LXP0320B
20V Dual P-Channel Enhancement Mode MOSFET

GENERAL FEATURES

- V_{DS}=-20V,I_D=-3A
- $R_{DS(on)}$(Typ.)=128mΩ@V_{GS}=-2.5V
- $R_{DS(on)}$(Typ.)=100mΩ@V_{GS}=-4.5V
- High power and current handing capability
- Lead free product is acquired
- Surface mount package

DESCRIPTION

The LXP0320B uses advanced trench technology to provide excellent RDS(on), low gate charge and high density cell Design for ultra low on-resistance. This device is suitable for use as a load switch or in PWM applications.

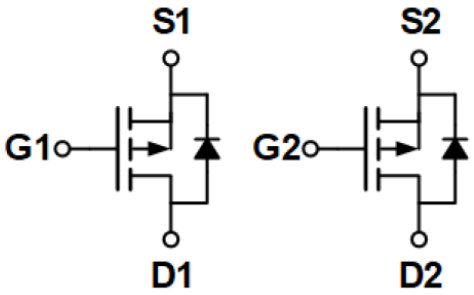
APPLICATION

- PWM applications
- Load switch

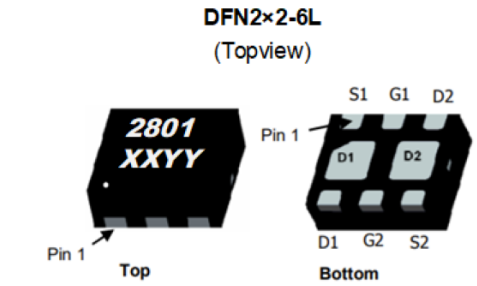
PACKAGE

- DFN2x2-6L

SCHEMATIC DIAGRAM



PIN ASSIGNMENT



Note: XXYY—Data Code

ORDERING INFORMATION

Part Number	Storage Temperature	Package	Marking	Devices Per Reel
LXP0320B	-55℃ to +150℃	DFN2x2-6L	2801/XXYY	3000

ABSOLUTE MAXIMUM RATINGS

(T_A=25℃ unless otherwise noted)

parameter		symbol	limit	limit
Drain-source voltage		V_{DS}	-20	V
Gate-source voltage		V_{GS}	±8	V
Continuous drain current (T_J= 150℃)a	T_A=25℃	I_D	-3	A
	T_A=70℃		-2.4	
Pulsed drain current [b]		I_{DM}	-12	A
Power dissipation [a]	T_A=25℃	P_D	1.5	W
	T_A=70℃		0.95	
Operating junction and storage temperature range		T_J,T_{STG}	-55~150	℃

THERMAL CHARACTERISTICS

Parameter		Symbol	Typ	Max	Unit
Maximum junction-to-ambient [a]	≤ 10s	$R_{\theta JA}$	28	36	℃/W
	Steady-State		58	75	
Maximum junction-to-foot	Steady-State	$R_{\theta JC}$	5.3	6.5	

Notes

a. surface mounted on FR4 board,t≤10sec

b. pulse test: pulse width≤300μs,duty≤2%

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
OFF Characteristics						
Drain-source breakdown voltage	BV_{DSS}	V_{GS}=0V,I_D=-250μA	-20	-	-	V
Zero gate voltage drain current	I_{DSS}	V_{DS}=-20V, V_{GS}=0V	-	-	-1	A
Gate-body leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±8V	-	-	±100	A
ON Characteristics						
Gate threshold voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	-0.4		-1.0	V
Drain-source on-state resistance [a]	$R_{DS(on)}$	V_{GS}=-4.5V,I_D=-3A	-	100	120	mΩ
		V_{GS}=-2.5V, I_D=-2A	-	128	160	
Forward transconductance [a]	gfs	V_{DS}=-5V,I_D=-3A	-	6	-	S
Dynamic Characteristics [b]						
Input capacitance	C_{ISS}	V_{DS}=-10V ,V_{GS}=0V f=1.0MHz	-	540	-	pF
Output capacitance	C_{OSS}		-	90	-	
Reverse transfer capacitance	C_{RSS}		-	63	-	
Switching Characteristics						
Turn-on delay time	$t_{D(ON)}$	V_{DD}=-10V V_{GEN}=-4.5V R_L=1.50Ω R_{GEN}=3Ω	-	5	-	ns
Rise time	tr		-	40	-	
Turn-off delay time	$t_{D(OFF)}$		-	28.5	-	
Fall time	tf		-	46	-	
Total gate charge	Qg	V_{DS}=-10V,I_D=-3A V_{GS}=-4.5V	-	5	-	nC
Gate-source charge	Qgs		-	1.2	-	
Gate-drain charge	Qgd		-	1	-	
DRAIN-SOURCE DIODE CHARACTERISTICS						
Diode forward voltage	V_{SD}	V_{GS}=0V,Is=-1.5A	-	-	-1.2	V

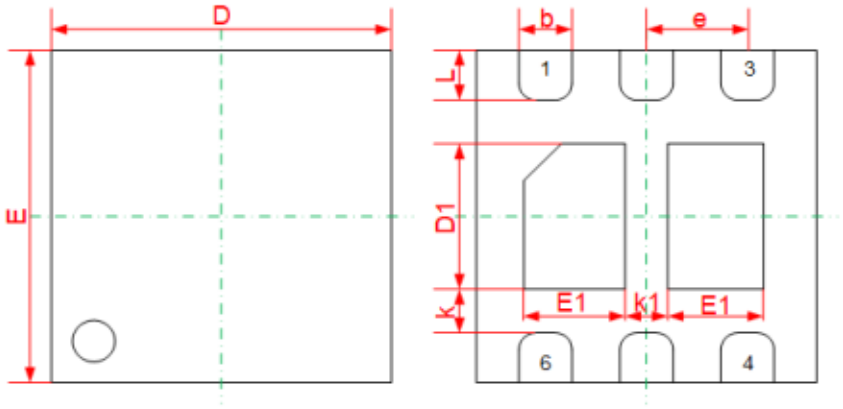
Notes

a. Pulse test: Pulse width < 300 μs, duty cycle ≤ 2 %

b. Guaranteed by design, not subject to production testing

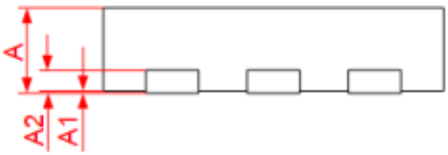
PACKAGE INFORMATION

- DFN2×2-6L



TOP VIEW

BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A2	0.203 REF.		0.008 REF.	
b	0.250	0.350	0.010	0.014
D	1.900	2.100	0.075	0.083
D1	0.900	1.100	0.035	0.043
E	1.900	2.100	0.075	0.083
E1	0.520	0.720	0.020	0.028
e	0.650 TYP.		0.026 TYP.	
k	0.200 MIN.		0.008 MIN.	
K1	0.320 REF.		0.013 REF.	
L	0.200	0.300	0.008	0.012