Slkor

SL2305

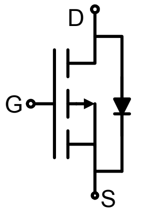
P-Channel Power MOSFET

General Features

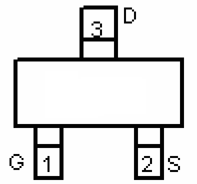
- V_{DS} = -20V, I_D = -4.1A
  $R_{DS(ON)}$ < 70mΩ@ V_{GS}=-2.5V
  $R_{DS(ON)}$ < 55mΩ@ V_{GS}=-4.5V
- High power and current handing capability
- Lead free product is acquired
- Surface mount package

Application

- PWM applications
- 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}	±10	V
Drain Current (continuous)	I_D	-4.1	A
Drain Current (pulsed)	I_{DM}	-15	A
Total Device Dissipation T_A=25℃	P_D	1200	mW
Junction	T_J	150	℃
Storage Temperature	T_{stg}	-55to+150	℃

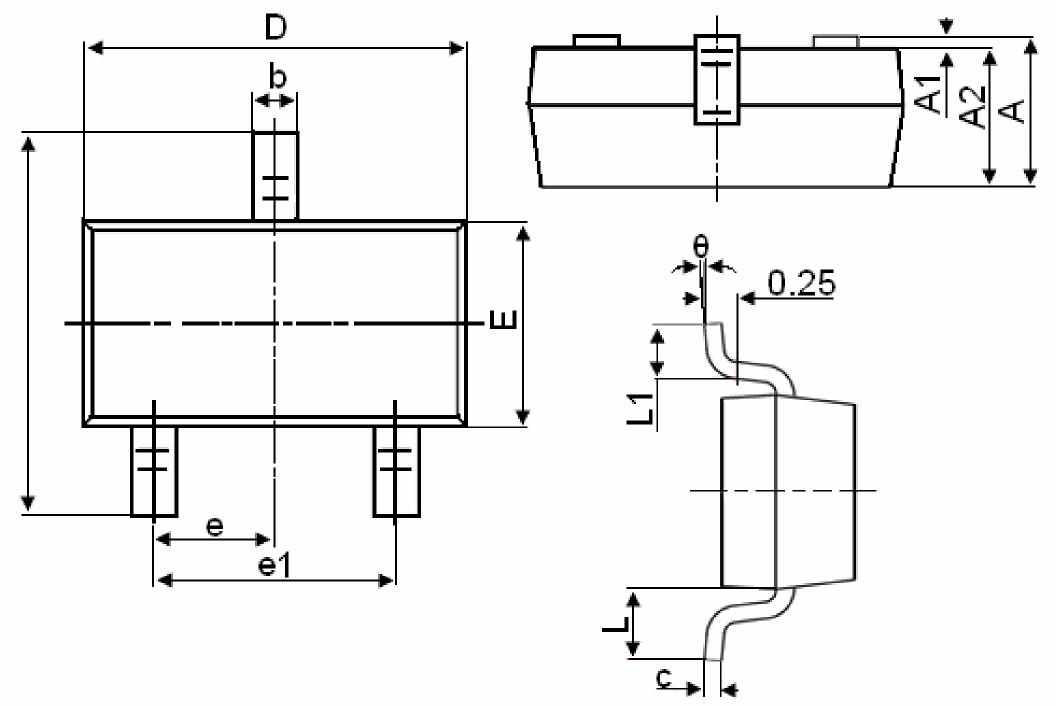
ELECTRICAL CHARACTERISTICS

(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})	$V_{GS(th)}$	-0.5	—	-1.5	V
Diode Forward Voltage Drop (I_S= -0.75A,V_{GS}=0V)	V_{SD}	—	—	-1.5	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= -4.1A,V_{GS}= -4.5V)	$R_{DS(ON)}$	—	40	55	mΩ
Static Drain-Source On-State Resistance (I_D= -3A,V_{GS}= -2.5V)	$R_{DS(ON)}$	—	57	70	mΩ
Input Capacitance (V_{GS}=0V, V_{DS}= -10V,f=1MHz)	C_{ISS}	—	600	—	pF
Output Capacitance (V_{GS}=0V, V_{DS}= -10V,f=1MHz)	C_{OSS}	—	120	—	pF
Turn-ON Time (V_{DS}= -10V, I_D= -2.8A, R_{GEN}=6Ω)	$t_{(on)}$	—	8	—	ns
Turn-OFF Time (V_{DS}= -10V, I_D= -2.8A, R_{GEN}=6Ω)	$t_{(off)}$	—	60	—	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°