



Product Summary

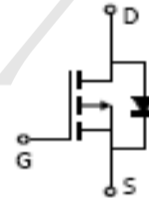
- $R_{DS(ON)}, V_{GS}@-10V, I_D@-3.0A < 95m\Omega$
- $R_{DS(ON)}, V_{GS}@-4.5V, I_D@-2.6A < 110m\Omega$

Application

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

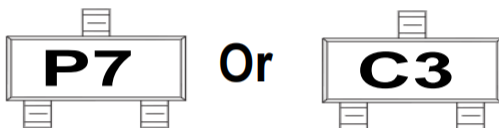
Package and Pin Configuration

SOT-23



Circuit diagram

Marking:



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

PARAMETER	SYMBOL	LIMIT	UNITS	
Drain-Source Voltage	$V_{DS}$	-40	V	
Gate-Source Voltage	$V_{GS}$	$\pm 20$		
Continuous Drain Current	$I_D$	-3.0	A	
Pulsed Drain Current (Note 4)	$I_{DM}$	-12.4		
Power Dissipation	$T_a=25^\circ C$	$P_D$	1.25	W
	Derate above $25^\circ C$		10	mW/ $^\circ C$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55~150	$^\circ C$	
Typical Thermal Resistance - Junction to Ambient (Note 3)	$R_{\theta JA}$	100	$^\circ C/W$	

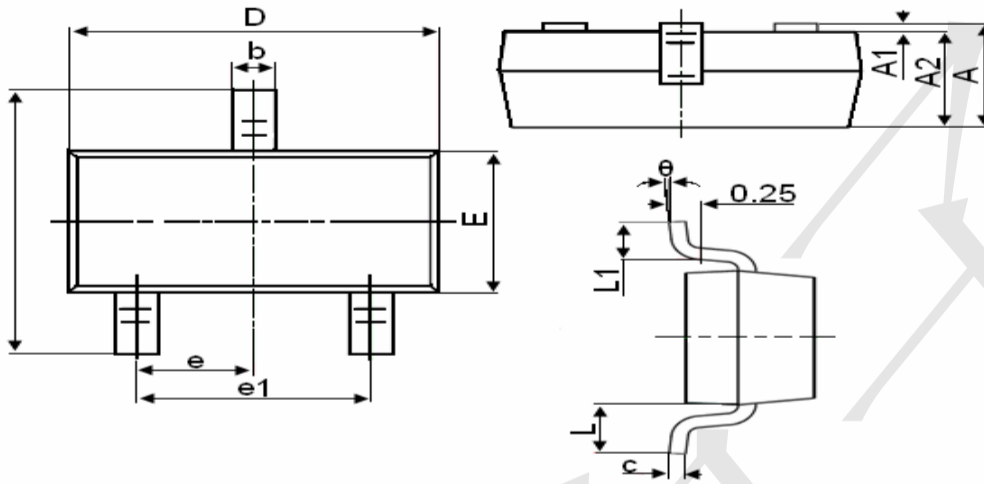


**Electrical Characteristics (T<sub>J</sub>=25 °C, unless otherwise noted)**

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
<b>Static</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =-250uA	-40	-	-	V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =-250uA	-1.0	-1.5	-2.5	
Drain-Source On-State Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =-10V, I <sub>D</sub> =-3.1A	-	-	95	mΩ
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-2.6A	-	-	110	
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-40V, V <sub>GS</sub> =0V	-	-	-1	uA
Gate-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V	-	-	±100	nA
<b>Dynamic</b> <sup>(Note 5)</sup>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =-20V, I <sub>D</sub> =-3.1A, V <sub>GS</sub> =-4.5V <sup>(Note 1,2)</sup>	-	6	-	nC
Gate-Source Charge	Q <sub>gs</sub>		-	1.6	-	
Gate-Drain Charge	Q <sub>gd</sub>		-	2.3	-	
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-20V, V <sub>GS</sub> =0V, f=1.0MHZ	-	505	-	pF
Output Capacitance	C <sub>oss</sub>		-	48	-	
Reverse Transfer Capacitance	C <sub>rss</sub>		-	33	-	
Turn-On Delay Time	td <sub>(on)</sub>	V <sub>DD</sub> =-20V, I <sub>D</sub> =-2.5A, V <sub>GS</sub> =-10V, R <sub>G</sub> =1Ω <sup>(Note 1,2)</sup>	-	6	-	ns
Turn-On Rise Time	tr		-	35	-	
Turn-Off Delay Time	td <sub>(off)</sub>		-	18	-	
Turn-Off Fall Time	tf		-	10	-	
<b>Drain-Source Diode</b>						
Maximum Continuous Drain-Source Diode Forward Current	I <sub>S</sub>	---	-	-	-1.0	A
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-1.0A, V <sub>GS</sub> =0V	-	-0.82	-1.2	V
Reverse Recovery Time	trr	V <sub>GS</sub> =0V, I <sub>S</sub> =-2.5A	-	13	-	ns
Reverse Recovery Charge	Q <sub>rr</sub>	di <sub>F</sub> / 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
$\theta$	0°	8°

Marking:

