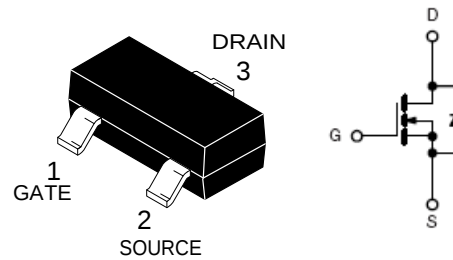


20V/2.1A N-Channel Advanced Power MOSFET

SOT-523

BVDSS	20.0	V
ID	2.1	A
RDSON@VGS=4.5V	55.0	mΩ
RDSON@VGS=2.5V	78.0	mΩ



APPLICATIONS

Load Switch for Portable Devices

DC/DC Converter

Order information

Device	Marking	Shipping
AM20AN021T	S2	3000/Tape&Reel

Maximum ratings (T_a=25°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≤5s)	R _{θJA}	357	°C/W
Operating Junction	T _J	150	°C
Storage Temperature	T _{STG}	-55 ~+150	

20V/2.1A N-Channel Advanced Power MOSFET

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

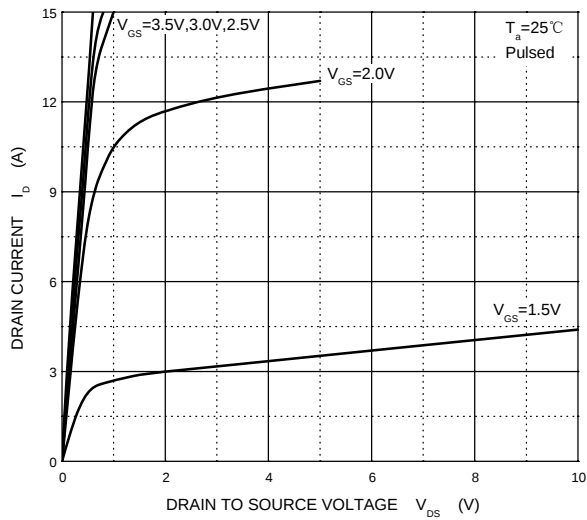
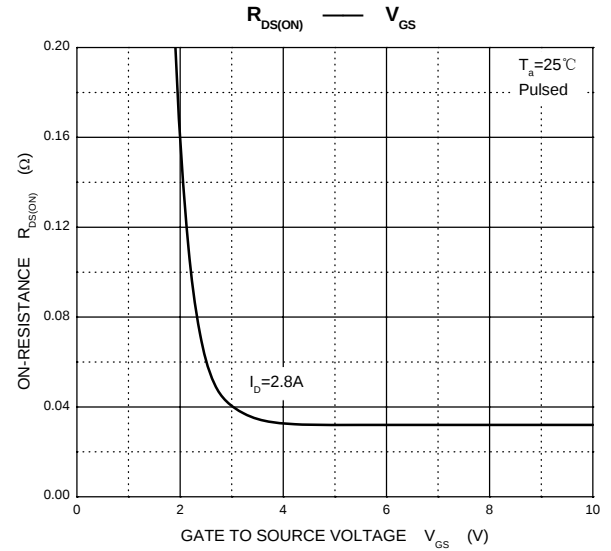
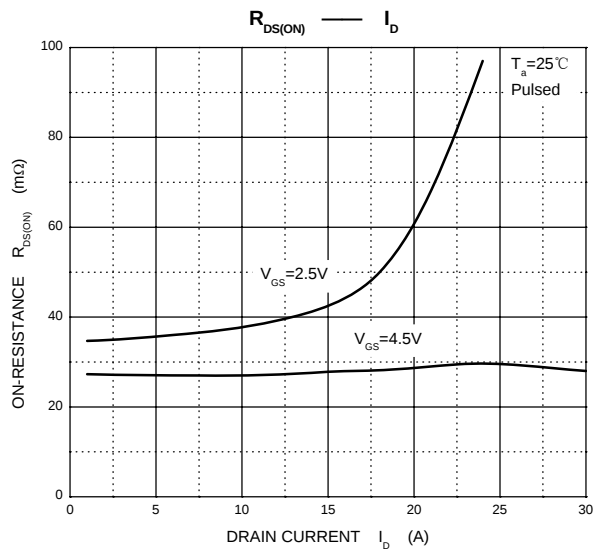
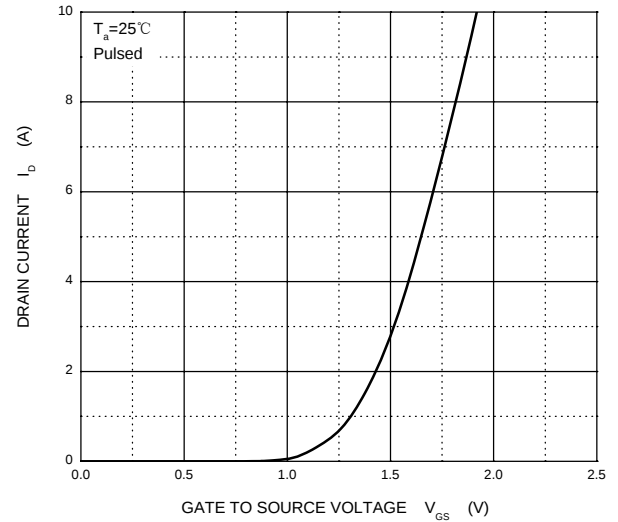
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =10μA	20			V
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =50μA	0.65	0.95	1.2	
Gate-body leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±100	nA
Zero gate voltage drain 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 =2.8A		0.055	0.080	Ω
		V _{GS} =2.5V, I _D =2.1A		0.078	0.125	
Forward transconductance ^a	g _{fs}	V _{DS} =5V, I _D =3.6A		8		S
Diode forward voltage	V _{SD}	I _S =0.94A,V _{GS} =0V		0.76	1.2	V
Dynamic						
Total gate charge	Q _g	V _{DS} =10V,V _{GS} =4.5V,I _D =3.6A		4.0	10	nC
Gate-source charge	Q _{gs}			0.65		
Gate-drain charge	Q _{gd}			1.5		
Input capacitance ^b	C _{iss}	V _{DS} =10V,V _{GS} =0V,f=1MHz		300		pF
Output capacitance ^b	C _{oss}			120		
Reverse transfer capacitance ^b	C _{rss}			80		
Switching ^b						
Turn-on delay time	t _{d(on)}	V _{DD} =10V, R _L =5.5Ω, I _D ≈3.6A, V _{GEN} =4.5V,R _g =6Ω		7	15	ns
Rise time	t _r			55	80	
Turn-off delay time	t _{d(off)}			16	60	
Fall time	t _f			10	25	

Notes :

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

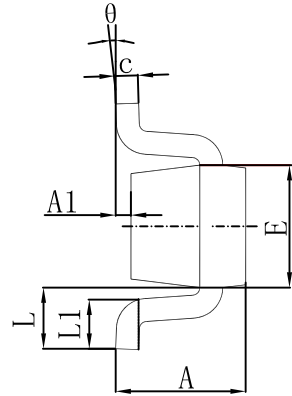
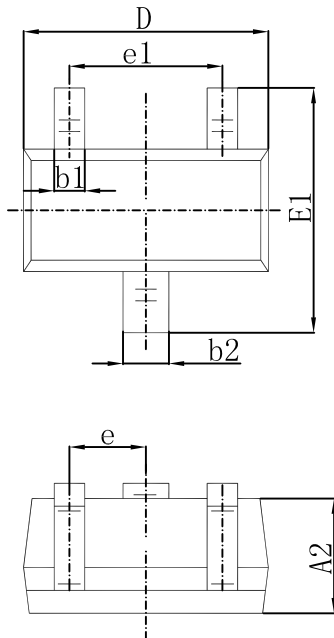
20V/2.1A N-Channel Advanced Power MOSFET

Typical Characteristics

Output Characteristics

Transfer Characteristics


20V/2.1A N-Channel Advanced Power MOSFET

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°

SOT-523 Suggested Pad Layout

