

### Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
-20V	42mΩ@-4.5V	-5.4A
	55mΩ@-2.5V	
	75mΩ@-1.8V	

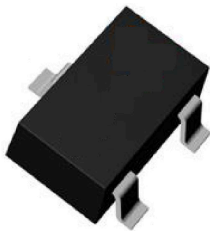
### Feature

- Advanced trench process technology
- High density cell design for ultra low on-resistance

### Application

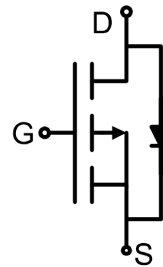
- Load Switch for Portable Devices
- DC/DC Converter

### Package

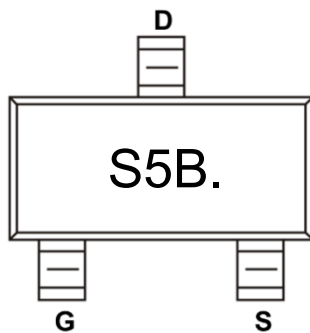


SOT-23

### Circuit diagram



### Marking



### Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-20	V
Gate-Source Voltage	$V_{GS}$	$\pm 10$	V
Continuous Drain Current	$I_D$	-5.4	A
Pulsed Drain Current	$I_{DM}$	-22	A
Power Dissipation	$P_D$	1.2	W
Junction Temperature	$T_J$	150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 ~ +150	$^{\circ}C$

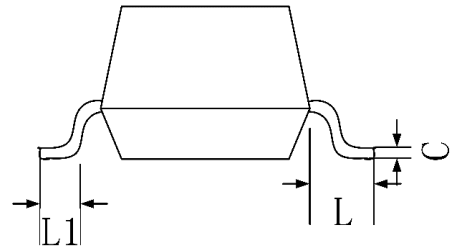
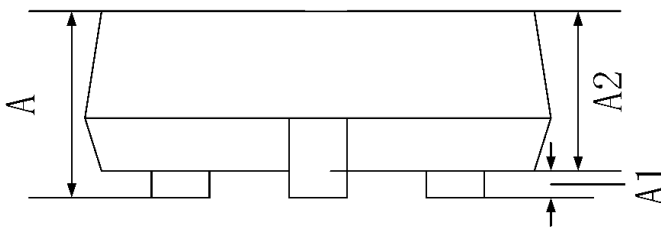
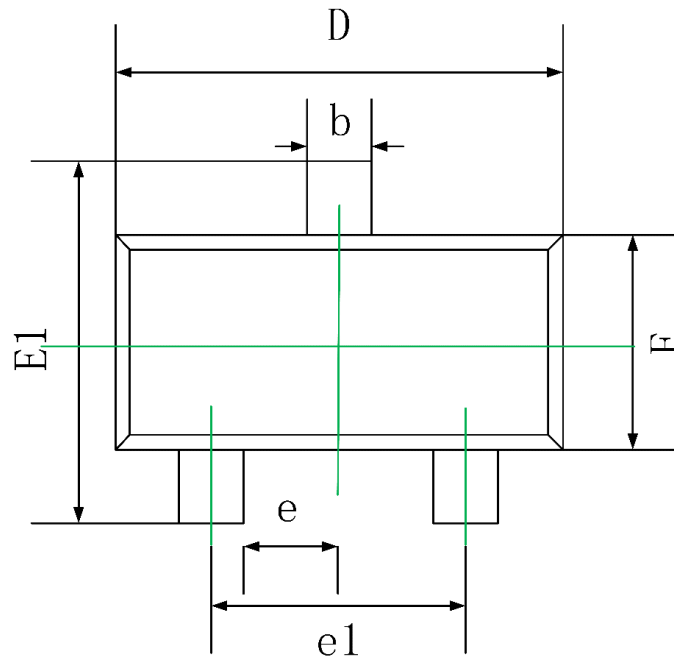
### Electrical characteristics ( $T_A=25^{\circ}C$ , unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -20V, V_{GS} = 0V$			-1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 10V, V_{DS} = 0V$			$\pm 100$	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4		-1.0	V
Drain-source on-resistance <sup>1)</sup>	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -5.4A$			42	m $\Omega$
		$V_{GS} = -2.5V, I_D = -4.0A$			55	
		$V_{GS} = -1.8V, I_D = -3.0A$			75	
<b>Dynamic characteristics<sup>2)</sup></b>						
Input Capacitance	$C_{iss}$	$V_{DS} = -10V, V_{GS} = 0V, f = 1MHz$		830		pF
Output Capacitance	$C_{oss}$			132		
Reverse Transfer Capacitance	$C_{rss}$			85		
Total Gate Charge	$Q_g$	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -4A$		7.2		nC
Gate-Source Charge	$Q_{gs}$			1.2		
Gate-Drain Charge	$Q_{gd}$			1.6		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -10V, V_{GS} = -4.5V, R_{GEN} = 3\Omega, R_L = 2.5\Omega$		15		nS
Turn-on rise time	$t_r$			63		
Turn-off delay time	$t_{d(off)}$			21		
Turn-off fall time	$t_f$			12		
<b>Source-Drain Diode characteristics</b>						
Diode Forward Current <sup>1)</sup>	$I_S$				-5.4	A
Diode Forward voltage	$V_{DS}$	$V_{GS} = 0V, I_S = -5.4A$			-1.2	V

Notes:

- 1) Pulse Test: Pulse Width < 300 $\mu s$ , Duty Cycle  $\leq 2\%$ .
- 2) Guaranteed by design, not subject to production testing.

### SOT-23 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020