

LP8337DT1AG

P-Channel 30-V (D-S) MOSFET

1. FEATURES

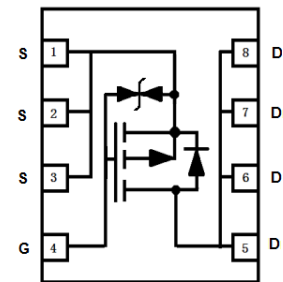
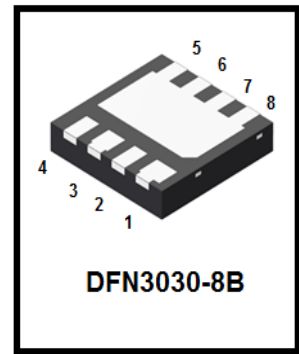
- Low RDS(on) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.
- ESD protected

2. APPLICATION

- Load Switches
- DC/DC Conversion
- Motor Drives

3. ORDERING INFORMATION

Device	Marking	Shipping
LP8337DT1AG	A37	3000/Tape&Reel



4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDSS	-30	V
Gate-to-Source Voltage		VGS	±25	V
Avalanche Current		IAS	40	A
Avalanche energy L=0.1mH		EAS	80	mJ
Continuous Drain Current(Note 1)	TA =25°C	ID	-18	A
	TA =70°C		-13	
Pulsed Drain Current (Note 2)		IDM	-50	
Power Dissipation(Note 1)	TA =25°C	PD	3.5	W
	TA =70°C		2	
Operating Junction Temperature		TJ	-55 ~+150	°C
Storage Temperature Range		Tstg	-55 ~+150	

- 1.Surface Mounted on 1" x 1" FR4 Board.
- 2.Pulse width limited by maximum junction temperature.

5. THERMAL CHARACTERISTICS

Parameter		Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	t≤10s	RθJA	35	°C/W
	Steady State		81	

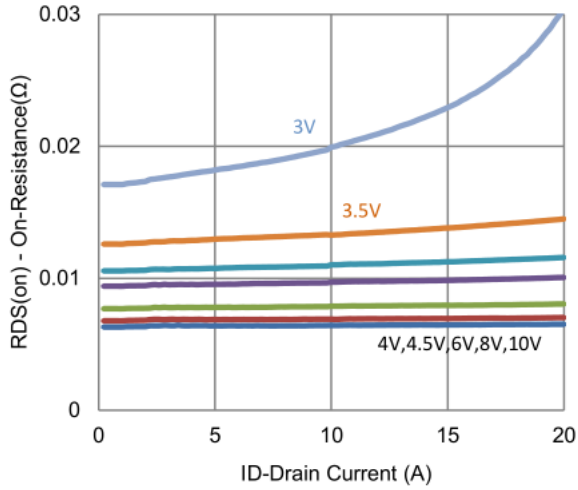
6. ELECTRICAL CHARACTERISTICS

Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage (VGS=0 , ID = -250 uA)		V(BR)DSS	-30			V
Gate-Source Threshold Voltage (VDS = VGS , ID = -250 uA)		VGS(th)	-1	-1.3	-3	V
Gate-Body Leakage (VDS = 0 V, VGS = ± 25 V)		IGSS	-	-	± 10	μA
Zero Gate Voltage Drain Current (VDS = -24 V, VGS = 0 V) (VDS = -24 V, VGS = 0 V, TJ = 55° C)		IDSS	- -	- -	-1 -25	μA
On-State Drain Current(Note 3) (VDS = -5 V, VGS = -10 V)		ID(on)	-25	-	-	A
Drain-Source On-Resistance(Note 3) (VGS = -10 V, ID = -13.6 A) (VGS = -4.5 V, ID = -10.9 A)		RDS(on)	- -	7.5 10.5	9 13	mΩ
Forward Transconductance(Note 3) (VDS = -15 V, ID = -13.6 A)		gfs	-	12	-	S
Diode Forward Voltage(Note 3) (IS = -2.3 A, VGS = 0 V)		VSD	-	-0.76	-1.2	V
Dynamic(Note 4)						
Total Gate Charge	(VDS = -15 V, VGS = -4.5 V, ID = -13.6 A)	Qg	-	60	-	nC
Gate-Source Charge		Qgs	-	17	-	
Gate-Drain Charge		Qgd	-	22	-	
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	5743	-	pF
Output Capacitance		Coss	-	453	-	
Reverse Transfer Capacitance		Crss	-	446	-	
Turn-On Delay Time	(VDS=-15 V, RL=1.2 Ω, ID=- 13.6 A, VGEN=-10 V, RGEN=6 Ω)	td(on)	-	14	-	ns
Rise Time		tr	-	37	-	
Turn-Off Delay Time		td(off)	-	124	-	
Fall Time		tf	-	55	-	
Source-Drain DIODE Ratings and Characteristics(Tc= 25° C)						
Continuous Current(Note 1)		IS			-25	A
Plused Current(Note 1)		ISM			-100	A
Reverse Recovery Time (IF=IS, dIf/dt=100A/us)		trr		62		ns
Reverse Recovery Charge (IF=IS, dIf/dt=100A/us)		Qrr		68		nC

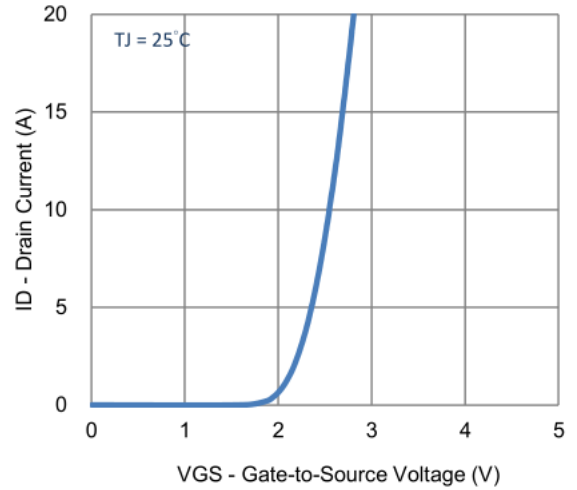
3. Pulse test: PW $\leq$ 300 μ s duty cycle $\leq$ 2%.

4. Guaranteed by design, not subject to production testing.

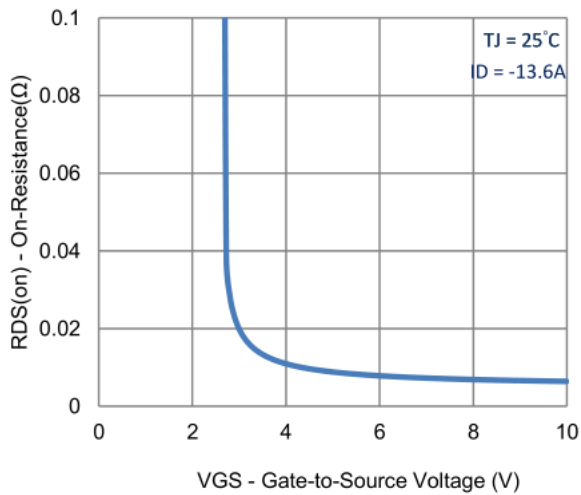
7. ELECTRICAL CHARACTERISTICS CURVES



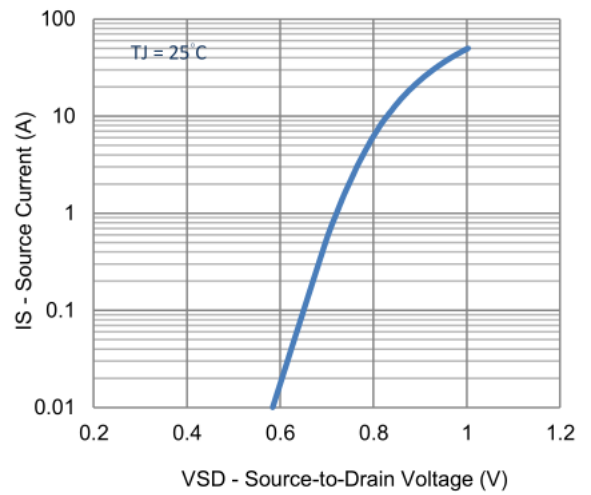
1. On-Resistance vs. Drain Current



2. Transfer Characteristics

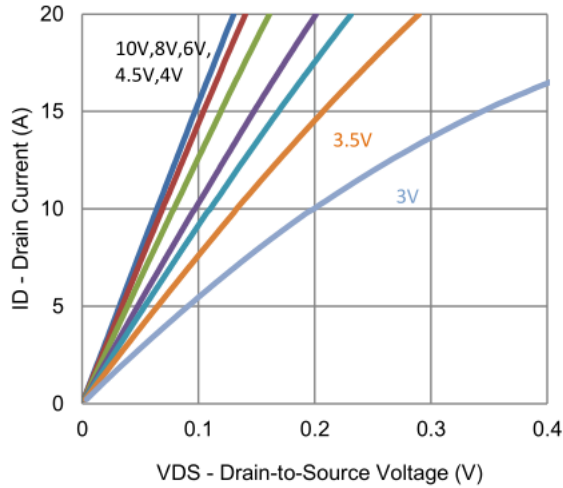


3. On-Resistance vs. Gate-to-Source Voltage

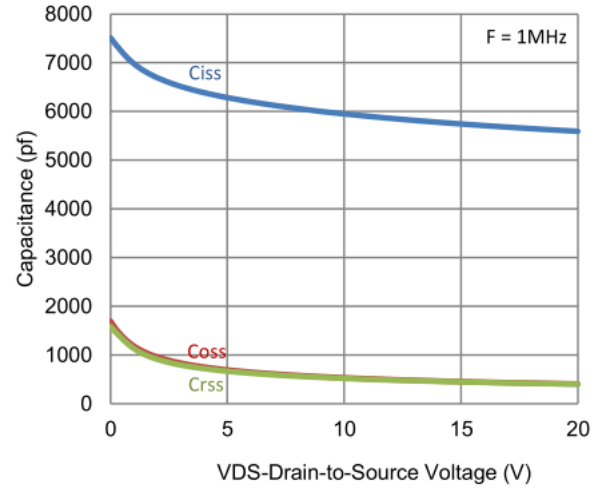


4. Drain-to-Source Forward Voltage

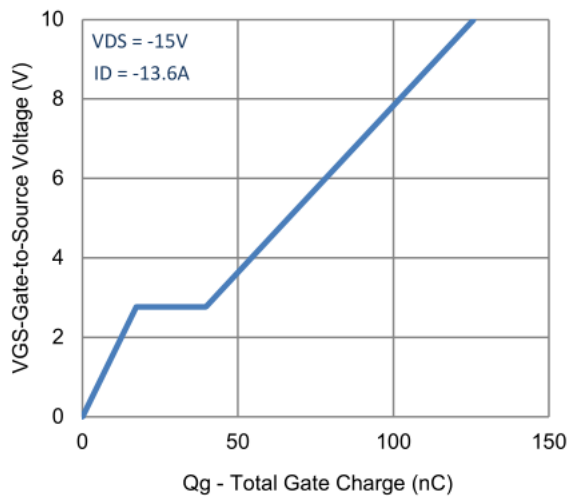
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



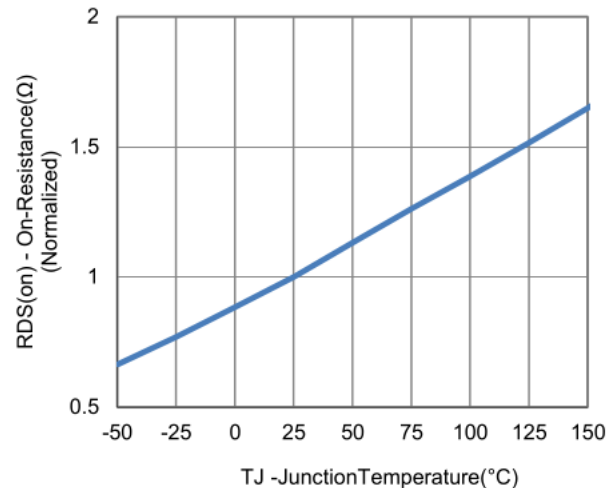
5. Output Characteristics



6. Capacitance

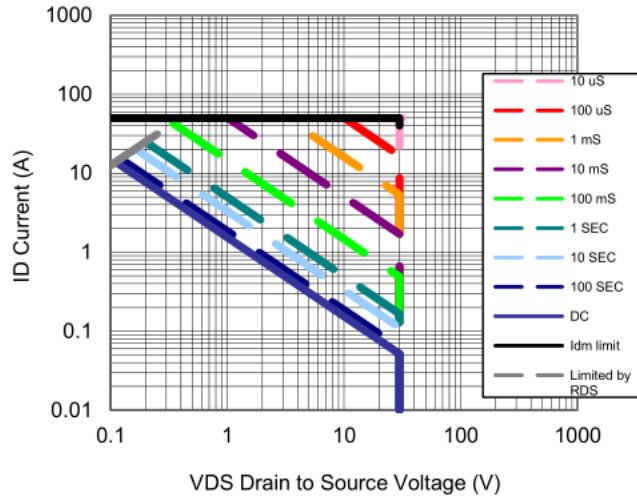


7. Gate Charge

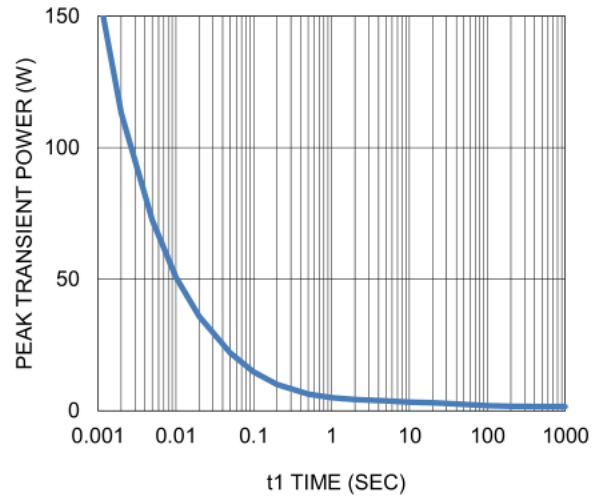


8. Normalized On-Resistance Vs Junction Temperature

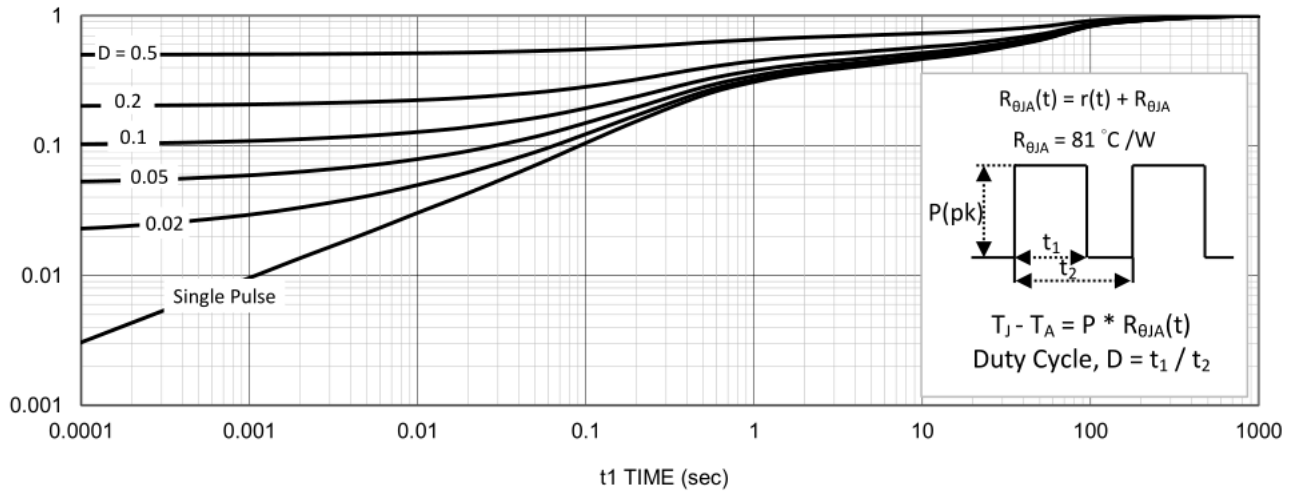
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



9. Safe Operating Area

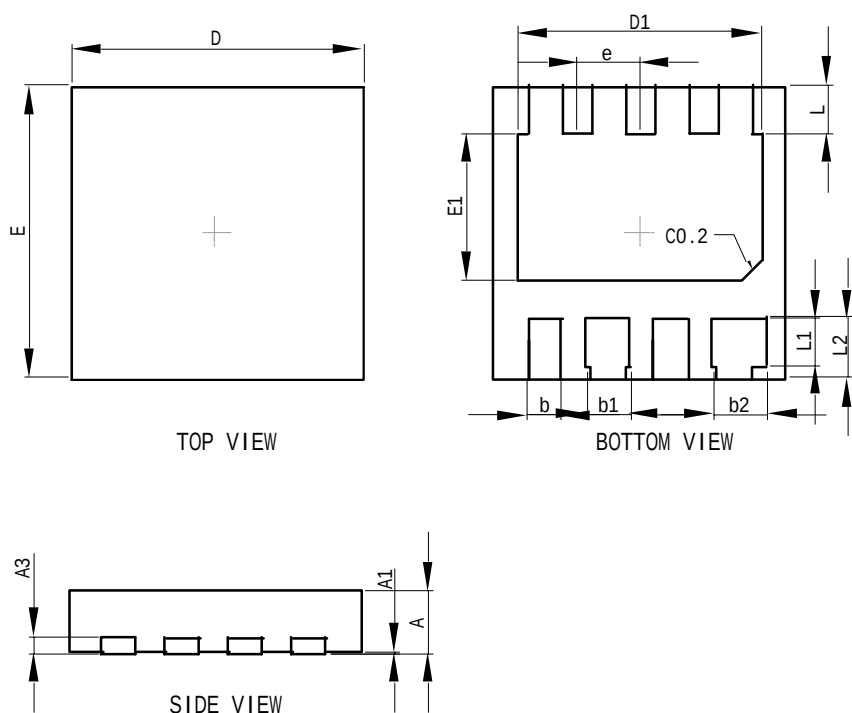


10. Single Pulse Maximum Power Dissipation



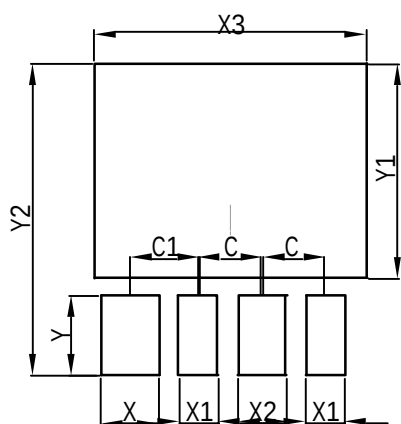
11. Normalized Thermal Transient Junction to Ambient

8.OUTLINE AND DIMENSIONS



DFN3030-8B			
Dim	Min	Nor	Max
A	0.60	0.65	0.70
A1	0.00	0.03	0.05
b	0.30	0.35	0.40
b1	0.40	0.45	0.50
b2	0.50	0.55	0.60
D	2.95	3.00	3.05
E	2.95	3.00	3.05
D1	2.45	2.50	2.55
E1	1.45	1.50	1.55
e	0.65BSC		
L	0.45	0.50	0.55
L1	0.44	0.49	0.54
L2	0.57	0.62	0.67
A3	0.152REF.		
All Dimensions in mm			

9.SOLDERING FOOTPRINT



DFN3030-8B	
Dim	(mm)
C	0.65
C1	0.70
X	0.60
X1	0.40
X2	0.50
X3	2.80
Y1	2.20
Y2	3.20
Y	0.82