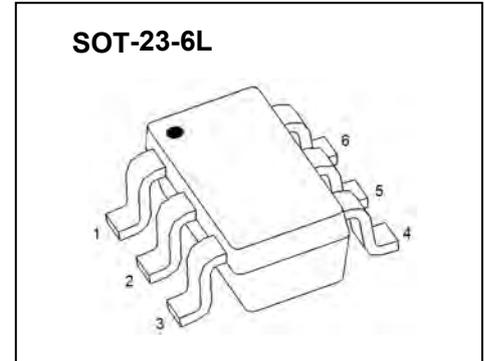


Plastic-Encapsulate MOSFETS

Dual N-Channel MOSFET

| $V_{(BR)DSS}$ | $R_{DS(on)MAX}$ | I_D |
|---------------|-----------------|-------|
| 20 V | 60mΩ@4.5V | 2.3A |
| | 115mΩ@2.5V | |



FEATURE

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

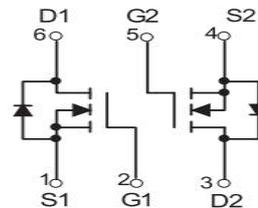
APPLICATION

- Battery Protection
- Load Switch
- Power Management

MARKING



Equivalent Circuit



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} | ±8 | V |
| Continuous Drain Current | I_D | 2.3 | A |
| Pulsed Drain Current (note 1) | I_{DM} | 10 | A |
| Continuous Source-Drain Diode Current | I_s | 0.6 | A |
| Thermal Resistance from Junction to Ambient (note 2) | $R_{\theta JA}$ | 357 | $^\circ\text{C}/\text{W}$ |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -55~+150 | $^\circ\text{C}$ |

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25 °C unless otherwise specified

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|---|----------------------|---|------|------|------|------|
| STATIC CHARACTERISTICS | | | | | | |
| Drain-source breakdown voltage | V _{(BR)DSS} | V _{GS} = 0V, I _D = 10μA | 20 | | | V |
| Zero gate voltage drain current | I _{DSS} | V _{DS} = 20V, V _{GS} = 0V | | | 1 | μA |
| Gate-body leakage current | I _{GSS} | V _{GS} = ±8V, V _{DS} = 0V | | | ±100 | nA |
| Gate threshold voltage (note 3) | V _{GS(th)} | V _{DS} = V _{GS} , I _D = 50μA | 0.65 | 0.95 | 1.2 | V |
| Drain-source on-resistance (note 3) | R _{DS(on)} | V _{GS} = 4.5V, I _D = 2.3A | | 45 | 60 | mΩ |
| | | V _{GS} = 2.5V, I _D = 2A | | 70 | 115 | mΩ |
| Forward transconductance (note 3) | g _{FS} | V _{DS} = 5V, I _D = 3.6A | | 8 | | S |
| Diode forward voltage (note 3) | V _{SD} | I _S = 0.94A | | 0.76 | 1.2 | V |
| DYNAMIC CHARACTERISTICS (note 4) | | | | | | |
| Input Capacitance | C _{iss} | V _{DS} = 10V, V _{GS} = 0V, f = 1MHz | | 300 | | pF |
| Output Capacitance | C _{oss} | | | 120 | | pF |
| Reverse Transfer Capacitance | C _{rss} | | | 80 | | pF |
| SWITCHING CHARACTERISTICS (note 4) | | | | | | |
| Turn-on delay time | t _{d(on)} | V _{DD} = 10V, V _{gen} = 4.5V I _D = 3.6A, R _g = 5.5Ω , R _g = 6Ω | | 7 | 15 | ns |
| Turn-on rise time | t _r | | | 55 | 80 | ns |
| Turn-off delay time | t _{d(off)} | | | 16 | 60 | ns |
| Turn-off fall time | t _f | | | 10 | 25 | ns |
| Total Gate Charge | Q _g | V _{DS} = 10V, V _{GS} = 4.5V, I _D = 3.6A | | 4.0 | 10 | nC |
| Gate-Source Charge | Q _{gs} | | | 0.65 | | nC |
| Gate-Drain Charge | Q _{gd} | | | 1.5 | | nC |

Notes :

1. Repetitive rating: Pulse width limited by maximum junction temperature
2. Surface Mounted on FR4 board, t ≤ 10 sec.
3. Pulse test : Pulse width ≤ 300μs, duty cycle ≤ 2%.
4. Guaranteed by design, not subject to production.



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SOT-23-6L

CB2302-2.3A



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Typical Characteristics

