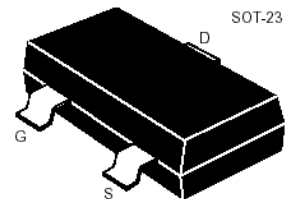


## N-Channel Power MOSFET



### ■ MAXIMUM RATINGS

Characteristic	Symbol	Max	Unit
Drain-Source Voltage	$BV_{DSS}$	30	V
Gate- Source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current (continuous)	$I_{DR}$	100	mA
Drain Current (pulsed)	$I_{DRM}$	400	mA

### ■ THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	200 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	$T_J, T_{stg}$	150 $^\circ\text{C}$ , -55to+150 $^\circ\text{C}$	

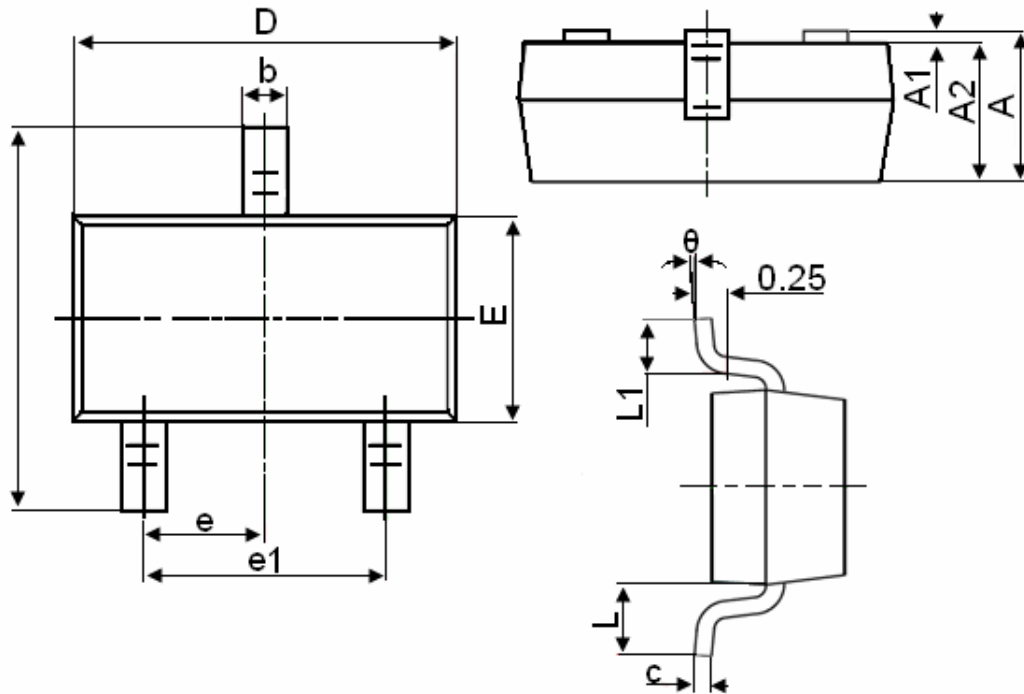
**ELECTRICAL CHARACTERISTICS**

 (T<sub>A</sub>=25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage (I <sub>D</sub> =10uA, V <sub>GS</sub> =0V)	BV <sub>DSS</sub>	30	—	—	V
Gate Threshold Voltage (I <sub>D</sub> =100uA, V <sub>GS</sub> =V <sub>DS</sub> )	V <sub>GS(th)</sub>	0.8	—	2	V
Drain-Source On Voltage (I <sub>D</sub> =50mA, V <sub>GS</sub> =5V) (I <sub>D</sub> =400mA, V <sub>GS</sub> =10V)	V <sub>DS(ON)</sub>	—	—	0.375 3.75	V
Diode Forward Voltage Drop (I <sub>SD</sub> =200mA, V <sub>GS</sub> =0V)	V <sub>SD</sub>	—	—	1.5	V
Zero Gate Voltage Drain Current (V <sub>GS</sub> =0V, V <sub>DS</sub> =BV <sub>DSS</sub> ) (V <sub>GS</sub> =0V, V <sub>DS</sub> =0.8BV <sub>DSS</sub> , T <sub>A</sub> =125°C)	I <sub>DSS</sub>	—	—	1 500	uA
Gate Body Leakage (V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V)	I <sub>GSS</sub>	—	—	±100	nA
Static Drain-Source On-State Resistance (I <sub>D</sub> =50mA, V <sub>GS</sub> =4.5V) (I <sub>D</sub> =400mA, V <sub>GS</sub> =10V)	R <sub>DS(ON)</sub>	—	—	8 7.5	Ω
Input Capacitance (V <sub>GS</sub> =0V, V <sub>DS</sub> =25V, f=1MHz)	C <sub>ISS</sub>	—	—	50	pF
Common Source Output Capacitance (V <sub>GS</sub> =0V, V <sub>DS</sub> =25V, f=1MHz)	C <sub>OSS</sub>	—	—	25	pF
Turn-ON Time (V <sub>DS</sub> =30V, I <sub>D</sub> =200mA, R <sub>GEN</sub> =25Ω)	t <sub>(on)</sub>	—	—	20	ns
Turn-OFF Time (V <sub>DS</sub> =30V, I <sub>D</sub> =200mA, R <sub>GEN</sub> =25Ω)	t <sub>(off)</sub>	—	—	40	ns
Reverse Recovery Time (I <sub>SD</sub> =800mA, V <sub>GS</sub> =0V)	t <sub>rr</sub>	—	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
$\theta$	0°	8°