

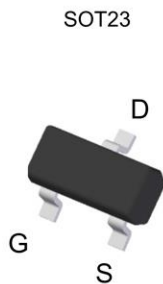
## Product Summary

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

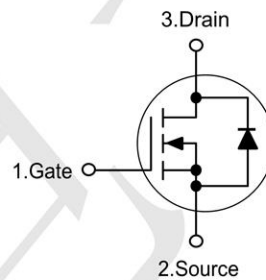
## Application

- 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

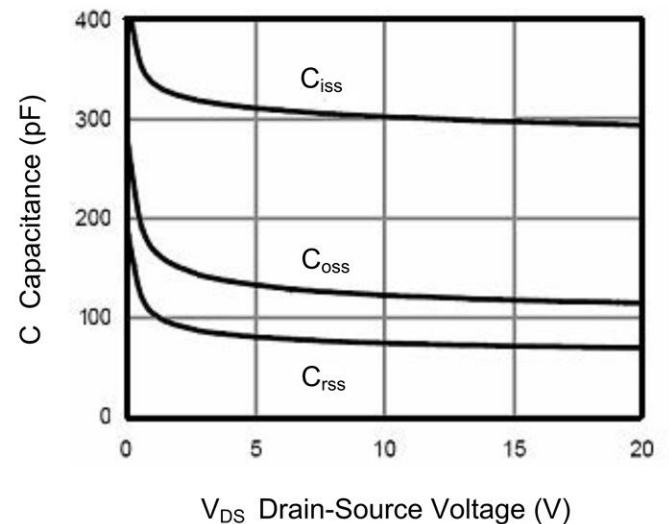
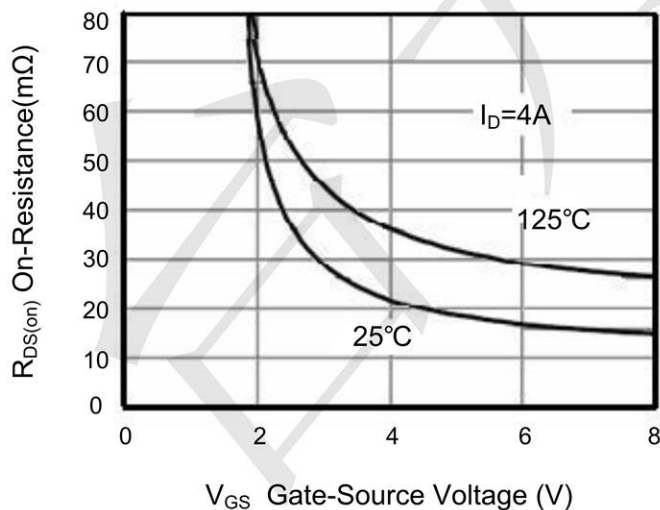
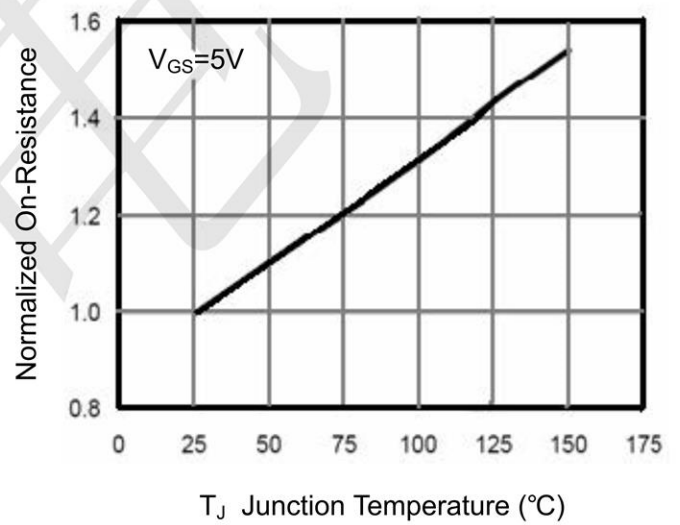
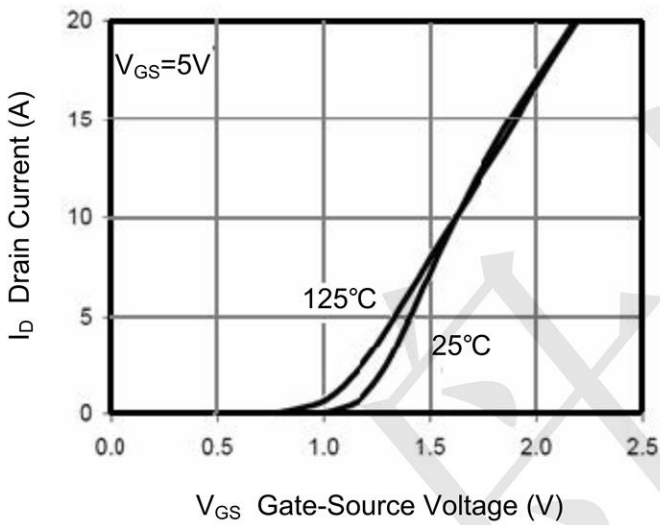
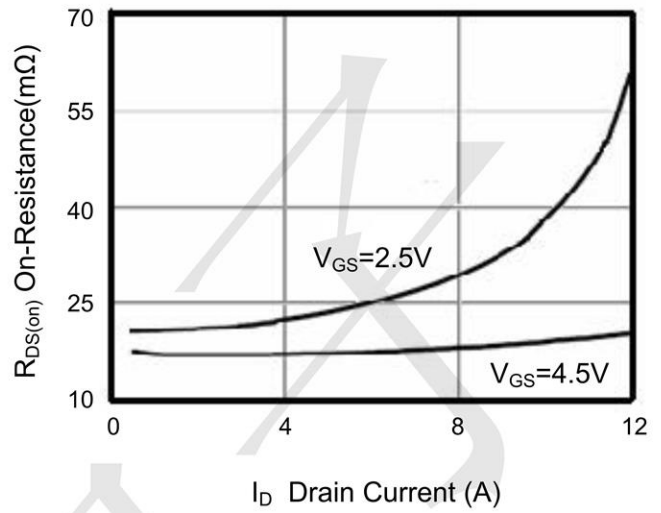
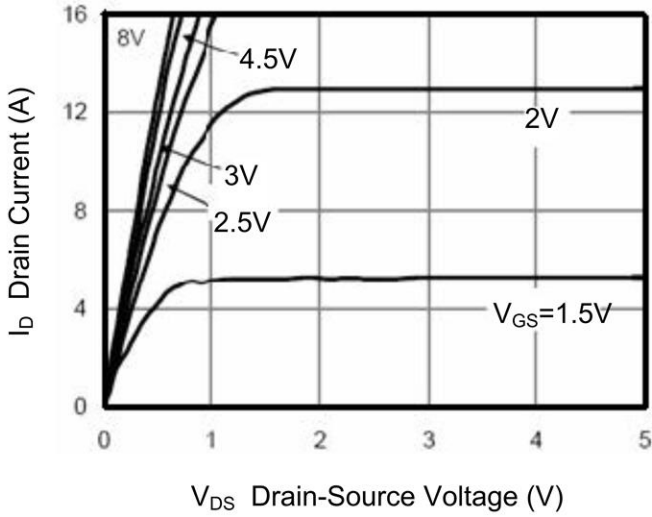
## Thermal Characteristics

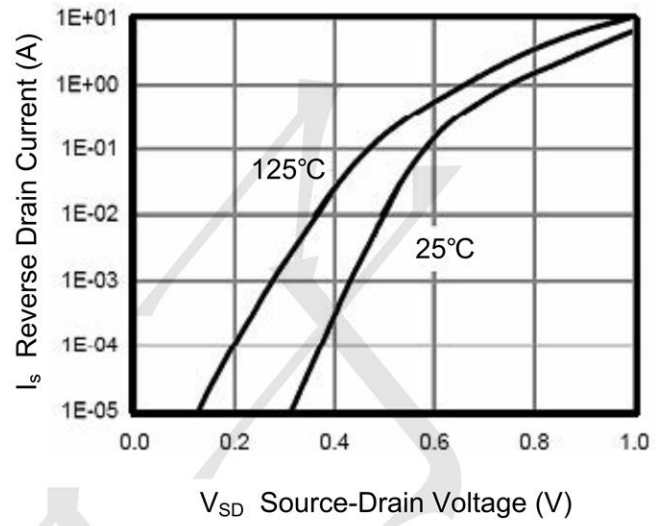
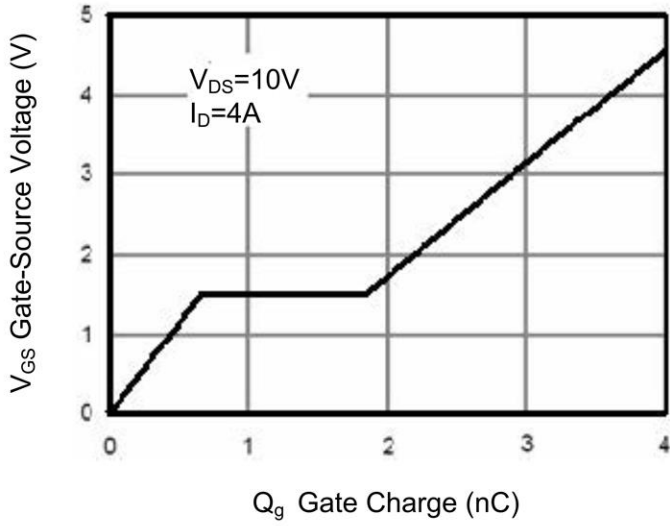
Thermal Resistance, Junction-to-Ambient <sup>Note2</sup>	$R_{\theta JA}$	125	°C/W
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### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

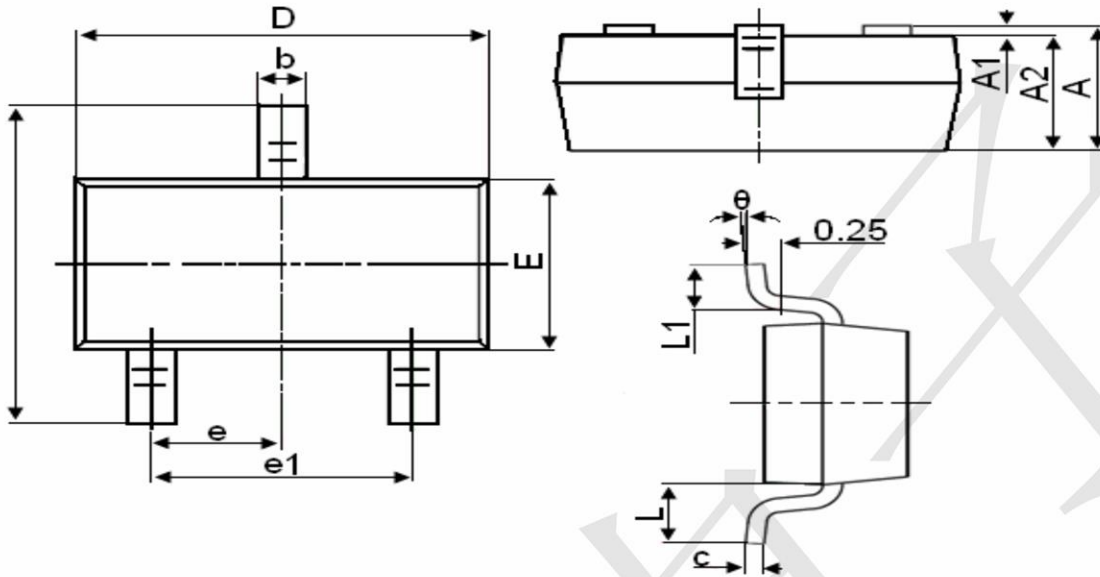
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA	20	--	--	V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =20V, V <sub>GS</sub> =0V	--	--	1	μA
Gate-Body Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±8V, V <sub>DS</sub> =0V	--	--	±100	nA
Gate Threshold Voltage <sup>Note3</sup>	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	0.45	--	1	V
Drain-Source On-Resistance <sup>Note3</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> =4.5V, I <sub>D</sub> =4A			25	mΩ
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =3A			35	mΩ
Forward Transconductance <sup>Note3</sup>	g <sub>FS</sub>	V <sub>DS</sub> =5V, I <sub>D</sub> =3A	--	8	--	S
<b>Dynamic Characteristics</b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=1MHz	--	300	--	pF
Output Capacitance	C <sub>oss</sub>		--	120	--	pF
Reverse Transfer Capacitance	C <sub>rss</sub>		--	80	--	pF
<b>Switching Characteristics</b>						
Turn-on Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> =10V, V <sub>GS</sub> =4.5V I <sub>D</sub> =3A, R <sub>GEN</sub> =6Ω	--	10	--	nS
Turn-on Rise Time	t <sub>r</sub>		--	50	--	nS
Turn-off Delay Time	t <sub>d(off)</sub>		--	17	--	nS
Turn-off Fall Time	t <sub>f</sub>		--	10	--	nS
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =4.5V I <sub>D</sub> =4A	--	4.0	--	nC
Gate-Source Charge	Q <sub>gs</sub>		--	0.65	--	nC
Gate-Drain Charge	Q <sub>gd</sub>		--	1.2	--	nC
<b>Source-Drain Diode Characteristics</b>						
Diode Forward Voltage <sup>Note3</sup>	V <sub>SD</sub>	V <sub>GS</sub> =0V, I <sub>S</sub> =5.5A	--	--	1.2	V
Diode Forward Current <sup>Note2</sup>	I <sub>S</sub>		--	--	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°