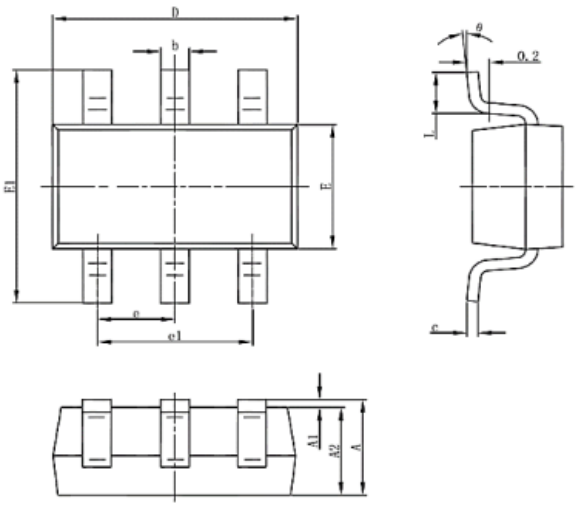
N+N-Channel MOSFET

Primary characteristics			
Symbol	**Parameter**	**Value**	**Unit**
I_D	Continuous drain current (@T_C=25°C)	6.0	A
V_{DS}	Drain-source voltage	20	V
R_{DSON}	Drain-source ON resistance (@V_{GS}=10V)	<25	mΩ

Application

- Lithium battery protection
- Mobile phone fast charging

Case dimensions



SOT-23-6L

Unit	A	A_1	A_2	b	C	D	E	E_1	e	e_1	L
mm	1.25 ±0.2	0.1	1.15 ±0.1	0.5 ±0.2	0.2 ±0.1	3.02 ±0.1	1.7 ±0.2	2.95 ±0.3	0.95 ±0.2	2.0 ±0.30	0.6 ±0.30

Absolute maximum ratings (T_A = 25°C unless otherwise noted)			
Characteristic	**Symbol**	**Value**	**Unit**
Drain-source breakdown voltage	$V_{(BR)DS}$	20	V
Gate-source voltage	V_{GS}	±12.0	V
Continuous drain current	I_D	6.0	A
Pulse drain current tested [1)]	I_{DM}	24	A
Maximum power dissipation	P_D	1.5	W
Maximum junction temperature	T_J	150	°C
Operating junction temperature range	T_{STG}	-55 ~ 150	°C

Electrical characteristics (T_J = 25°C)						
Characteristic	**Test condition**	**Symbol**	**Value**			**Unit**
			Min.	**Typ.**	**Max.**	
Drain-source breakdown voltage	V_{GS}=0V, I_D=250μA	$V_{(BR)DSS}$	20	22	-	V
Zero gate voltage drain current	V_{DS}=16V, V_{GS}=0V, T_A=25°C	I_{DSS}	-		1.0	μA
Gate to body leakage current	V_{GS}=±8.0V, V_{DS}=0V	I_{GSS}	-	-	±100	nA
Gate threshold voltage	V_{DS}=V_{GS}, I_D=250μA	$V_{GS(TH)}$	500	700	1200	mV
Diode forward voltage drop	I_S=0,75A, V_{GS}=0V	V_{SD}	-	-	1.2	V
Static drain-source ON-state resistance	V_{GS}=2.5V, I_D=5.0A	$R_{DS(ON)}$	-	21	25	mΩ
	V_{GS}=2.5V, I_D=4.0A		-	28	40	

Dynamic electrical characteristics (T_J = 25°C)						
Characteristic	**Test condition**	**Symbol**	**Value**			**Unit**
			Min.	**Typ.**	**Max.**	
Input capacitance	V_{DS}=15V V_{GS}=0V f=1.0MHz	C_{iss}	-	863	-	pF
Output capacitance		C_{oss}	-	87	-	

Switching characteristics						
Characteristic	**Test condition**	**Symbol**	**Value**			**Unit**
			Min.	**Typ.**	**Max.**	
Turn ON time	V_{DS}=10V I_D=2.4V R_{GEN}=6.0Ω	$t_{(on)}$	-	5.0	-	ns
Turn OFF time		$t_{(off)}$	-	28	-	

Notes:
1. The data tested by surface mounted on a 1 inch2 FR-4 board with 2OZ copper.
2. The data tested by pulsed , pulse width ≦ 300us , duty cycle ≦ 2%
3. The power dissipation is limited by 175℃ junction temperature
4. The data is theoretically the same as ID and IDM , in real applications , should be limited by total power dissipation.

Ordering information		
Part Number	**Package**	**Shipping Quantity**
AKS8205SLI	SOT-23-6L	**3000 pcs / tape**

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