SL2302S

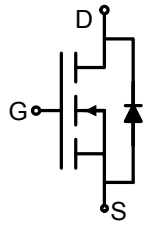
N-Channel Power MOSFET

General Features

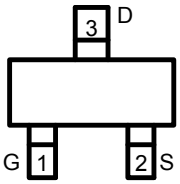
- V_{DS} = 20V,I_D =2.6A
  $R_{DS(ON)}$ < 120mΩ@ V_{GS}=2.5V
  $R_{DS(ON)}$ < 85mΩ @ V_{GS}=4.5V
- High power and current handing capability
- Lead free product is acquired
- Surface mount package

Application

- Battery protection
- Load switch
- Power management



Schematic diagram



Marking and pin assignment

SOT-23 top view

MAXIMUM RATINGS

Characteristic	Symbol	Max	Unit
Drain-Source Voltage	BV_{DSS}	20	V
Gate- Source Voltage	V_{GS}	±8	V
Drain Current (continuous)	I_D	2.6	A
Drain Current (pulsed)	I_{DM}	10	A
Total Device Dissipation T_A=25℃	P_D	900	mW
Junction	T_J	150	℃
Storage Temperature	T_{stg}	-55to+150	℃

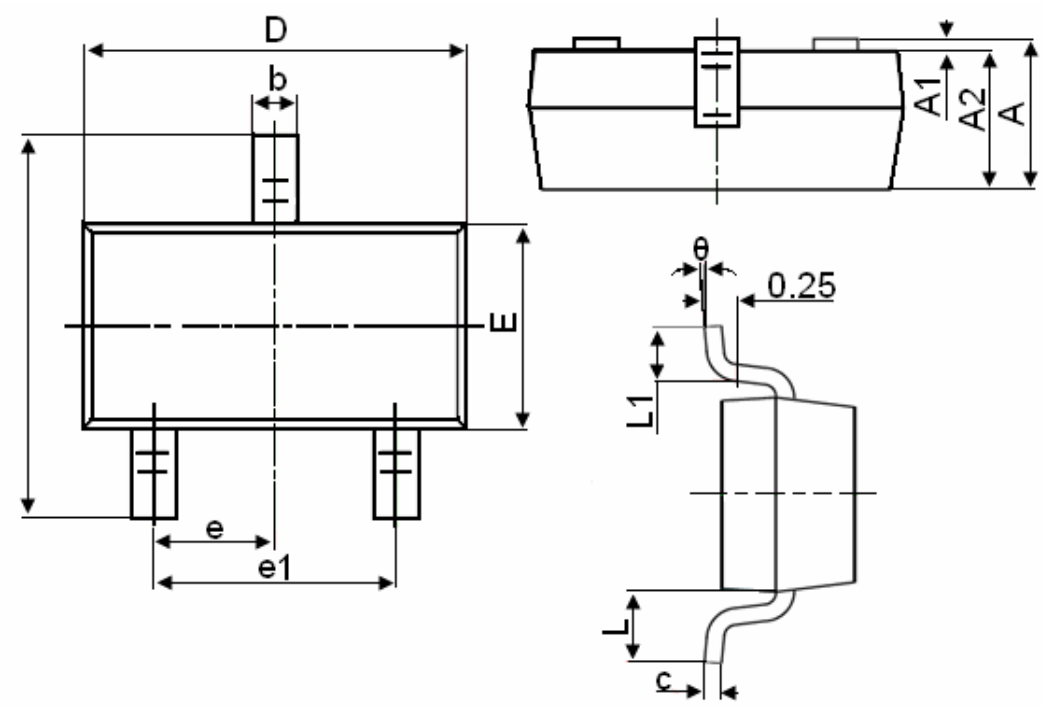
ELECTRICAL CHARACTERISTICS

(T_A=25℃ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage (I_D = 250uA,V_{GS}=0V)	BV_{DSS}	20	—	—	V
Gate Threshold Voltage (I_D = 250uA,V_{GS}= V_{DS})	$V_{GS(th)}$	0.4	—	1.5	V
Drain-Source On Voltage (I_D= 50mA,V_{GS}= 5V) (I_D = 500mA,V_{GS}= 10V)	$V_{DS(ON)}$	—	—	0.375 3.75	V
Diode Forward Voltage Drop (I_S= 0.75A,V_{GS}=0V)	V_{SD}	—	—	1.2	V
Zero Gate Voltage Drain Current (V_{GS}=0V, V_{DS}= 16V) (V_{GS}=0V, V_{DS}= 16V, T_A=55℃)	I_{DSS}	—	—	1 10	uA
Gate Body Leakage (V_{GS}=±8V, V_{DS}=0V)	I_{GSS}	—	—	±100	nA
Static Drain-Source On-State Resistance (I_D=2.6A,V_{GS}=4.5V) (I_D=2A,V_{GS}=2.5V)	$R_{DS(ON)}$	—	—	85 120	mΩ
Input Capacitance (V_{GS}=0V, V_{DS}= 6V,f=1MHz)	C_{ISS}	—	—	880	pF
Common Source Output Capacitance (V_{GS}=0V, V_{DS}= 6V,f=1MHz)	C_{OSS}	—	—	270	pF
Turn-ON Time (V_{DS}= 6V, I_D= 1A, R_{GEN}=6Ω)	$t_{(on)}$	—	—	20	ns
Turn-OFF Time (V_{DS}= 6V, I_D= 1A, R_{GEN}=6Ω)	$t_{(off)}$	—	—	65	ns

Pulse Width≤300 μs; Duty Cycle≤2.0%

SOT-23 Package Information



Symbol	Dimensions in Millimeters	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°