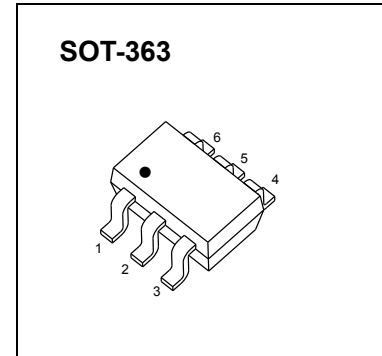


Plastic-Encapsulate MOSFETs

Dual N-channel MOSFET

| $V_{(BR)DSS}$ | $R_{DS(on)MAX}$ | I_D |
|---------------|-----------------|-------|
| 50 V | 3.5Ω@10V | 220mA |
| | 6Ω@4.5V | |



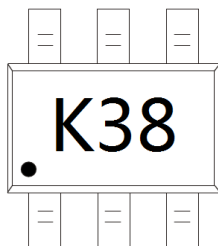
FEATURE

- High density cell design for low $R_{DS(ON)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability

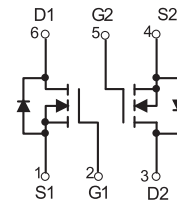
APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

MARKING



Equivalent Circuit



Maximum ratings ($T_a=25^\circ\text{C}$ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|-----------------|-----------|--------------------|
| Drain-Source Voltage | V_{DS} | 50 | V |
| Continuous Gate-Source Voltage | V_{GSS} | ±20 | |
| Continuous Drain Current | I_D | 0.22 | A |
| Power Dissipation | P_D | 0.3 | W |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 417 | $^\circ\text{C/W}$ |
| Operating Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -55 ~+150 | |



MOSFET ELECTRICAL CHARACTERISTICS

$T_a=25\text{ }^\circ\text{C}$ unless otherwise specified

| Parameter | Symbol | Test Condition | Min | Typ | Max | Units |
|--|---------------|--|------|-----|-----------|----------|
| Off characteristics | | | | | | |
| Drain-source breakdown voltage | $V_{(BR)DSS}$ | $V_{GS} = 0V, I_D = 250\mu A$ | 50 | | | V |
| Gate-body leakage | I_{GSS} | $V_{DS} = 0V, V_{GS} = \pm 20V$ | | | ± 500 | nA |
| Zero gate voltage drain current | I_{DSS} | $V_{DS} = 50V, V_{GS} = 0V$ | | | 0.5 | μA |
| | | $V_{DS} = 30V, V_{GS} = 0V$ | | | 100 | nA |
| On characteristics | | | | | | |
| Gate-threshold voltage (note 1) | $V_{GS(th)}$ | $V_{DS} = V_{GS}, I_D = 1mA$ | 0.80 | | 1.50 | V |
| Static drain-source on-resistance (note 1) | $R_{DS(on)}$ | $V_{GS} = 10V, I_D = 0.22A$ | | | 3.50 | Ω |
| | | $V_{GS} = 4.5V, I_D = 0.22A$ | | | 6 | |
| Forward transconductance (note 1) | g_{FS} | $V_{DS} = 10V, I_D = 0.22A$ | 0.12 | | | S |
| Dynamic characteristics (note 2) | | | | | | |
| Input capacitance | C_{iss} | $V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$ | | 27 | | pF |
| Output capacitance | C_{oss} | | | 13 | | |
| Reverse transfer capacitance | C_{rss} | | | 6 | | |
| Switching characteristics | | | | | | |
| Turn-on delay time (note 1,2) | $t_{d(on)}$ | $V_{DD} = 30V, V_{DS} = 10V, I_D = 0.29A, R_{GEN} = 6\Omega$ | | | 5 | ns |
| Rise time (note 1,2) | t_r | | | | 18 | |
| Turn-off delay time (note 1,2) | $t_{d(off)}$ | | | | 36 | |
| Fall time (note 1,2) | t_f | | | | 14 | |
| Drain-source body diode characteristics | | | | | | |
| Body diode forward voltage (note 1) | V_{SD} | $I_S = 0.44A, V_{GS} = 0V$ | | | 1.4 | V |

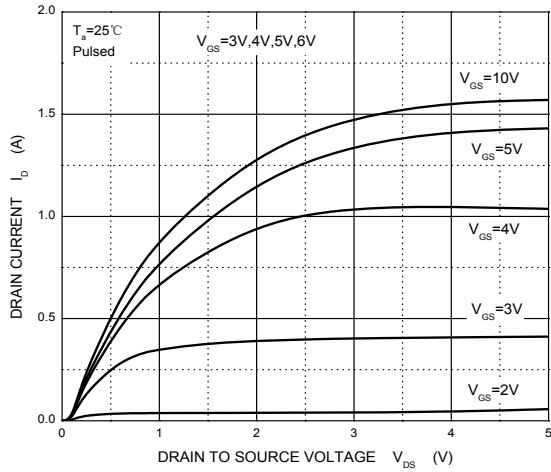
Notes:

1. Pulse Test ; Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
2. These parameters have no way to verify.

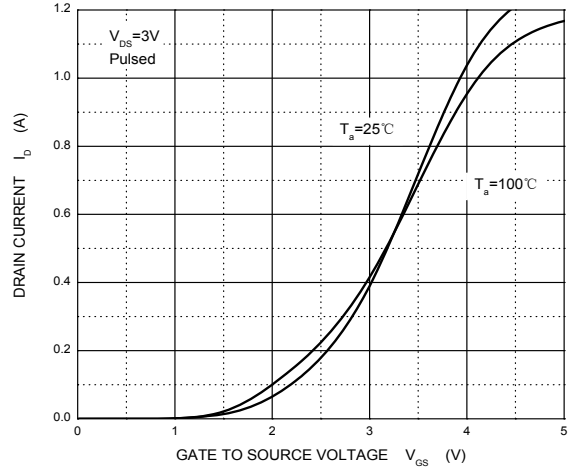


Typical Characteristics

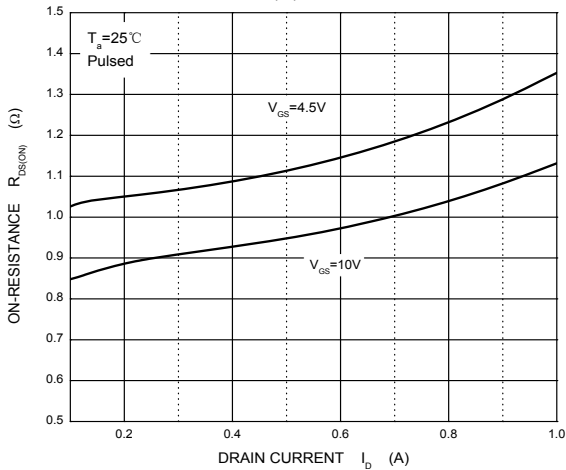
Output Characteristics



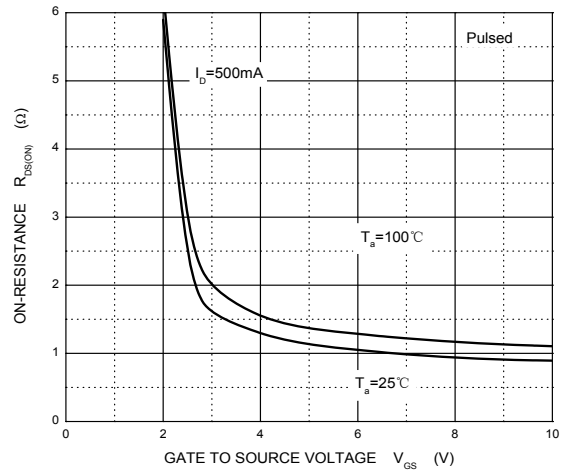
Transfer Characteristics



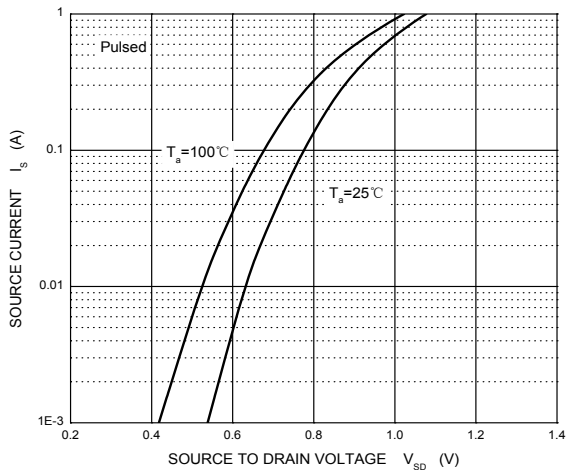
$R_{DS(ON)}$ vs I_D



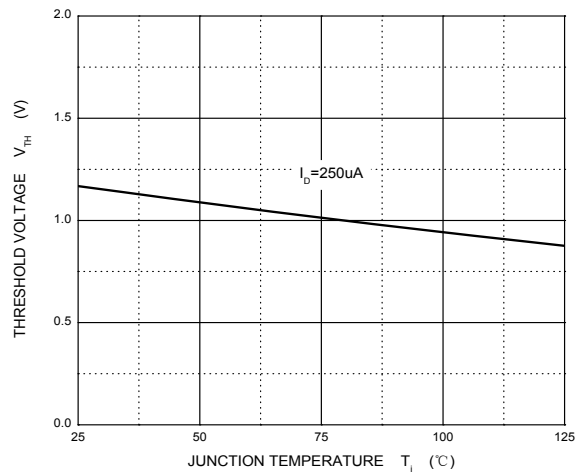
$R_{DS(ON)}$ vs V_{GS}



I_S vs V_{SD}

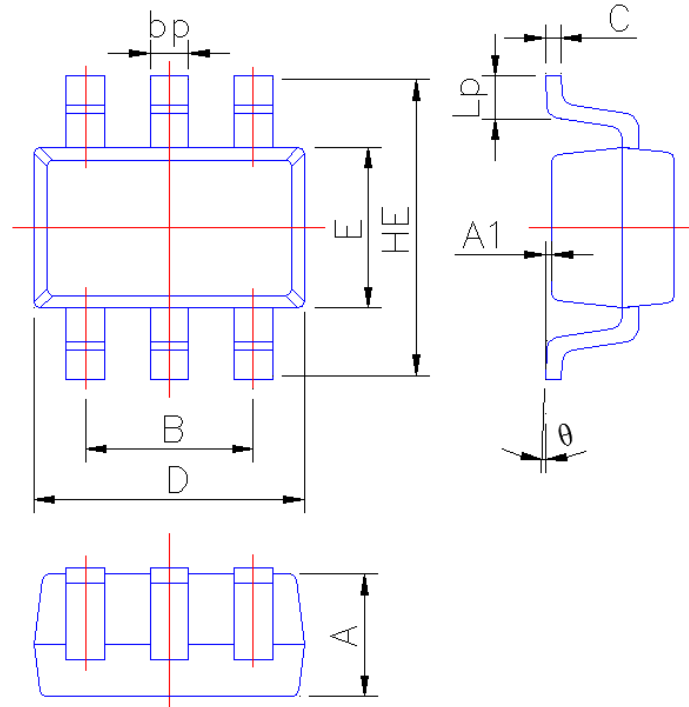


Threshold Voltage





SOT-363 Package Outline Dimensions



| Symbol | Dimension in Millimeters | |
|--------|--------------------------|-------|
| | Min | Max |
| A | 0.90 | 1.00 |
| A1 | 0.010 | 0.100 |
| B | 1.20 | 1.40 |
| bp | 0.25 | 0.45 |
| C | 0.09 | 0.15 |
| D | 2.00 | 2.20 |
| E | 1.15 | 1.35 |
| HE | 2.15 | 2.55 |
| Lp | 0.25 | 0.46 |
| θ | 0° | 6° |