

Features

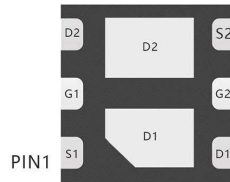
- Trench Power LV MOSFET technology
- High Power and current handling capability

Product Summary

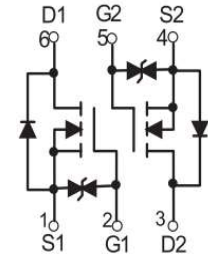
V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
12V	28mΩ@4.5V	4.5A
	33mΩ@2.5V	

Application

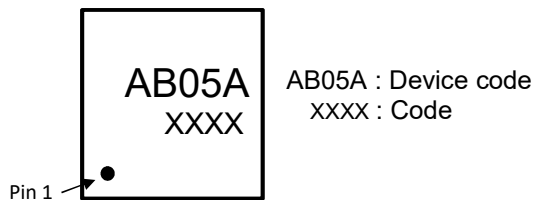
- Power management
- Portable equipment



DFN2X2-6L view



Schematic diagram



Marking and pin assignment



Halogen-Free

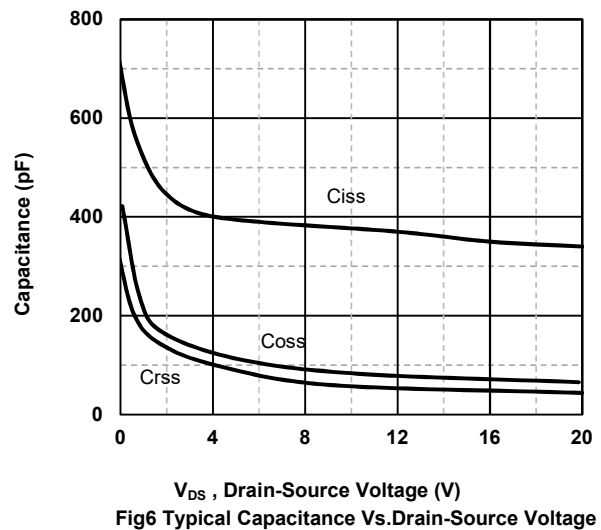
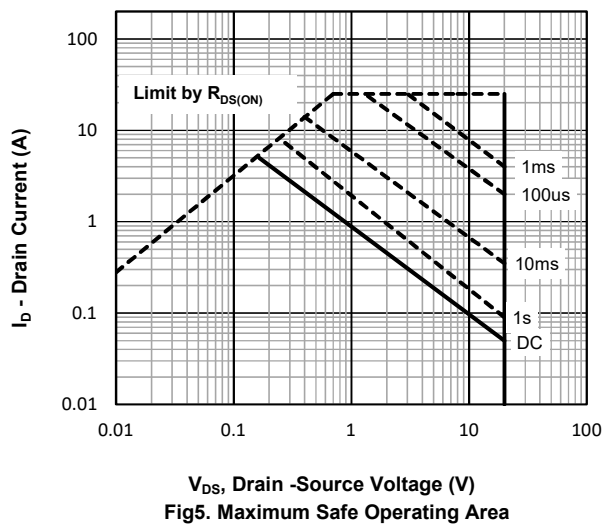
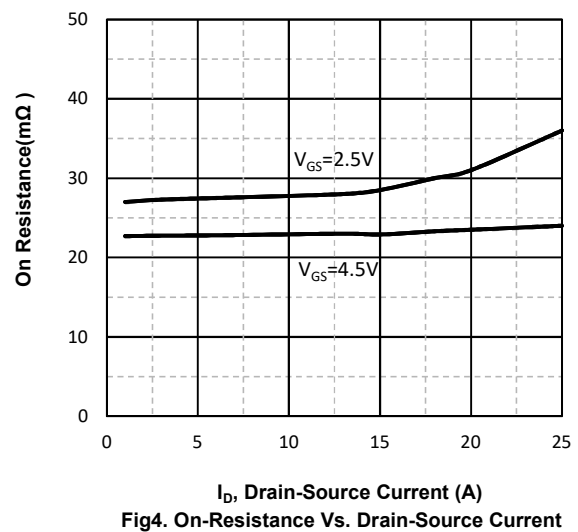
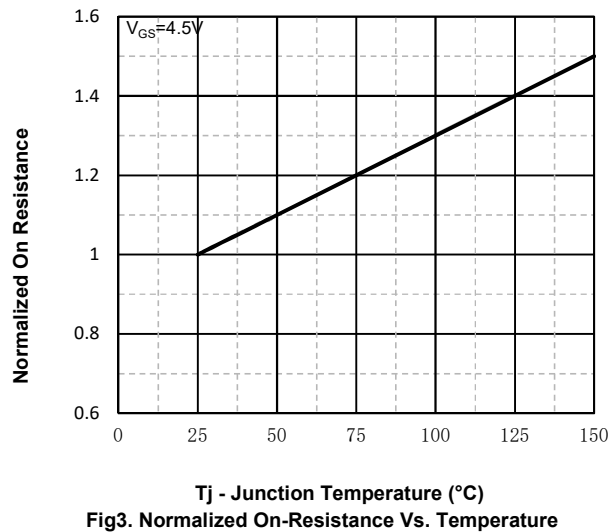
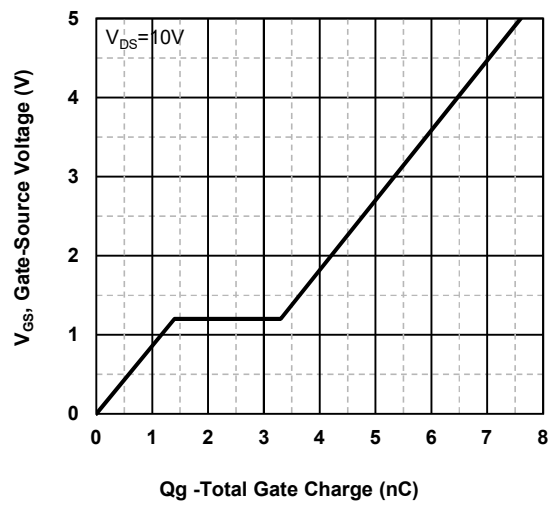
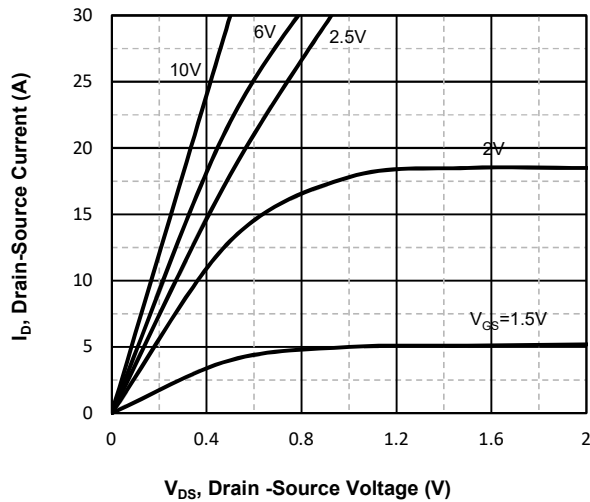
Absolute Maximum Ratings (TA=25°C unless otherwise noted)				
Symbol	Parameter		Rating	Unit
Common Ratings (TC=25°C Unless Otherwise Noted)				
V _{DS}	Drain-Source Breakdown Voltage		12	V
V _{GS}	Gate-Source Voltage		±8	V
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-50 to 150	°C
I _S	Diode Continuous Forward Current	Tc=25°C	4.5	A
Mounted on Large Heat Sink				
I _{DM}	Pulse Drain Current Tested	Tc=25°C	25	A
I _b	Continuous Drain Current	Tc=25°C	4.5	A
P _D	Maximum Power Dissipation	Tc=25°C	1.5	W
R _{θJA}	Thermal Resistance Junction-Ambient		325	°C/W

Ordering Information (Example)

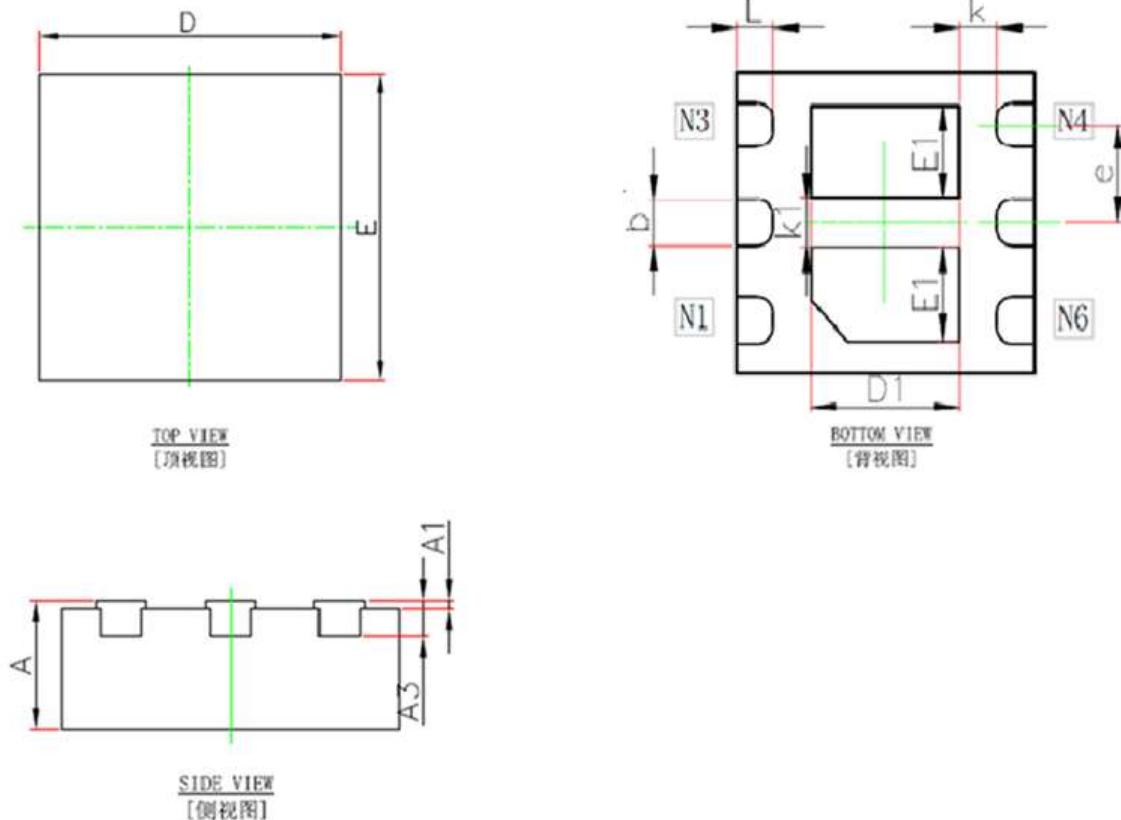
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MLSMAB05A	DFN2X2-6L	AB05A	3,000	45,000	180,000	7"reel

Electrical Characteristics (TJ=25°C unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	12	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =12V, V _{GS} =0V	--	--	1	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±8V, V _{DS} =0V	--	--	±10	μA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	0.4	0.7	1.0	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =4.5V, I _D =4.5A	--	23	28	mΩ
		V _{GS} =2.5V, I _D =4.0A	--	27	33	mΩ
Dynamic Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	--	378	--	pF
C _{OSS}	Output Capacitance		--	74	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	58	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =10V, I _D =4.5A, V _{GS} =4.5V	--	6.05	--	nC
Q _{gs}	Gate Source Charge		--	1.07	--	nC
Q _{gd}	Gate Drain Charge		--	1.95	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =10V, R _L =1Ω, V _{GS} =4.5V, R _G =3Ω	--	4.2	--	nS
t _r	Turn-on Rise Time		--	19.8	--	nS
t _{d(off)}	Turn-Off Delay Time		--	22.6	--	nS
t _f	Turn-Off Fall Time		--	23.2	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	Tj=25°C, Is=4.5A	--	--	1.2	V

Typical Operating Characteristics



DFN2X2-6L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.600	0.700	0.024	0.027
A1	0.000	0.050	0.000	0.001
A3	0.203REF		0.007REF	
b	0.230	0.330	0.009	0.012
D	1.924	2.076	0.075	0.081
E	1.924	2.076	0.075	0.081
e	0.650TYP		0.025TYP	
L	0.224	0.376	0.008	0.014
k	0.200	-	0.007	-
E1	0.520	0.720	0.020	0.028
D1	0.800	1.000	0.031	0.039
K1	0.320TYP		0.012TYP	