

Product Summary

| $V_{(BR)DSS}$ | $R_{DS(on)TYP}$ | I_D |
|---------------|-----------------|--------|
| -20V | 0.65Ω@-4.5V | -0.66A |
| | 0.85Ω@-2.5V | |

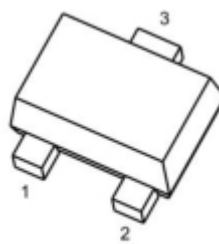
Feature

- Surface Mount Package
- P-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive
- ESD Protected: 2KV

Applications

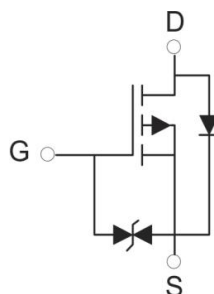
- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics

Package

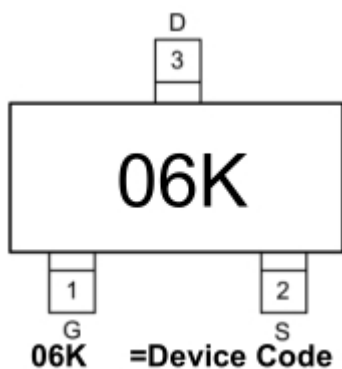


SOT-723

Circuit diagram



Marking



Absolute maximum ratings

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

| Parameter | Symbol | Value | Unit |
|---------------------------------------------|-----------------|-----------|-----------------------------|
| Drain-Source Voltage | V_{DS} | -20 | V |
| Gate-Source Voltage | V_{GS} | ± 12 | V |
| Continuous Drain Current | I_D | -0.66 | A |
| Pulsed Drain Current | I_{DM} | -1.2 | A |
| Power Dissipation | P_D | 0.15 | W |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 833 | $^{\circ}\text{C}/\text{W}$ |
| Junction Temperature | T_J | 150 | $^{\circ}\text{C}$ |
| Storage Temperature | $T_{STG.}$ | -55~ +150 | $^{\circ}\text{C}$ |

Electrical characteristics

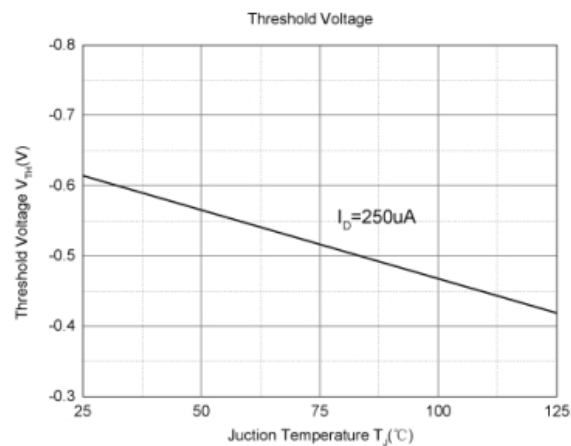
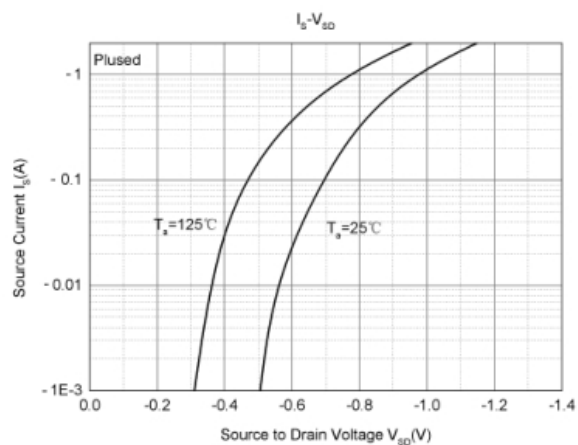
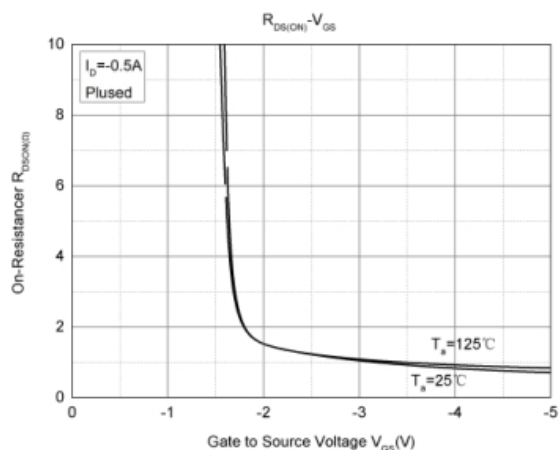
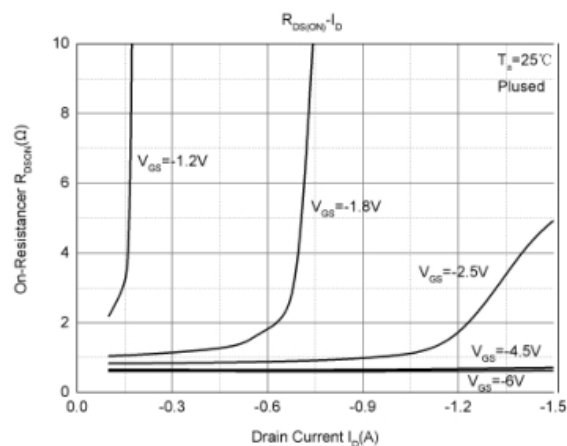
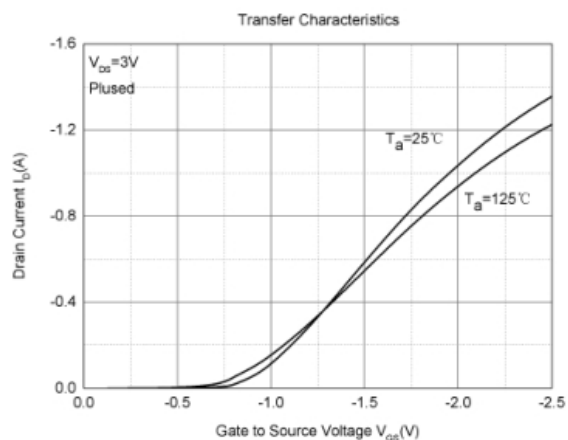
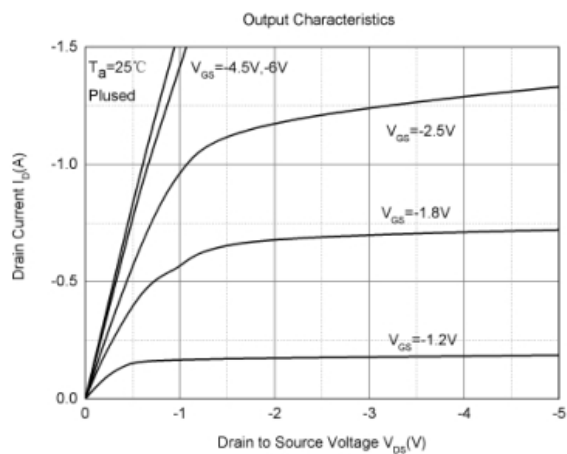
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

| Parameter | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|-------------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------|-------|-------|------|------|
| Static Characteristics | | | | | | |
| Drain-source breakdown voltage | BV (BR)DSS | V _{GS} = 0V, I _D = -250μA | -20 | | | V |
| Zero gate voltage drain current | I _{DSS} | V _{DS} = -16V, V _{GS} = 0V | | | -1 | uA |
| Gate-body leakage current | I _{GSS} | V _{GS} = ±10V, V _{DS} = 0V | | | ±10 | uA |
| Gate threshold voltage ⁽¹⁾ | V _{GS(th)} | V _{DS} =V _{GS} , I _D = -250μA | -0.35 | -0.65 | -1 | V |
| Drain-source on-resistance ⁽¹⁾ | R _{DS(on)} | V _{GS} = -4.5V, I _D = -0.5A | | 0.65 | 0.75 | Ω |
| | | V _{GS} = -2.5V, I _D = -0.2A | | 0.85 | 1.0 | |
| Dynamic Characteristics | | | | | | |
| Input capacitance | C _{iss} | V _{DS} = -16V, V _{GS} =0V, f=1MHz | | 113 | | pF |
| Output capacitance | C _{oss} | | | 15 | | |
| Reverse transfer capacitance | C _{rss} | | | 9 | | |
| Turn-on Delay Time | T _{d(on)} | V _{DS} = -10V, I _D = - 200mA , V _{GS} =-4.5V, R _{GEN} = 10Ω | | 9 | | nS |
| Turn-on Rise Time | T _r | | | 5.7 | | |
| Turn-Off Delay Time | T _{d(off)} | | | 32.6 | | |
| Turn-Off Fall Time | t _f | | | 20.3 | | |
| Source-Drain Diode Characteristics | | | | | | |
| Diode Forward voltage | V _{SD} | I _S = -0.5A, V _{GS} = 0V | | | -1.2 | V |

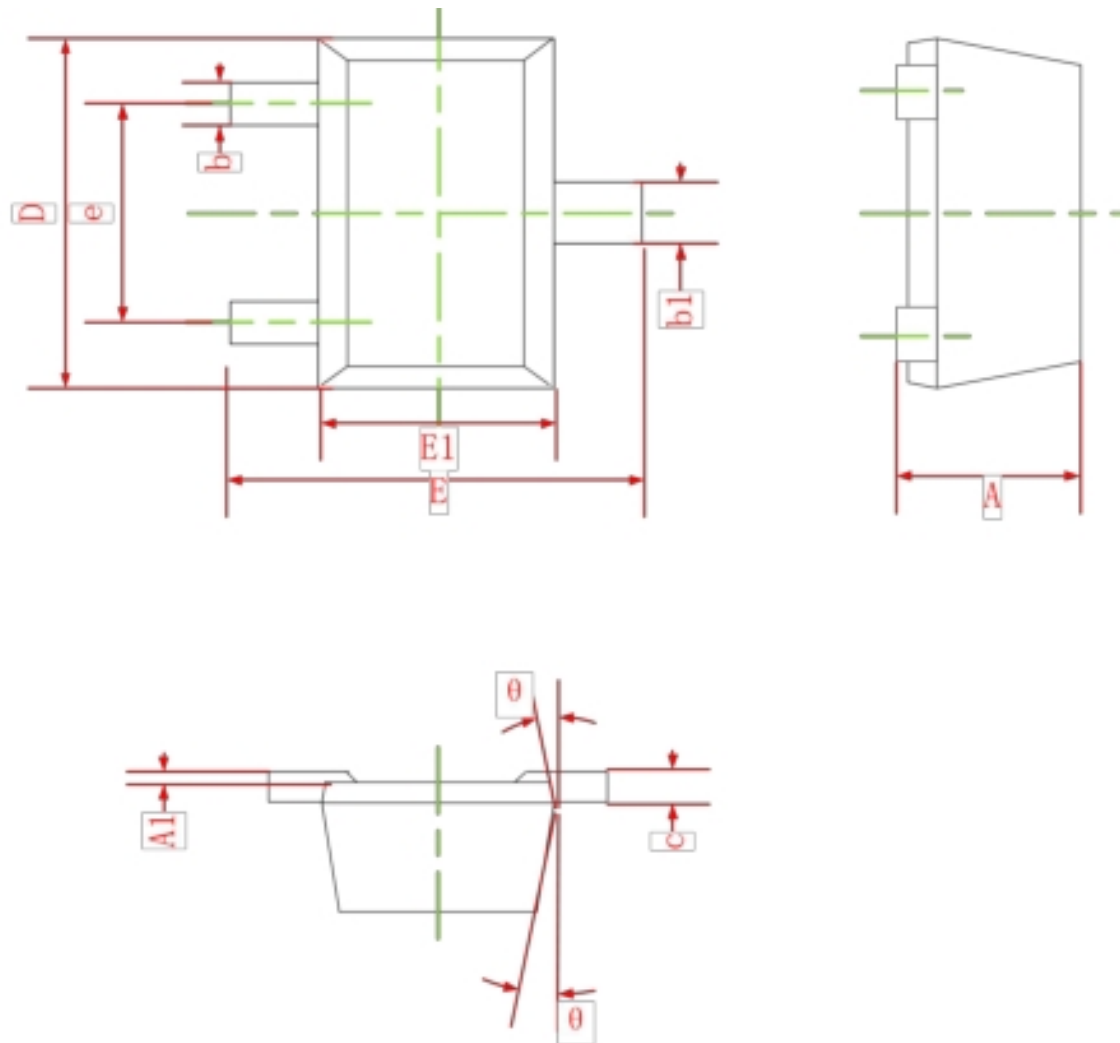
Notes:

1. Pulse Test: Pulse Width < 300 μs , Duty Cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.

Typical Characteristics



SOT-723 Package Information



| Symbol | Dimensions In Millimeters | |
|----------|---------------------------|-------|
| | Min. | Max. |
| A | 0.430 | 0.500 |
| A1 | 0.000 | 0.050 |
| b | 0.170 | 0.270 |
| b1 | 0.270 | 0.370 |
| c | 0.080 | 0.150 |
| D | 1.150 | 1.250 |
| E | 1.150 | 1.250 |
| E1 | 0.750 | 0.850 |
| e | 0.800TYP. | |
| θ | 7° REF. | |