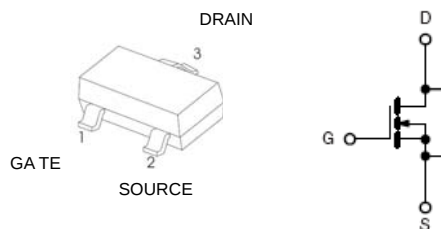


20V/2.8A N-Channel Advanced Power MOSFET

BVDSS	20	V
ID	2.8	A
RDSON@VGS=4.5V	45.0	mΩ
RDSON@VGS=2.5V	55.0	mΩ



FEATURE

TrenchFET Power MOSFET

SOT-23

APPLICATIONS

Load Switch for Portable Devices
DC/DC Converter

Order Information

Product	Package	Marking	Reel
M02N028D	SOT-23	A2SHB	3000PCS

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	2.8	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/2.8A N-Channel Advanced Power MOSFET

Electrical characteristics (T_a=25°C unless otherwise noted)

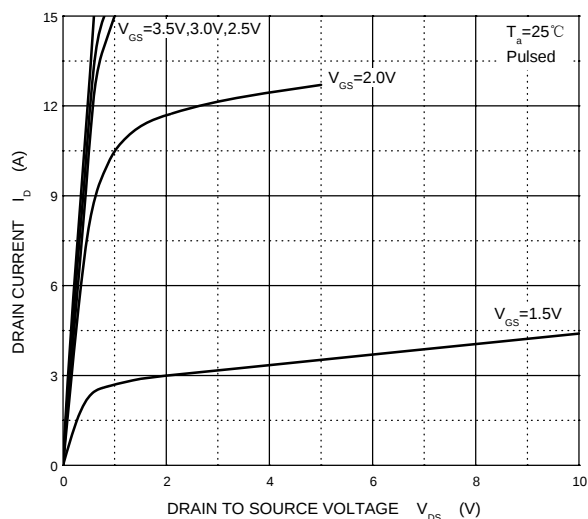
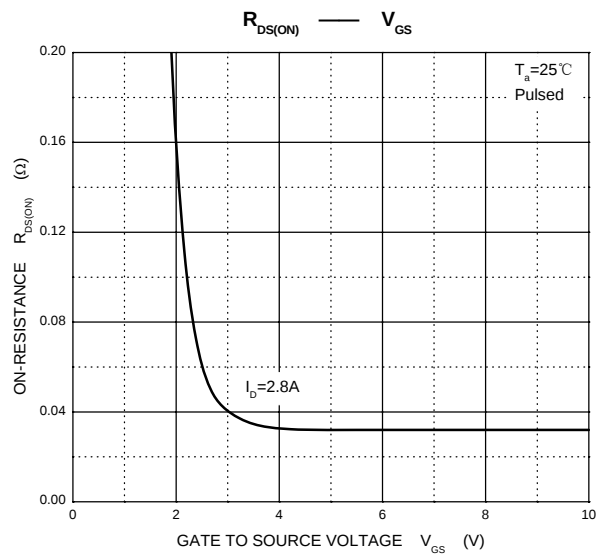
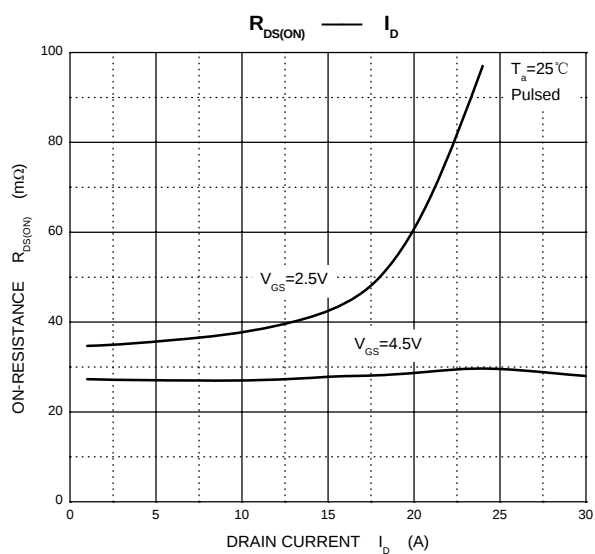
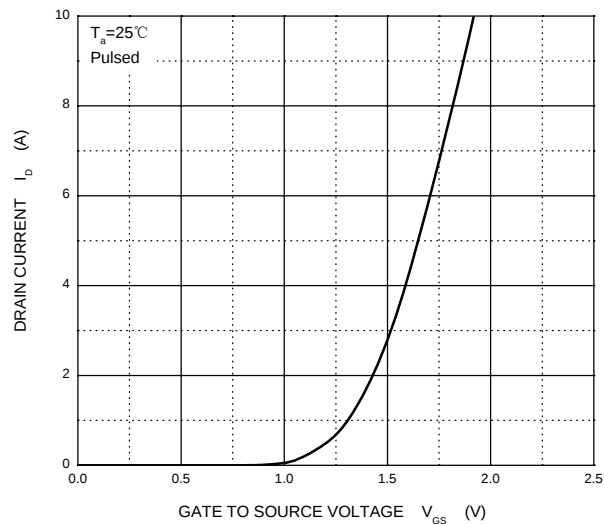
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =10μA	20			V
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D = 250uA	0.4	0.65	1.0	
Gate-body leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±100	nA
Zero gate voltage 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		0.045	0.060	Ω
		V _{GS} =2.5V, I _D =2.5A		0.055	0.075	
Forward transconductance ^a	g _{fs}	V _{DS} =5V, I _D =2.8A		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 =2.8A		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 ≈2.8A, 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 ≤ 300μs, duty cycle ≤ 2%.
- These parameters have no way to verify.

20V/2.8A N-Channel Advanced Power MOSFET

Typical Characteristics

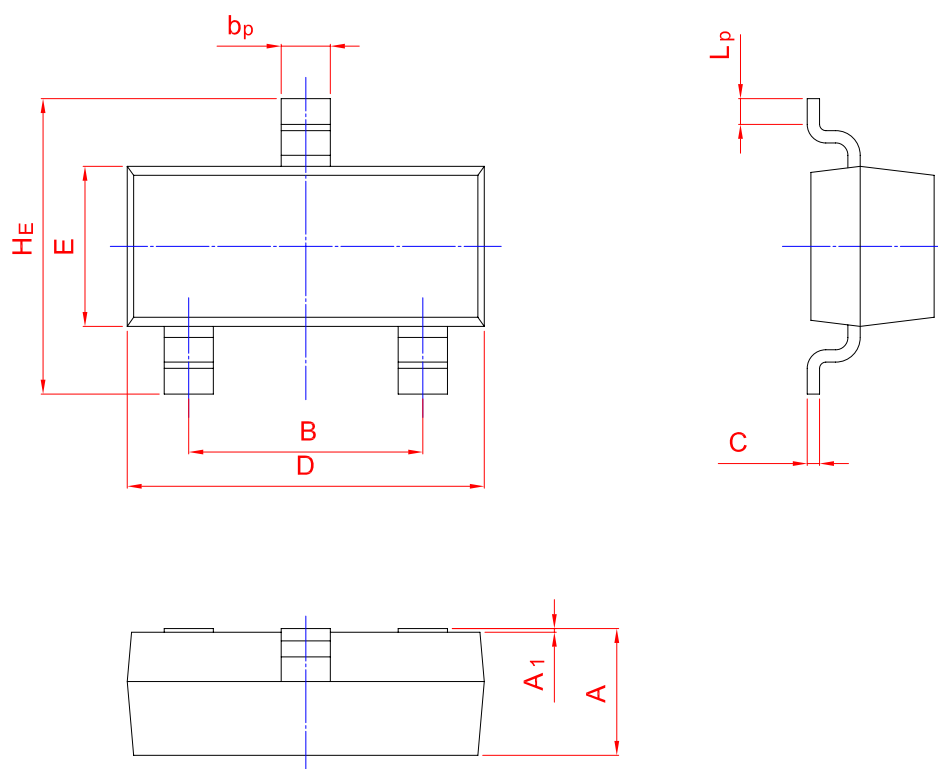
Output Characteristics

Transfer Characteristics


20V/2.8A N-Channel Advanced Power MOSFET

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b_p	C	D	E	H_E	A_1	L_p
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20