

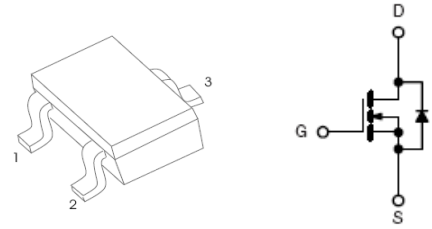
SOT-523 Plastic-Encapsulate MOSFETS

FEATURE

- TrenchFET Power MOSFET

APPLICATIONS

- Load Switch for Portable Devices
- DC/DC Converter
- MARKING: 2302**



SOT - 523

1. GATE 2. SOURCE 3. DRAIN

Maximum ratings ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 8	
Continuous Drain Current	I_D	2.1	A
Continuous Source-Drain Current(Diode Conduction)	I_S	0.6	
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient ($t \leq 5s$)	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Operating Junction	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~+150	

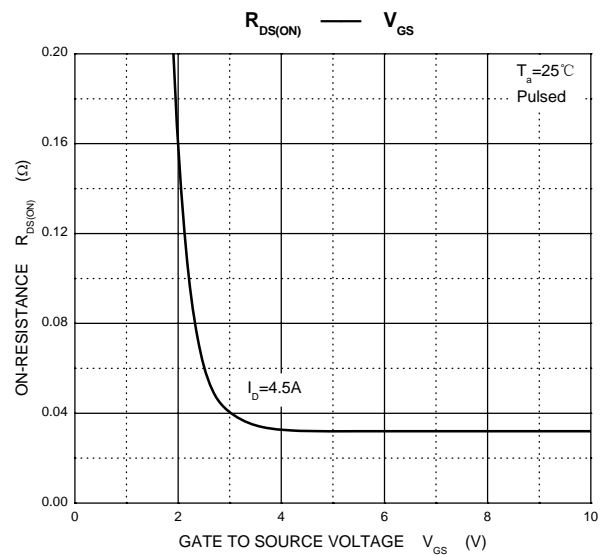
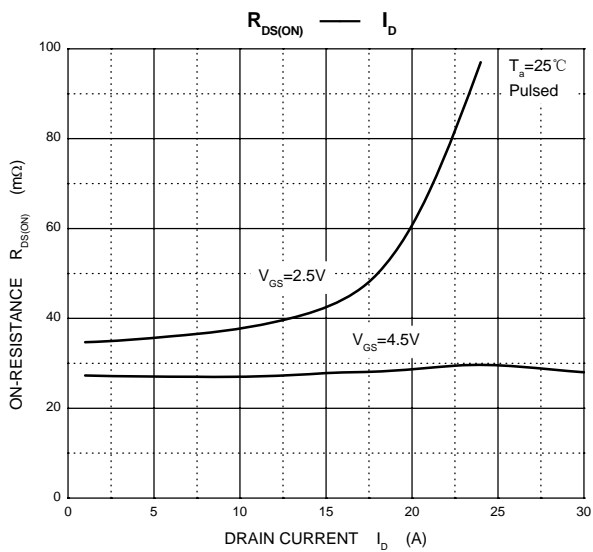
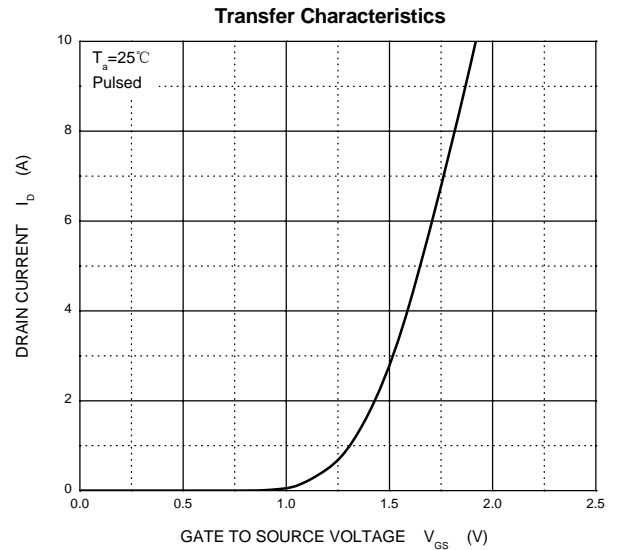
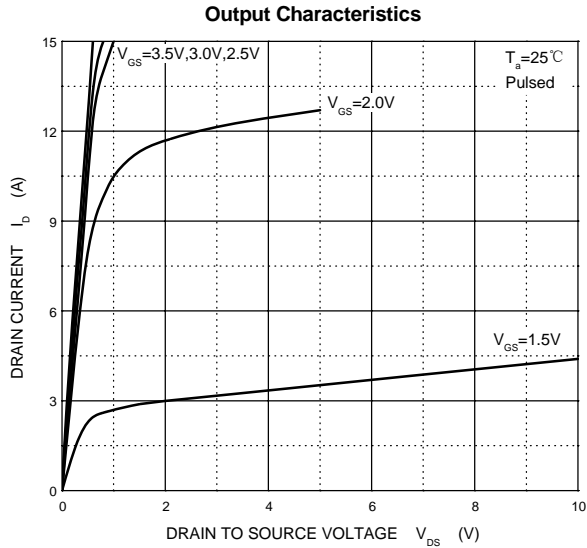
Electrical characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 10\mu A$	20			V
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 50\mu A$	0.65	0.95	1.2	
Gate-body leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 8V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$			1	μA
Drain-source on-resistance ^a	$r_{DS(on)}$	$V_{GS} = 4.5V, I_D = 2.0A$		0.045	0.060	Ω
		$V_{GS} = 2.5V, I_D = 1.0A$		0.070	0.115	
Forward transconductance ^a	g_{fs}	$V_{DS} = 5V, I_D = 2.0A$		8		S
Diode forward voltage	V_{SD}	$I_S = 0.94A, V_{GS} = 0V$		0.76	1.2	V

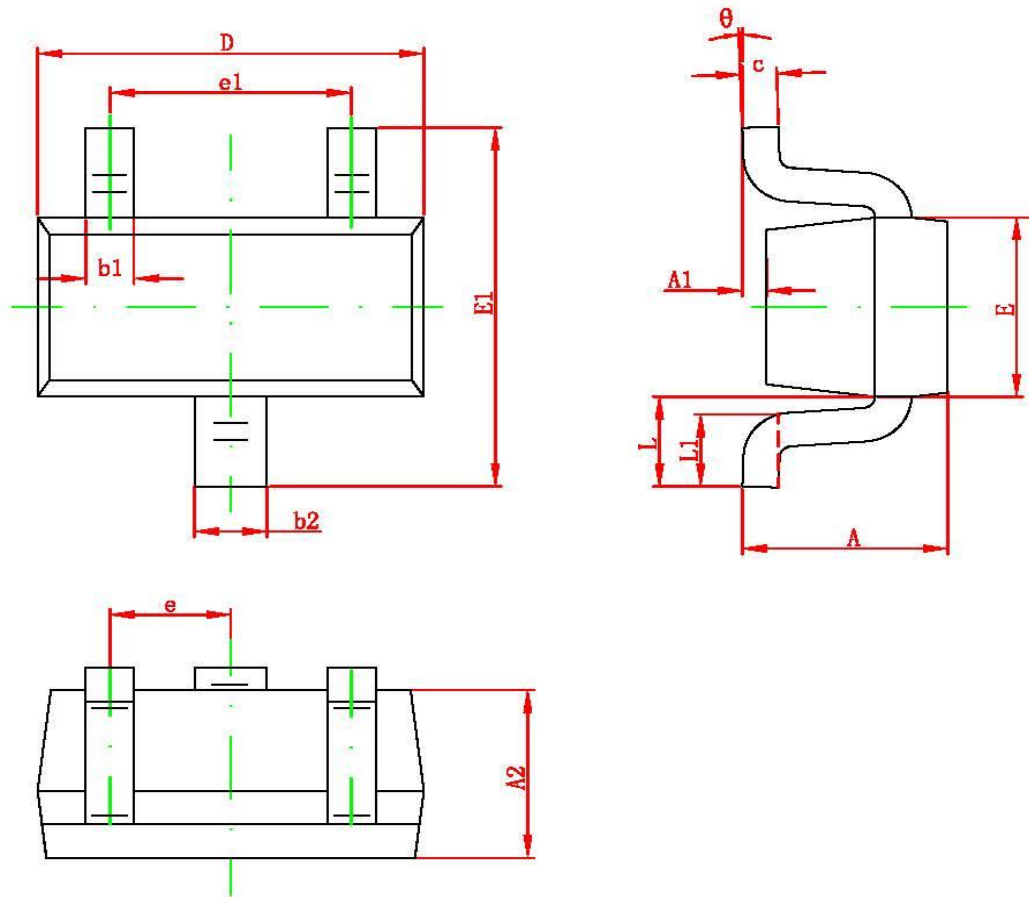
Notes :

- Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- These parameters have no way to verify.

Typical Characteristics



SOT-523 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

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