

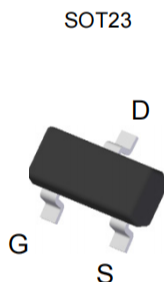
## Product Summary

- $V_{DS} = 20V$  ,  $I_D = 5.5A$   
 $R_{DS(ON)} < 25m\Omega$  @  $V_{GS} = 4.5V$

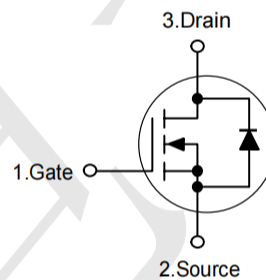
## Application

- Load Switch for Portable Devices
- DC/DC Converter

## Package and Pin Configuration



## Circuit diagram



## Marking: A0D

## Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	±8	V
Drain Current-Continuous	$I_D$	5.5	A
Drain Current-Pulsed <sup>Note1</sup>	$I_{DM}$	18	A
Maximum Power Dissipation	$P_D$	1	W
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

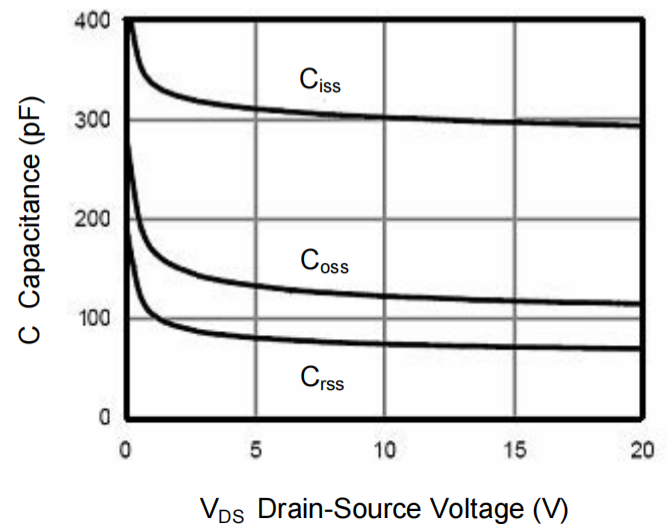
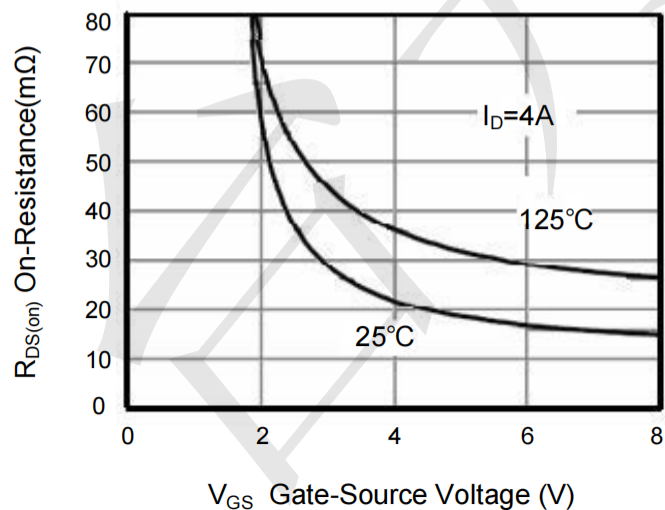
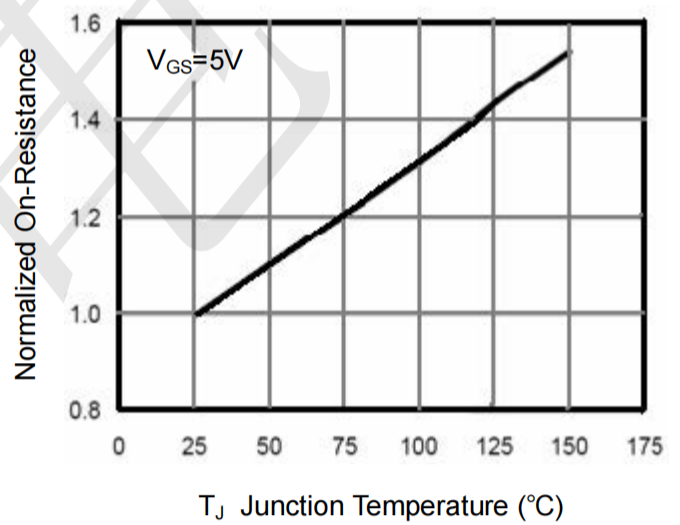
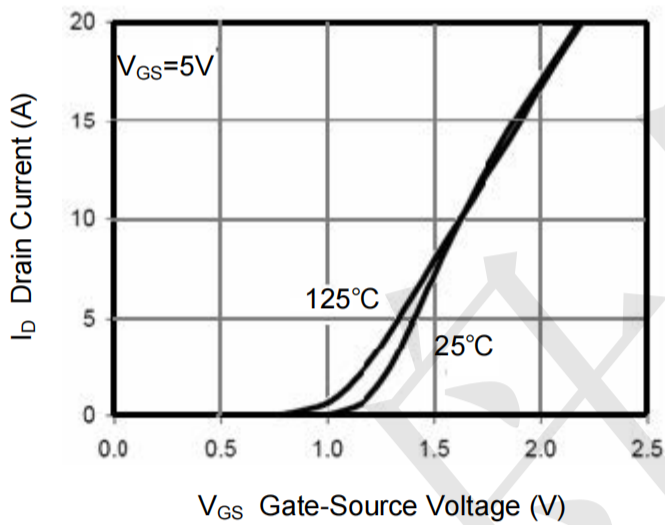
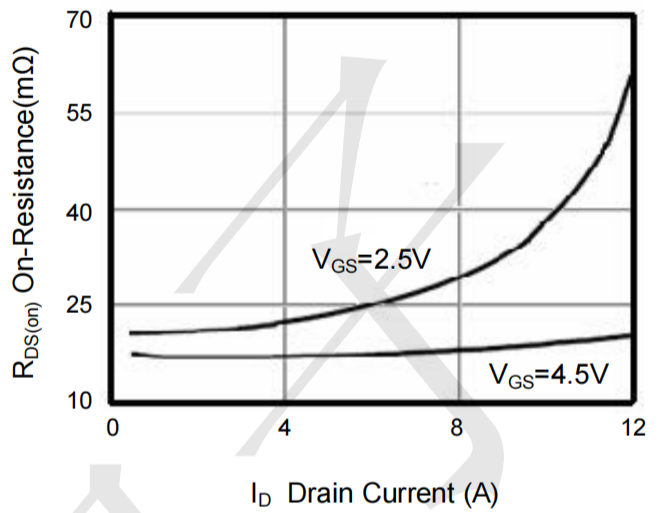
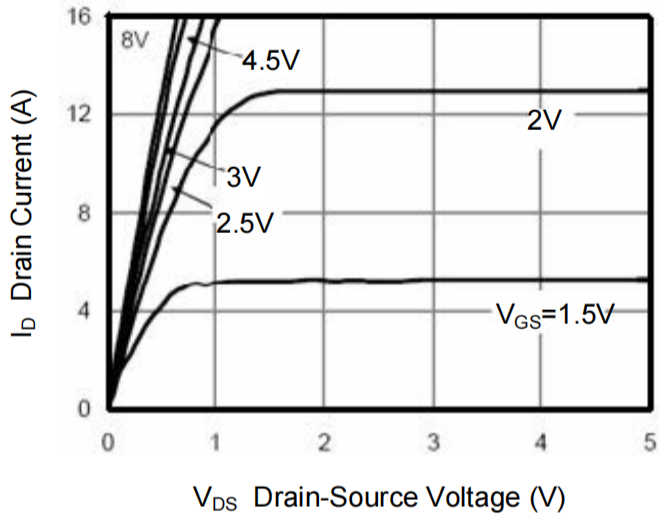
## Thermal Characteristics

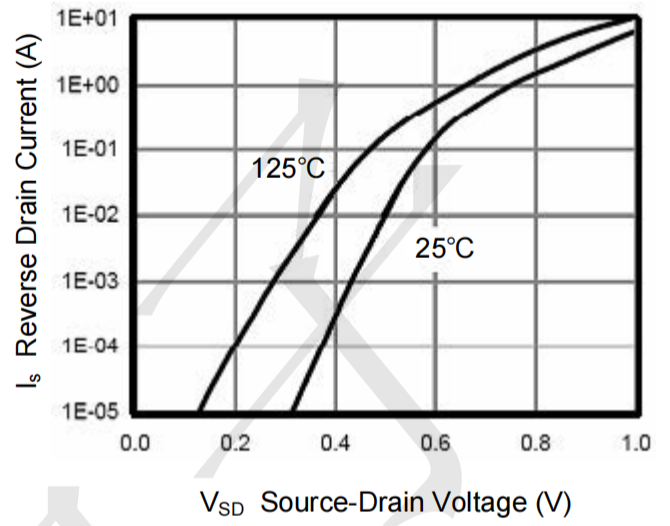
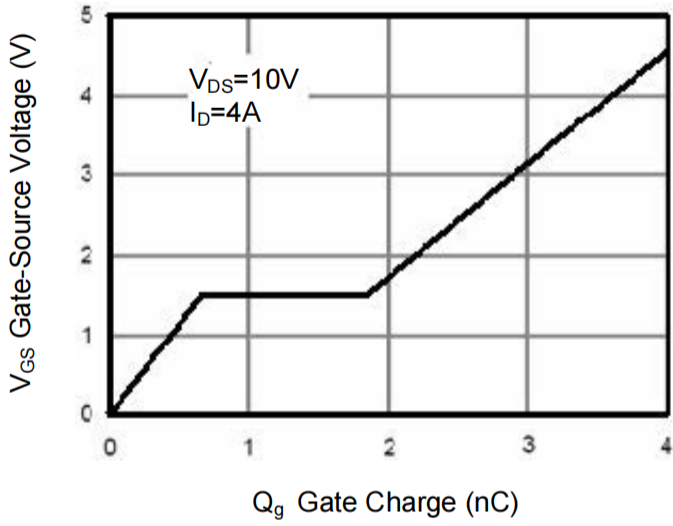
Thermal Resistance, Junction-to-Ambient <sup>Note2</sup>	$R_{\theta JA}$	125	°C/W
--	-----------------	-----	------

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

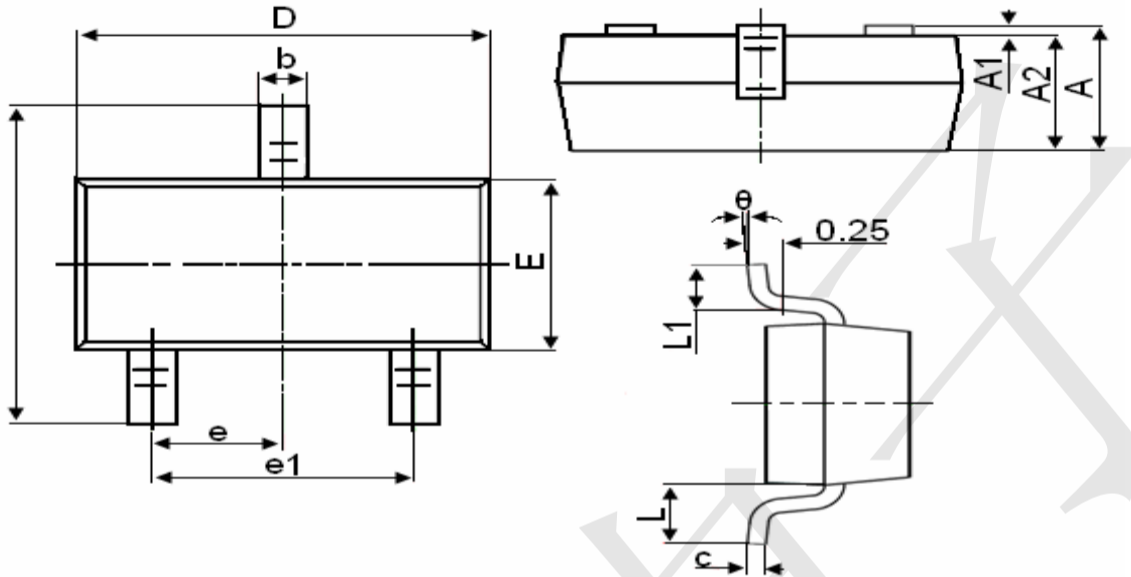
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20	--	--	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=20V, V_{GS}=0V$	--	--	1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 8V, V_{DS}=0V$	--	--	$\pm 100$	nA
Gate Threshold Voltage <sup>Note3</sup>	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.45	--	1	V
Drain-Source On-Resistance <sup>Note3</sup>	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=4A$			25	$m\Omega$
		$V_{GS}=2.5V, I_D=3A$			35	$m\Omega$
Forward Transconductance <sup>Note3</sup>	$g_{FS}$	$V_{DS}=5V, I_D=3A$	--	8	--	S
<b>Dynamic Characteristics</b>						
Input Capacitance	$C_{iss}$	$V_{DS}=10V, V_{GS}=0V, f=1MHz$	--	300	--	pF
Output Capacitance	$C_{oss}$		--	120	--	pF
Reverse Transfer Capacitance	$C_{rss}$		--	80	--	pF
<b>Switching Characteristics</b>						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=10V, V_{GS}=4.5V$ $I_D=3A, R_{GEN}=6\Omega$	--	10	--	nS
Turn-on Rise Time	$t_r$		--	50	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	17	--	nS
Turn-off Fall Time	$t_f$		--	10	--	nS
Total Gate Charge	$Q_g$	$V_{DS}=10V, V_{GS}=4.5V$ $I_D=4A$	--	4.0	--	nC
Gate-Source Charge	$Q_{gs}$		--	0.65	--	nC
Gate-Drain Charge	$Q_{gd}$		--	1.2	--	nC
<b>Source-Drain Diode Characteristics</b>						
Diode Forward Voltage <sup>Note3</sup>	$V_{SD}$	$V_{GS}=0V, I_S=5.5A$	--	--	1.2	V
Diode Forward Current <sup>Note2</sup>	$I_S$		--	--	5.5	A

## TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS





**Package Outline Dimensions (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°