

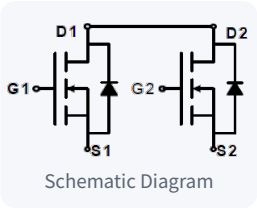
DATASHEET

Features

- High Power and Current Handling Capability
- Lead-Free Product
- Surface-Mount SOT-23-6 Package

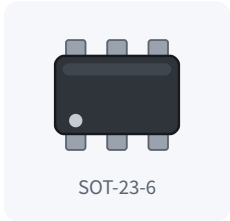
Applications

- Battery Protection
- Battery-Powered Systems
- Power Management in Notebook Computers
- Portable Equipment



Pin Configuration

Terminal	Description
G1 / G2	Gate of MOSFET 1 / MOSFET 2
S1 / S2	Source of MOSFET 1 / MOSFET 2
D1 • D2	Common drain (internally connected)



Two N-channel enhancement-mode MOSFETs in a common-drain (back-to-back) configuration for single-cell battery charge / discharge protection.

Absolute Maximum Ratings (@ $T_A = 25\text{ }^{\circ}\text{C}$) ⁽¹⁾

Parameter	Symbol	Maximum	Units
Drain to Source Voltage	V_{DSS}	20	V
Gate to Source Voltage	V_{GSS}	± 10	V
Drain Current — Continuous	I_D	6	A
Drain Current — Pulsed	I_{DM}	24	A
Maximum Power Dissipation	P_D	1.05	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$
Lead Temperature for Soldering (1/8" from case, 10 s)	T_L	260	$^{\circ}\text{C}$

Electrical Characteristics (@ $T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise specified.) ⁽²⁾

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Off Characteristics						
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 250\text{ }\mu\text{A}, V_{GS} = 0\text{ V}$	20	—	—	V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20\text{ V}, V_{GS} = 0\text{ V}$	—	—	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS} = \pm 12\text{ V}, V_{DS} = 0\text{ V}$	—	—	± 100	nA
On Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_{DS} = 250\text{ }\mu\text{A}$	0.55	0.85	1.15	V
Drain to Source On-State Resistance	$R_{DS(on)}$	$I_D = 3\text{ A}, V_{GS} = 4.5\text{ V}$	—	20	25	m Ω
		$I_D = 3\text{ A}, V_{GS} = 3.8\text{ V}$	—	24	26	m Ω
		$I_D = 2\text{ A}, V_{GS} = 2.5\text{ V}$	—	27	35	m Ω

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Input Capacitance	C_{iss}	$V_{GS} = 0\text{ V}, V_{DS} = 10\text{ V}, f = 1\text{ MHz}$	—	370	—	pF
Output Capacitance	C_{oss}		—	89	—	pF
Reverse Transfer Capacitance	C_{rss}		—	10	—	pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 10\text{ V}, I_D = 3\text{ A}, V_{GS} = 4.5\text{ V}, R_{GEN} = 10\ \Omega$	—	200	—	ns
Turn-On Rise Time	t_r		—	236	—	ns
Turn-Off Delay Time	$t_{d(off)}$		—	36	—	ns
Fall Time	t_f		—	165	—	ns

Gate Charge Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Total Gate Charge	Q_g	$V_{DS} = 10\text{ V}, V_{GS} = 4.5\text{ V}, I_D = 1\text{ A}$	—	7.5	—	nC
Gate-Source Charge	Q_{gs}		—	3.0	—	nC
Gate-Drain Charge	Q_{gd}		—	1.5	—	nC

Body Diode Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Diode Forward Voltage	V_{SD}	$I_S = 2.8\text{ A}, V_{GS} = 0\text{ V}$	—	0.7	1.3	V

Notes

- Stresses exceeding those listed in the Absolute Maximum Ratings may damage the device; functional operation beyond those limits is not implied and reliability may be affected.
- Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions; performance under other conditions is not implied.

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