



Product Summary

| $V_{(BR)DSS}$ | $R_{DS(on)TYP}$ | I_D |
|---------------|-----------------|-------|
| 30V | 20mΩ@10V | 5.8A |
| | 27mΩ@4.5V | |

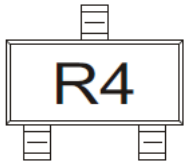
Feature

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Resistance
- Low Gate Charge

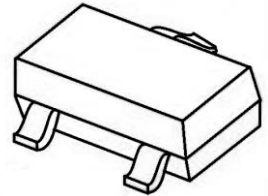
Application

- Load Switch
- PMW

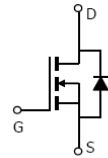
MARKING:



SOT-23



Schematic diagram



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

| Parameter | Symbol | Value | Unit |
|--|-----------------|-----------|---------------------------|
| Drain - Source Voltage | V_{DS} | 30 | V |
| Gate - Source Voltage | V_{GS} | ± 20 | V |
| Continuous Drain Current ⁴ | I_D | 5.8 | A |
| Pulsed Drain Current ^{1,4} | I_{DM} | 23 | A |
| Power Dissipation ^{3,4} | P_D | 1 | W |
| Thermal Resistance from Junction to Ambient ⁴ | $R_{\theta JA}$ | 125 | $^\circ\text{C}/\text{W}$ |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -55~ +150 | $^\circ\text{C}$ |

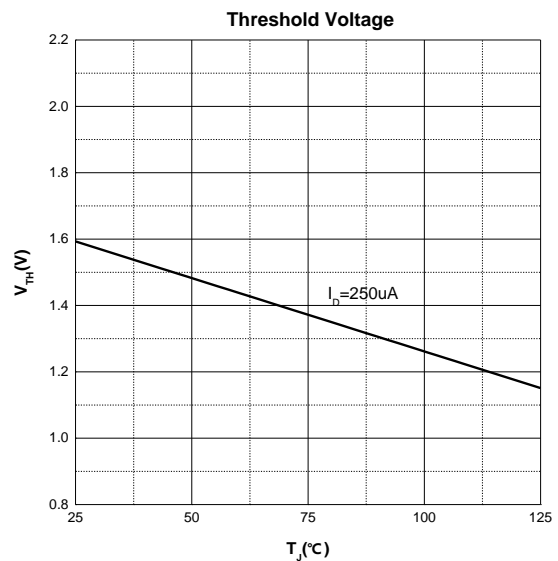
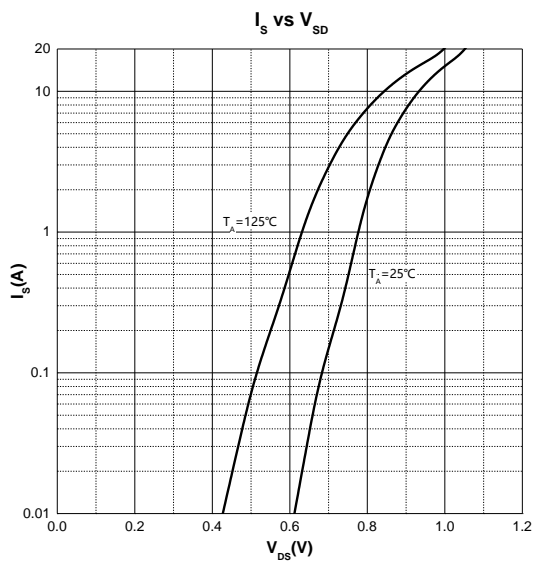
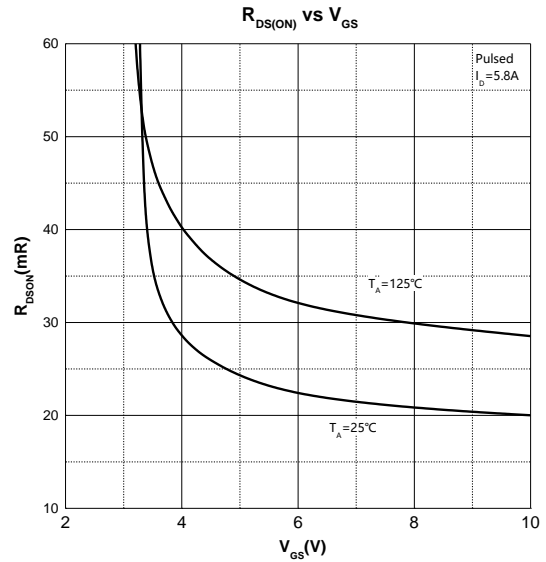
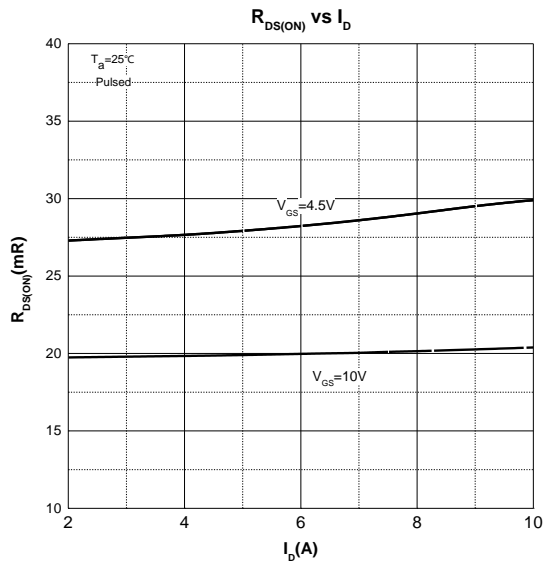
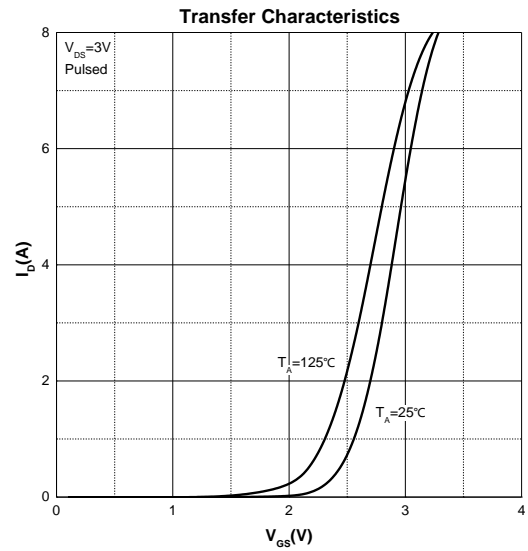
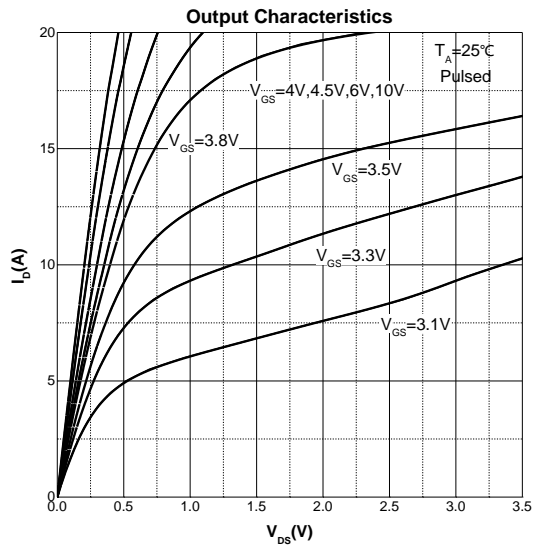
MOSFET ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

| Parameter | Symbol | Test Condition | Min | Type | 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 - Body Leakage Current | I_{GSS} | $V_{GS} = \pm 20V, V_{DS} = 0V$ | | | ± 100 | nA |
| On Characteristics² | | | | | | |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS} = V_{GS}, I_D = 250\mu A$ | 1.0 | 1.6 | 3.0 | V |
| Drain-source On-resistance | $R_{DS(on)}$ | $V_{GS} = 10V, I_D = 5.8A$ | | 20 | 30 | m Ω |
| | | $V_{GS} = 4.5V, I_D = 4.8A$ | | 27 | 42 | |
| Forward Transconductance | g_{FS} | $V_{DS} = 5V, I_D = 5.8A$ | 20 | | | S |
| Dynamic Characteristics | | | | | | |
| Input Capacitance | C_{iss} | $V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$ | | 583 | | pF |
| Output Capacitance | C_{oss} | | | 67 | | |
| Reverse Transfer Capacitance | C_{rss} | | | 52 | | |
| Gate Resistance | R_g | $V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$ | | 2.0 | | Ω |
| Switching Characteristics | | | | | | |
| Total Gate Charge | Q_g | $V_{DS} = 15V, V_{GS} = 10V, I_D = 5A$ | | 9 | | nC |
| Gate-source Charge | Q_{gs} | | | 1.6 | | |
| Gate-drain Charge | Q_{gd} | | | 2.6 | | |
| Turn-on Delay Time | $t_{d(on)}$ | $V_{DD} = 15V, V_{GS} = 10V, R_L = 3\Omega$ $R_G = 3\Omega$ | | 9 | | ns |
| Turn-on Rise Time | t_r | | | 5 | | |
| Turn-off Delay Time | $t_{d(off)}$ | | | 25 | | |
| Turn-off Fall Time | t_f | | | 7 | | |
| Source - Drain Diode Characteristics | | | | | | |
| Diode Forward Voltage ² | V_{SD} | $V_{GS} = 0V, I_S = 1A$ | | | 1.2 | V |

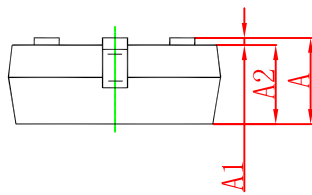
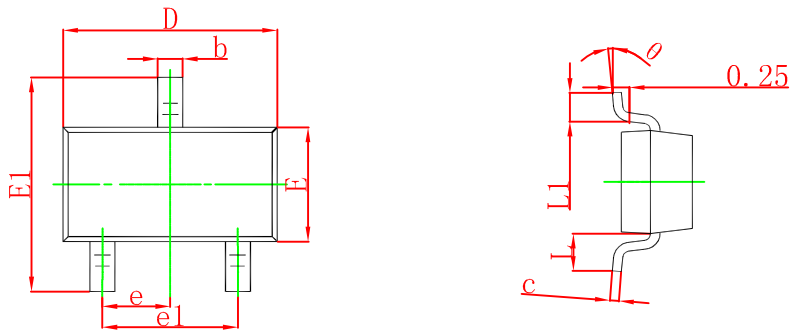
Notes :

- 1.Pulse Test : Pulse Width $\leq 10\mu s$, duty cycle $\leq 1\%$.
- 2.Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- 3.The power dissipation P_D is limited by $T_{J(MAX)} = 150^\circ\text{C}$.
- 4.Device mounted on $1in^2$ FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$.

Typical Characteristics



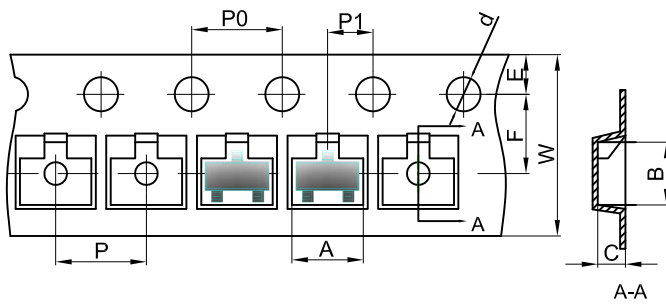
SOT-23 Package Information



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

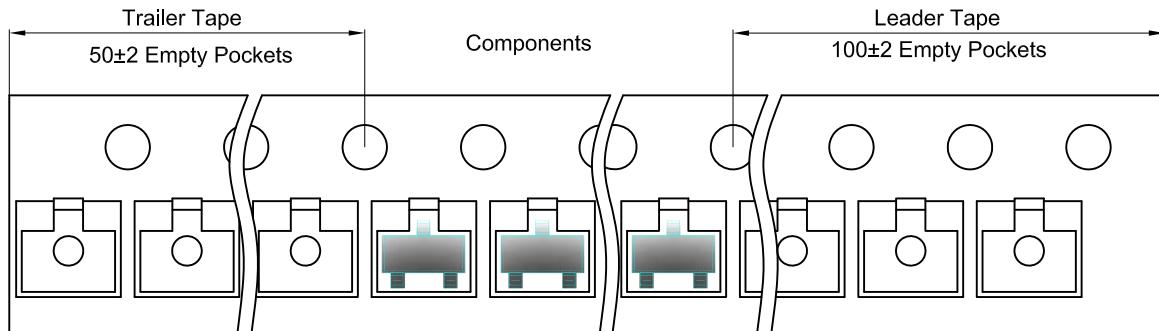
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

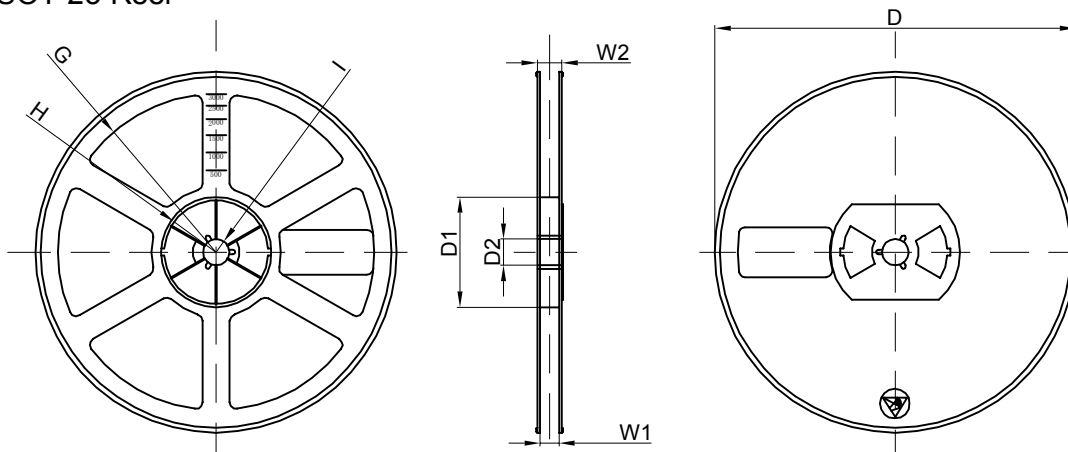


| Dimensions are in millimeter | | | | | | | | | | | |
|------------------------------|------|------|------|-------|------|------|------|------|------|------|--|
| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W | |
| SOT-23 | 3.15 | 2.77 | 1.22 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |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

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 | 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\(格瑞宝\)](#)