AS06ND03FL

Dual N-Channel Enhancement Mode MOSFET

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	27mΩ@10V	6A
	37mΩ@4.5V	

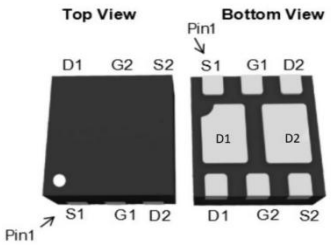
Feature

- Advanced trench technology
- Excellent $R_{DS(ON)}$ and low gate charge

Application

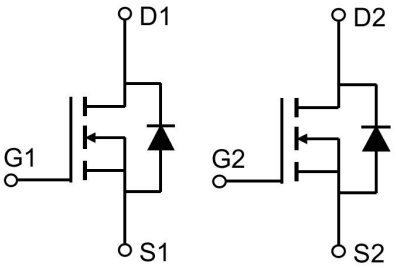
- PWM application
- Load switch
- Power management

Package

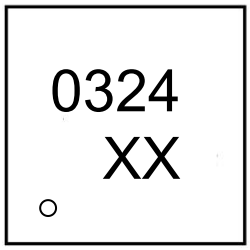


DFN2*2-6L

Circuit diagram



Marking



Absolute maximum ratings (T_J=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current (T_A=25℃)	I_D	6	A
Continuous Drain Current (T_A=100℃)	I_D(100℃)	3.6	A
Pulsed Drain Current[1]	I_{DM}	24	A
Power Dissipation (T_A=25℃)	P_D	1.7	W
Thermal Resistance,Junction-to-Ambient[2]	$R_{\theta JA}$	73.5	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

Electrical characteristics (T_J=25℃ 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	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =30V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1.0	1.5	2.2	V
Drain-source on-resistance[3]	$R_{DS(on)}$	V_{GS} =10V, I_D =2.5A		21	27	mΩ
		V_{GS} =4.5V, I_D =2A		28.5	37	
Dynamic characteristics[4]						
Input Capacitance	C_{iss}	V_{DS} =15V,V_{GS} =0V,f =1MHz		390		pF
Output Capacitance	C_{oss}			49		
Reverse Transfer Capacitance	C_{rss}			41		
Total Gate Charge	Q_g	V_{DS} =15V,V_{GS} =0 to 10V, I_D =3A		9.5		nC
Gate-Source Charge	Q_{gs}			1.2		
Gate-Drain Charge	Q_{gd}			1.8		
Turn-on delay time	$t_{d(on)}$	V_{DD}=15V,V_{GS}=10V, I_D=3A,R_{GEN}=3Ω		2		nS
Turn-on rise time	t_r			2.5		
Turn-off delay time	$t_{d(off)}$			10		
Turn-off fall time	t_f			2		
Source-Drain Diode characteristics						
Diode forward current	I_S				6	A
Pulse diode forward current	I_{SM}				24	A
Diode forward voltage	V_{SD}	V_{GS} =0V, I_S=2.5A			1.2	V

Notes:

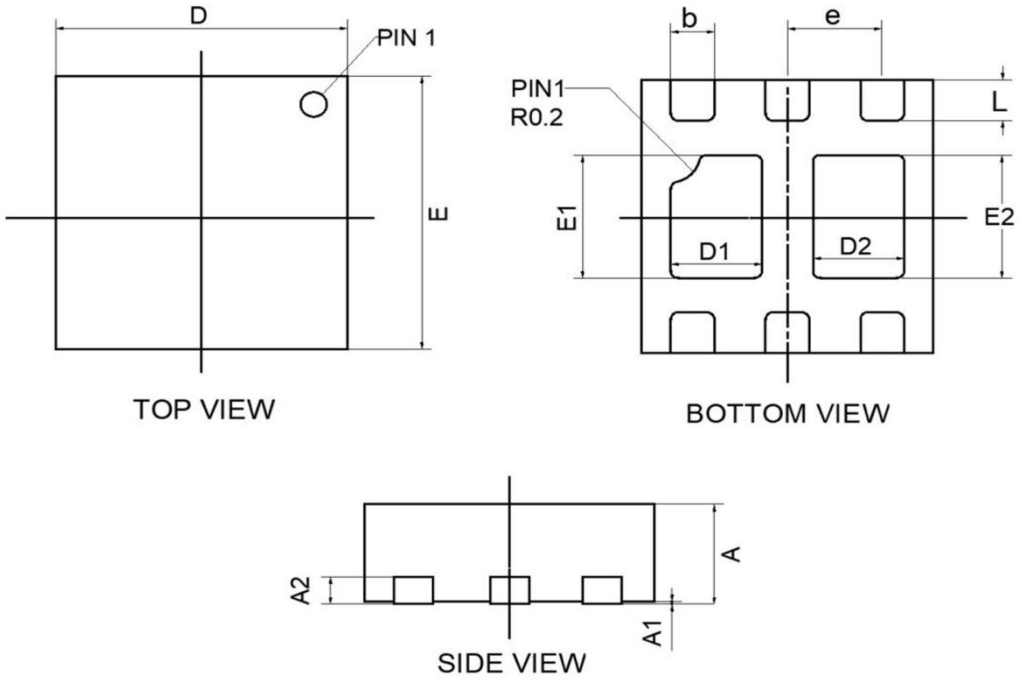
1) Repetitive Rating: Pulse width limited by maximum junction temperature

2) $R_{\theta JA}$ is measured with the device mounted on a 1inch^2 pad of 2oz copper FR4 PCB

3) Pulse Test:Pulse Width≤300us,Duty Cycle≤0.5%

4) Guaranteed by design, not subject to production.

DFN2*2-6L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	-	0.050	-	0.002
A2	0.180	0.250	0.007	0.010
b	0.250	0.350	0.010	0.014
D	1.950	2.050	0.077	0.081
D1	0.475	0.725	0.019	0.029
D2	0.475	0.725	0.019	0.029
E	1.950	2.050	0.077	0.081
E1	0.750	1.000	0.030	0.039
E2	0.750	1.000	0.030	0.039
e	0.650 BSC.		0.026 BSC.	
L	0.250	0.350	0.010	0.014
R	0.200 REF.		0.008 REF.	