

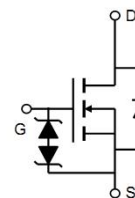
N-Channel Power MOSFET

General Features

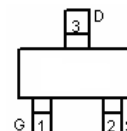
- $V_{DS} = 60V, I_D = 300mA$
 $R_{DS(ON)} < 3\Omega @ V_{GS}=10V$
 $R_{DS(ON)} < 3.5\Omega @ V_{GS}=5V$
- High power and current handling capability
- Lead free product is acquired
- Surface mount package

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}	60	V
Gate- Source Voltage	V_{GS}	± 20	V
Drain Current (continuous)	I_{DR}	300	mA
Drain Current (pulsed)	I_{DRM}	500	mA

THERMAL CHARACTERISTICS

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

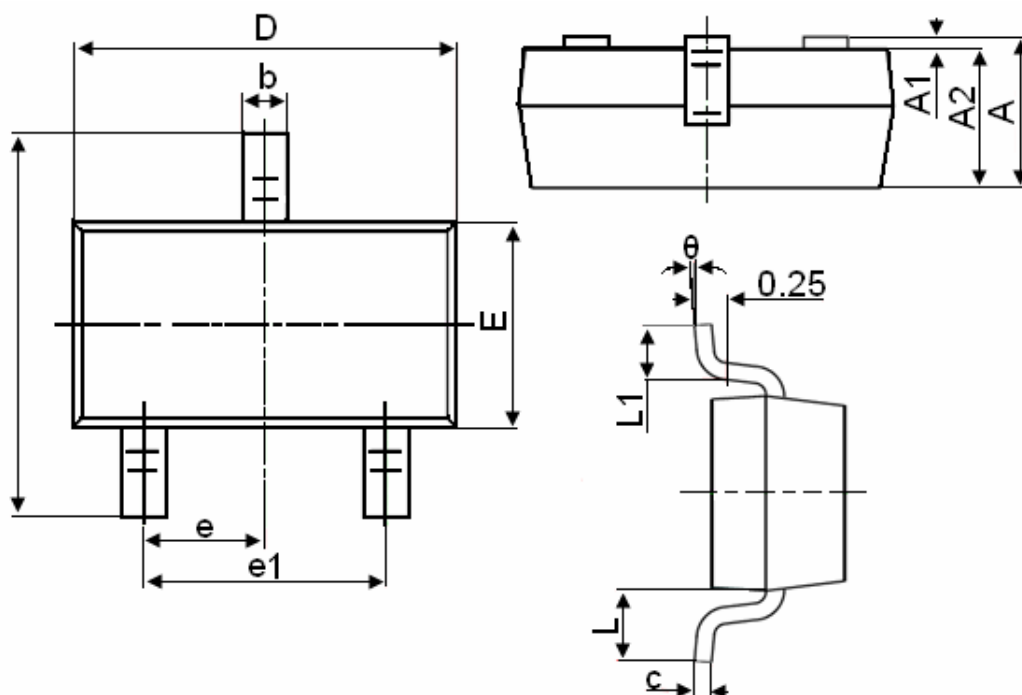
ELECTRICAL CHARACTERISTICS

(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})	I _{DSS}	—	—	1	uA
Gate Body Leakage (V _{GS} =±10V, V _{DS} =0V) (V _{GS} =±20V, V _{DS} =0V)	I _{GSS}	—	—	±1 ±10	uA
Static Drain-Source On-State Resistance (I _D =500mA, V _{GS} =10V) (I _D =50mA, V _{GS} =5V)	R _{DS(ON)}	—	—	3 3.5	Ω
ESD Rating	ESD	1000V HBM			

1. FR-5=1.0×0.75×0.062in.
2. Alumina=0.4×0.3×0.024in.99.5%alumina.
3. Pulse Width≤300 μ s; 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°