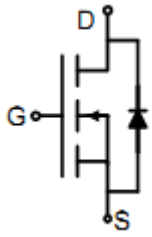
Features

For a single MOSFET

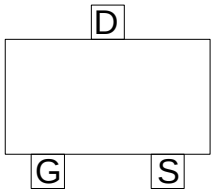
- V_{DS} = 20V
- $R_{DS(ON)}$ = 21mΩ @ V_{GS}=4.5V
- $R_{DS(ON)}$ = 30mΩ @ V_{GS}=2.5V



General Description

Advanced trench technology to provide excellent RDS(ON), low gate charge and low operation voltage. This device is suitable for using as a load switch or in PWM applications.

- Simple Drive Requirement
- Small Package Outline
- Surface Mount Device



Pin configurations

See Diagram below

Absolute Maximum Ratings

Parameter		Symbol	Rating	Units
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±10	V
Drain Current	Continuous	I_D	6	A
	Pulsed[1]		25	
Total Power Dissipation	@TA=25℃	P_D	1.5	W
Operating Junction Temperature Range		T_J	-55 to 175	℃

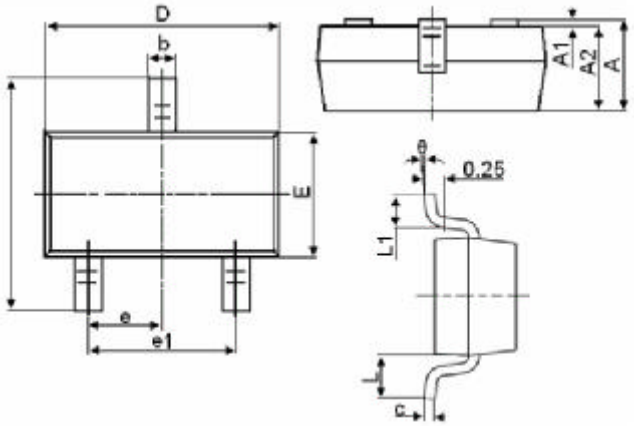
Thermal Resistance

Symbol	Parameter	Typ	Max	Units
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	-	83.5	℃/W

Electrical Characteristics (TJ=25℃ unless otherwise noted)						
Symbol	**Parameter**	**Test Conditions**	**Min**	**Typ**	**Max**	**Units**
OFF CHARACTERISTICS (Note 2)						
BV_{DSS}	Drain-Source Breakdown Voltage	I_D=250μA, V_{GS}=0 V	20			V
I_{DSS}	Drain to Source Leakage Current	V_{DS}= 20V, V_{GS}=0V			0.8	μA
I_{GSS}	Gate-Body Leakage Current	V_{GS}=10V			80	nA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}= V_{GS}, I_D=250μA	0.45	0.65	1.2	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=4.5V, I_D=4.5A	-	21	24.8	mΩ
		V_{GS}=2.5V, I_D=3.5A		30	34.8	mΩ
DYNAMIC PARAMETERS						
C_{iss}	Input Capacitance	V_{GS}=0V, V_{DS}=8V, f=1MHz		600		pF
C_{oss}	Output Capacitance			330		pF
C_{rss}	Reverse Transfer Capacitance			140		pF
SWITCHING PARAMETERS						
Q_g	Total Gate Charge [2]	V_{GS}=4.5V, V_{DS}=10V, I_D=1A		10	15	nC
Q_{gs}	Gate Source Charge			2.3		nC
Q_{gd}	Gate Drain Charge			3		nC
$t_{d(on)}$	Turn-On Delay Time	V_{GS}=4.5V, V_{DS}=10V, R_{GEN}=6Ω I_D=1A		10	20	ns
$t_{d(off)}$	Turn-Off Delay Time			11	25	ns
$t_{d(r)}$	Turn-On Rise Time			35	70	ns
$t_{d(f)}$	Turn-Off Fall Time			30	60	ns

Package Outline Dimension

SOT-23



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°

Notes

1. All dimensions are in millimeters.
2. Tolerance ±0.10mm (4 mil) unless otherwise specified.
3. Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 6 mils.
4. Dimension L is measured in gauge plane.