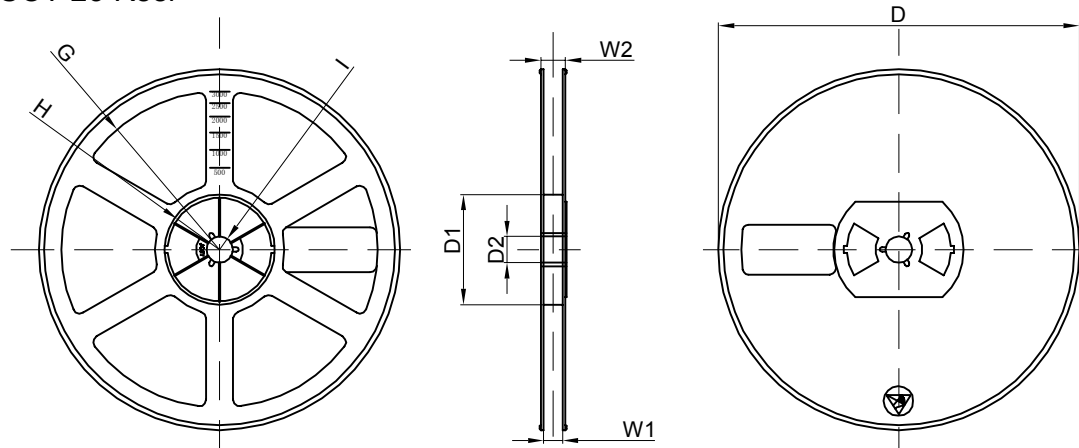


| Dimensions are in millimeter | | | | | | | | | | |
|------------------------------|------|------|------|-------|------|------|------|------|------|------|
| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
| SOT-23 | 3.15 | 2.77 | 1.22 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOT-23 Tape Leader and Trailer



SOT-23 Reel



| Dimensions are in millimeter | | | | | | | | |
|------------------------------|---------|-------|-------|--------|--------|-------|------|-------|
| Reel Option | D | D1 | D2 | G | H | I | W1 | W2 |
| 7" Dia | Ø178.00 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) | G.W.(kg) |
|----------|-----------|------------|--------------|-------------|-----------------|----------|
| 3000 pcs | 7 inch | 45,000 pcs | 192×192×193 | 180,000 pcs | 404×404×214 | |