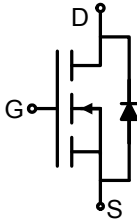



N-Channel Power MOSFET

<p>General Features</p> <ul style="list-style-type: none"> ● $V_{DS} = 60V, I_D = 0.115A$ $R_{DS(ON)} < 7.5 \Omega @ V_{GS} = 5V$ ● High power and current handling capability ● Lead free product is acquired ● Surface mount package <p>Application</p> <ul style="list-style-type: none"> ● Battery protection ● Load switch ● Power management 	 <p>Schematic diagram</p>  <p>SOT-23 top view</p>
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■ MAXIMUM RATINGS

Characteristic	Symbol	Max	Unit
Drain-Source Voltage	BV_{DSS}	60	V
Gate- Source Voltage	V_{GS}	± 20	V
Drain Current (continuous)	I_{DR}	115	mA
Drain Current (pulsed)	I_{DRM}	800	mA

■ THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation	P_D	225	mW
Derate above 25°C		1.8	mW/°C
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	T_J, T_{stg}	150°C, -55 to +150°C	

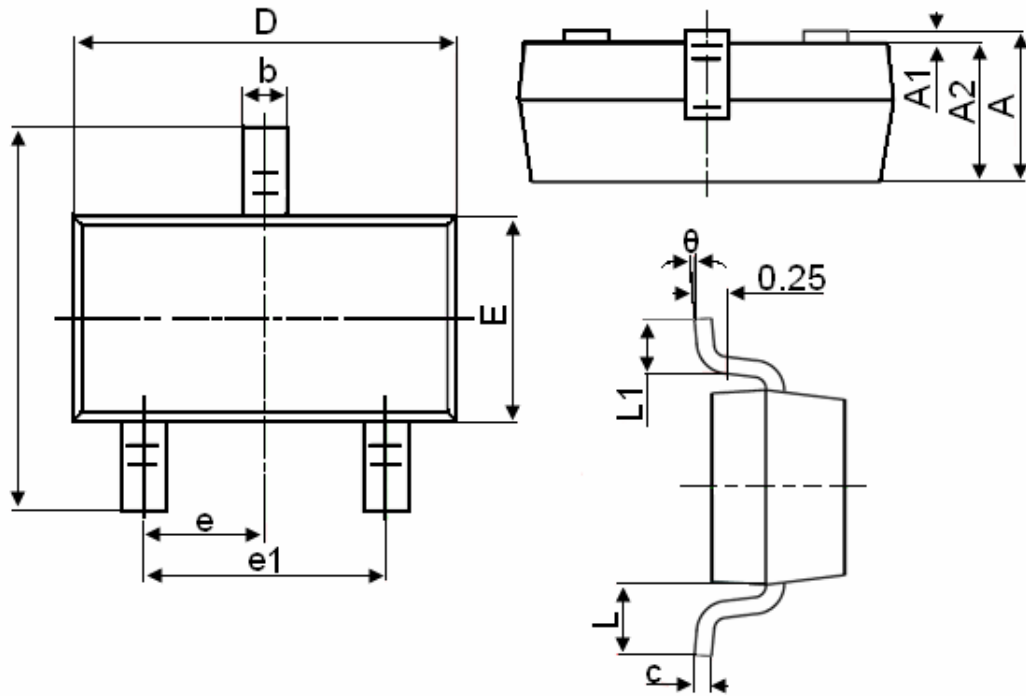
ELECTRICAL CHARACTERISTICS

 (T_A=25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage (I _D =250uA, V _{GS} =0V)	BV _{DSS}	60	—	—	V
Gate Threshold Voltage (I _D =250uA, V _{GS} =V _{DS})	V _{GS(th)}	1.0	—	2.5	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 _{SD} =200mA, V _{GS} =0V)	V _{SD}	—	—	1.5	V
Zero Gate Voltage Drain Current (V _{GS} =0V, V _{DS} =BV _{DSS}) (V _{GS} =0V, V _{DS} =0.8BV _{DSS} , T _A =125°C)	I _{DSS}	—	—	1 500	uA
Gate Body Leakage (V _{GS} =±20V, V _{DS} =0V)	I _{GSS}	—	—	±100	nA
Static Drain-Source On-State Resistance (I _D =50mA, V _{GS} =5V) (I _D =500mA, V _{GS} =10V)	R _{DS(ON)}	—	—	7.5 7.5	Ω
Input Capacitance (V _{GS} =0V, V _{DS} =25V, f=1MHz)	C _{ISS}	—	—	50	pF
Common Source Output Capacitance (V _{GS} =0V, V _{DS} =25V, f=1MHz)	C _{OSS}	—	—	25	pF
Turn-ON Time (V _{DS} =30V, I _D =200mA, R _{GEN} =25Ω)	t _(on)	—	—	20	ns
Turn-OFF Time (V _{DS} =30V, I _D =200mA, R _{GEN} =25Ω)	t _(off)	—	—	40	ns
Reverse Recovery Time (I _{SD} =800mA, V _{GS} =0V)	t _{rr}	—	400	—	ns

1. FR-5=1.0×0.75×0.062in.
2. Alumina=0.4×0.3×0.024in.99.5%alumina.
3. 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°

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