

Product Summary

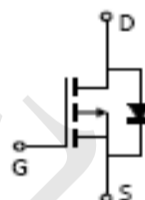
- $R_{DS(ON)}$, $V_{GS}@-10V$, $I_D@-3.0A < 95m\Omega$
- $R_{DS(ON)}$, $V_{GS}@-4.5V$, $I_D@-2.6A < 128m\Omega$

Application

- Load/Power Switching
- Interfacing Switching
- Logic Level Shift

Package and Pin Configuration

SOT-23



Circuit diagram

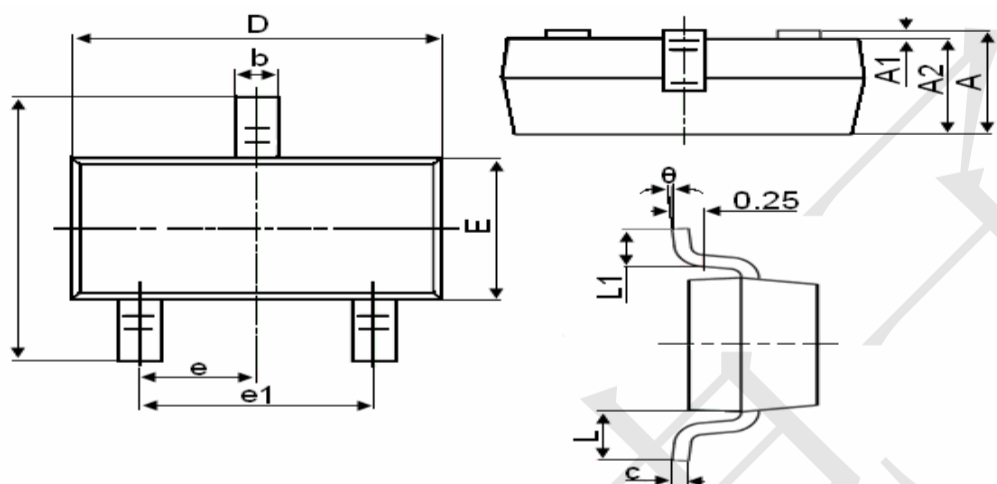
Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V _{DS}	-40	V
Gate-Source Voltage		V _{GS}	±20	
Continuous Drain Current		I _D	-3.0	A
Pulsed Drain Current (Note 4)		I _{DM}	-12.4	
Power Dissipation	T _a =25°C	P _D	1.25	W
	Derate above 25°C		10	mW/°C
Operating Junction and Storage Temperature Range		T _J , T _{STG}	-55~150	°C
Typical Thermal Resistance		R _{θJA}	100	°C/W
- Junction to Ambient (Note 3)				

Electrical Characteristics ($T_J=25\text{ }^{\circ}\text{C}$, unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =-250uA	-40	-	-	V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250uA	-1.0	-1.5	-2.5	
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-3.1A	-		95	mΩ
		V _{GS} =-4.5V, I _D =-1.2A	-		128	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-40V, V _{GS} =0V	-	-	-1	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =+20V, V _{DS} =0V	-	-	+100	nA
Dynamic (Note 5)						
Total Gate Charge	Q _g	V _{DS} =-20V, I _D =-3.1A, V _{GS} =-4.5V (Note 1,2)	-	6	-	nC
Gate-Source Charge	Q _{gs}		-	1.6	-	
Gate-Drain Charge	Q _{gd}		-	2.3	-	
Input Capacitance	C _{iss}	V _{DS} =-20V, V _{GS} =0V, f=1.0MHZ	-	505	-	pF
Output Capacitance	C _{oss}		-	48	-	
Reverse Transfer Capacitance	C _{rss}		-	33	-	
Turn-On Delay Time	td _(on)	V _{DD} =-20V, I _D =-2.5A, V _{GS} =-10V, R _G =1Ω (Note 1,2)	-	6	-	ns
Turn-On Rise Time	tr		-	35	-	
Turn-Off Delay Time	td _(off)		-	18	-	
Turn-Off Fall Time	tf		-	10	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I _s	---	-	-	-1.0	A
Diode Forward Voltage	V _{SD}	I _S =-1.0A, V _{GS} =0V	-	-0.82	-1.2	V
Reverse Recovery Time	trr	V _{GS} =0V, I _S =-2.5A	-	13	-	ns
Reverse Recovery Charge	Qrr	dI _F / dt=100A/us	-	8.7	-	nC

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°