

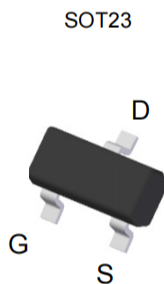
Product Summary

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

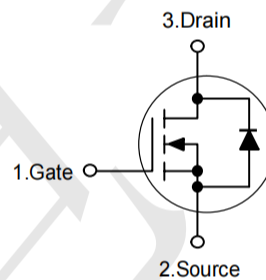
Application

- 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 ^{Note1}	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

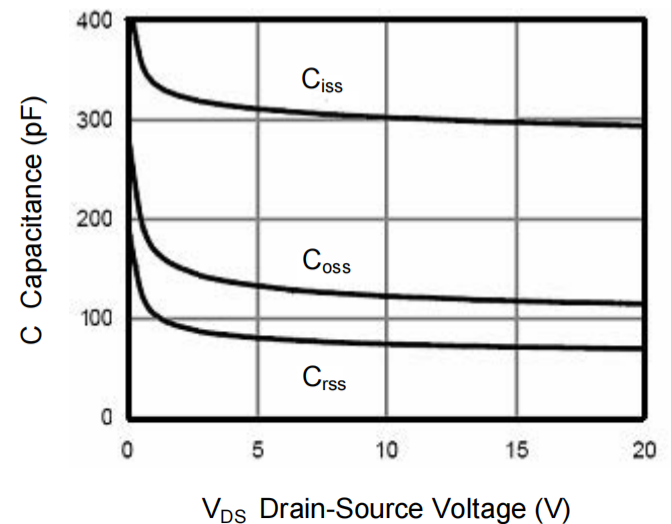
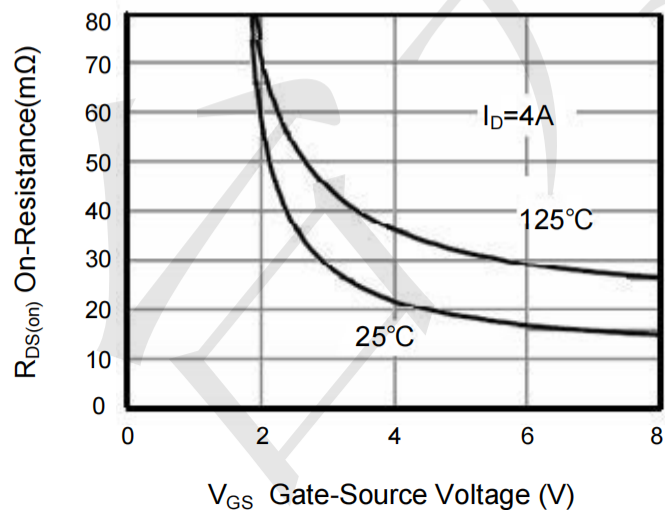
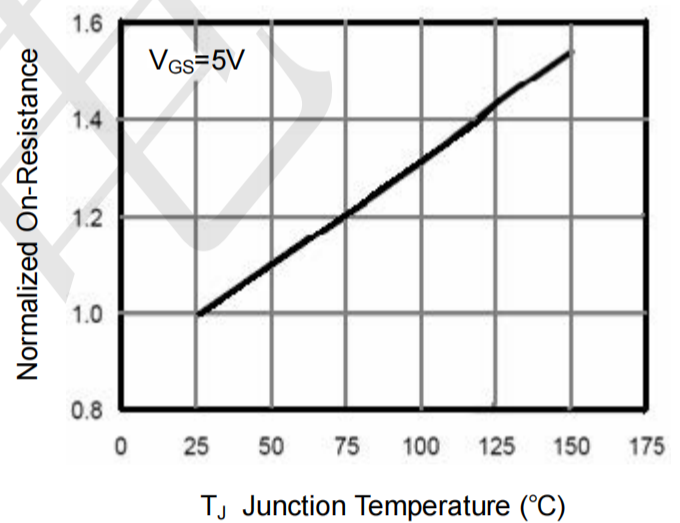
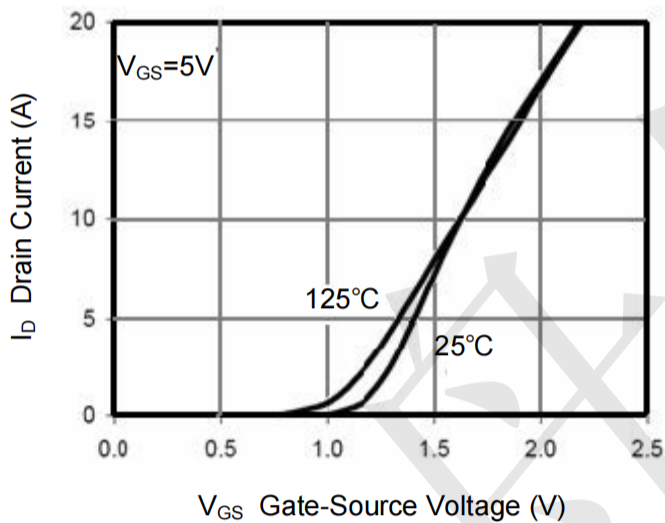
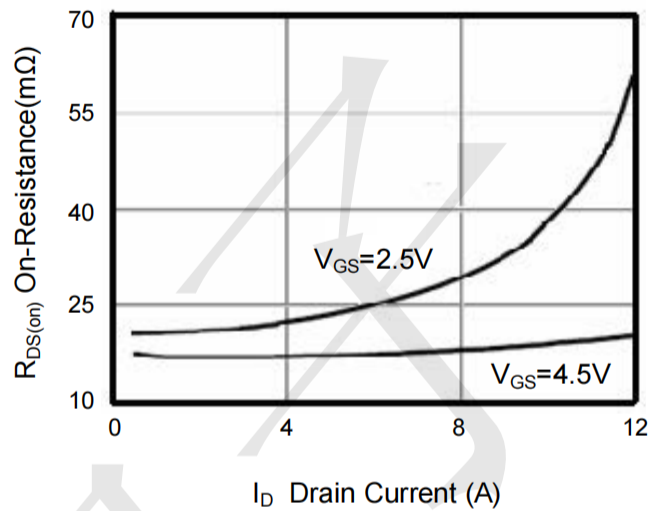
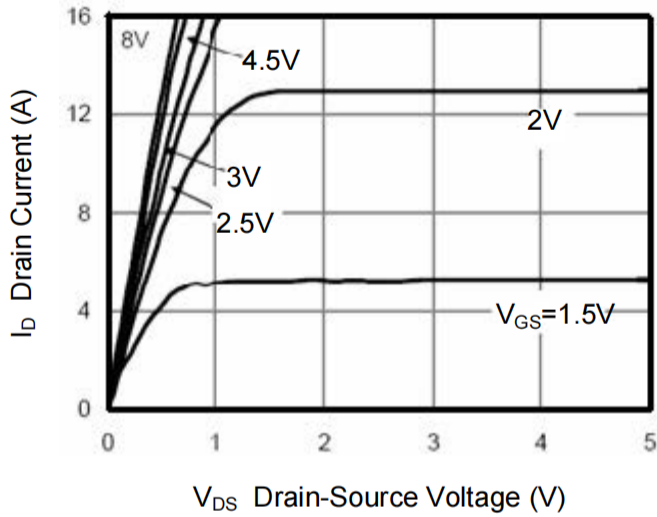
Thermal Characteristics

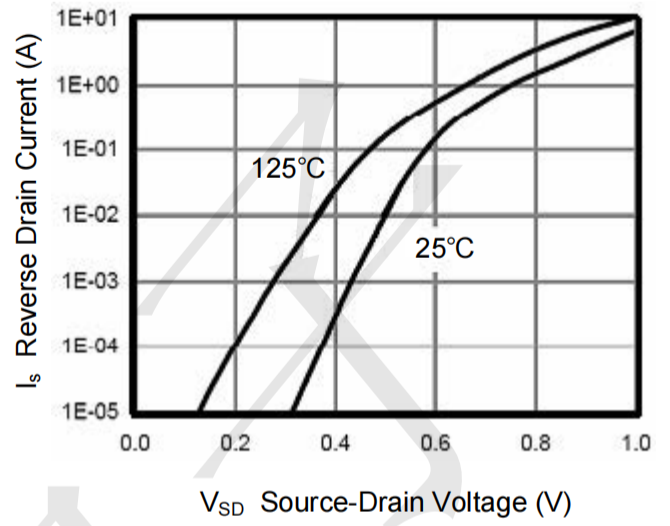
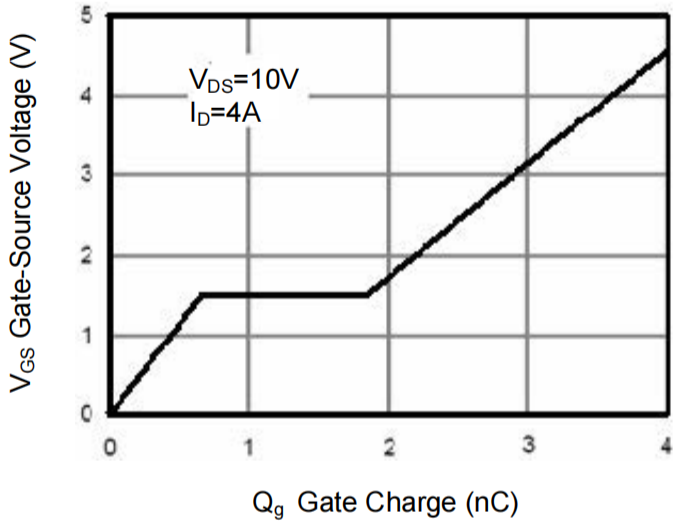
Thermal Resistance, Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	125	°C/W
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ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

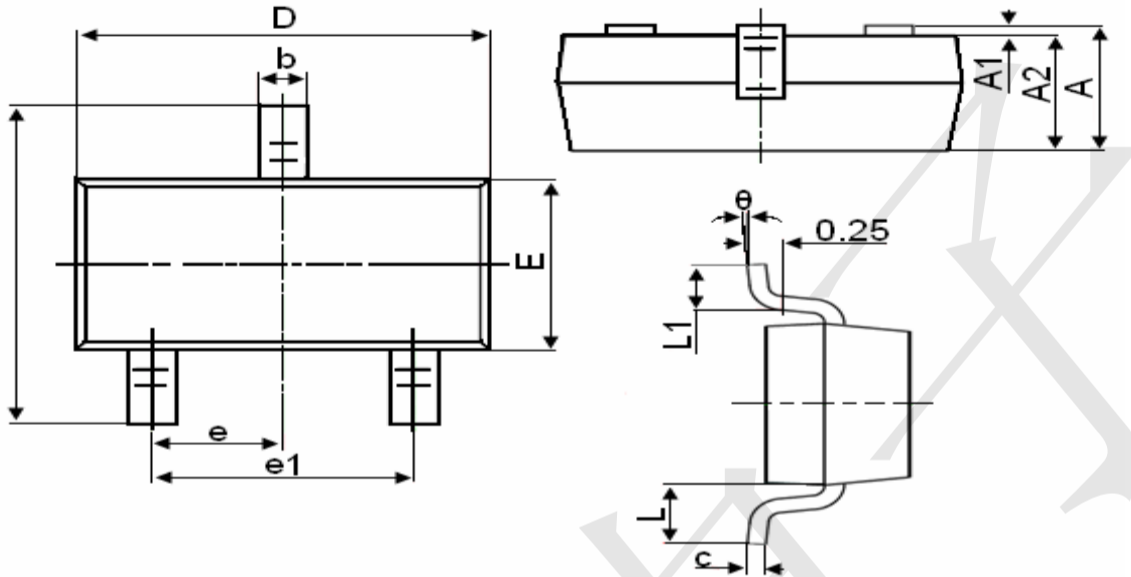
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	20	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0V	--	--	±100	nA
Gate Threshold Voltage ^{Note3}	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.45	--	1	V
Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	V _{GS} =4.5V, I _D =4A			25	mΩ
		V _{GS} =2.5V, I _D =3A			35	mΩ
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =5V, I _D =3A	--	8	--	S
Dynamic Characteristics						
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
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =10V, V _{GS} =4.5V I _D =3A, R _{GEN} =6Ω	--	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
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V _{SD}	V _{GS} =0V, I _S =5.5A	--	--	1.2	V
Diode Forward Current ^{Note2}	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°