Dual N-Channel Enhancement Mode MOSFET

■ Features

- Surface-Mounted Package
- Extremely low threshold voltage
- Advanced trench cell design
- ESD protected

■ Applications

- Portable appliances
- Battery management

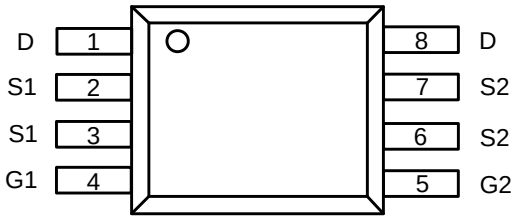
■ Package

- TSSOP-8

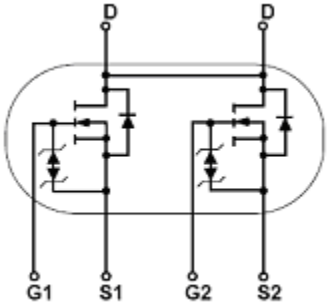
■ Ordering Information

Part Number	Storage Temperature	Package
LN8205CIU	-55°C to 150°C	TSSOP8

■ Pin Configuration



TSSOP-8
(Top View)



■ Absolute Maximum Ratings

Symbol	Parameter		Conditions	Min	Max	Unit
V_{DSS}	Drain-Source Voltage		T_A=25℃	20		V
V_{GSS}	Gate-Source Voltage		T_A=25℃		±12	V
I_D	Drain Current		T_A=25℃, V_{GS}=4.5V		6.4	A
I_{DM}	Pulsed Drain Current		T_A=25℃, V_{GS}=4.5V		20	A
Is	Diode Conduction		T_A=25℃		1	A
P_{tot*}	Total Power Dissipation	TSSOP8	T_A=25℃		1.25	W
			T_A=100℃		0.7	W
T_J	Junction Temperature			-55	150	℃
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient				150	℃/W

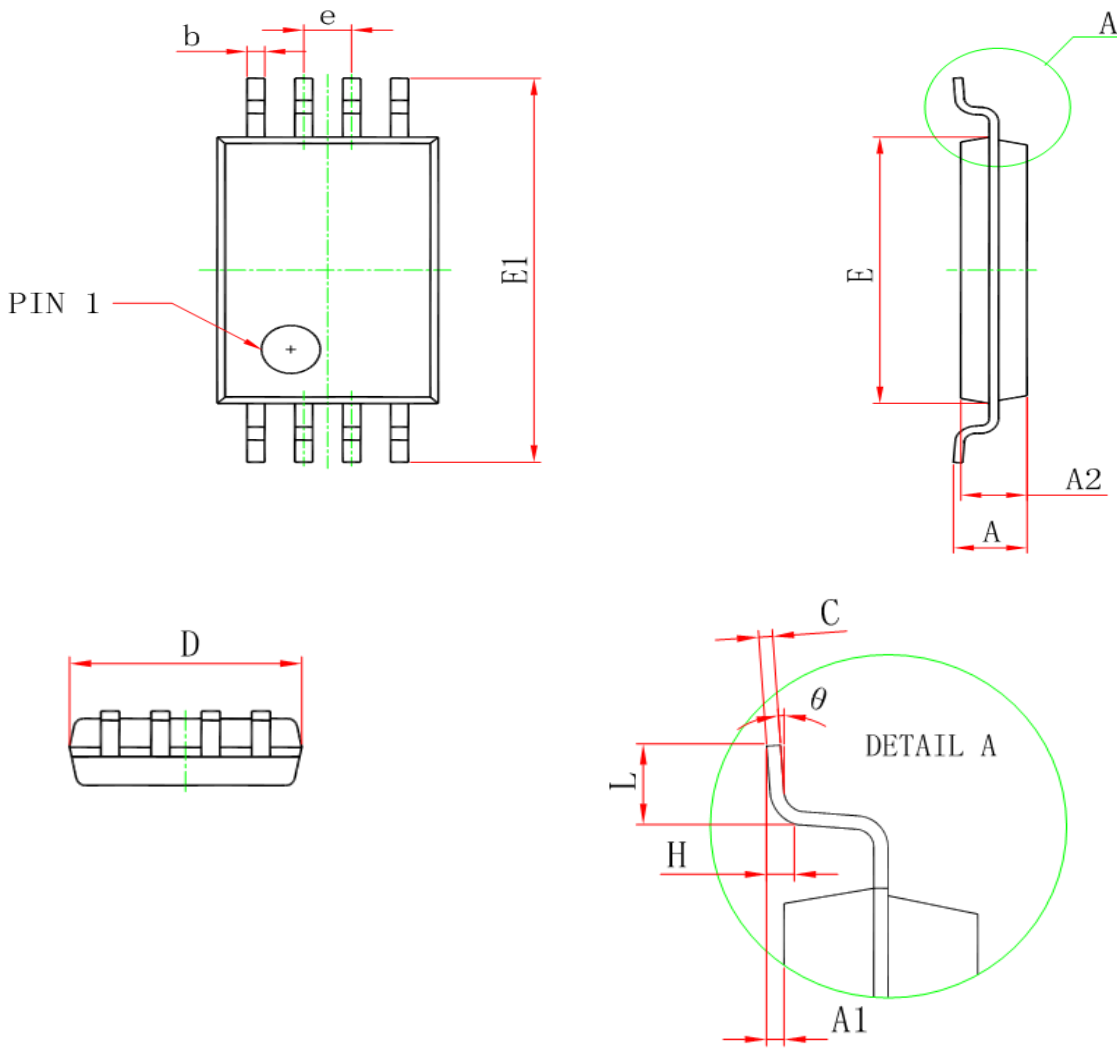
■ Electrical Characteristics

(TA=25℃ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	BV_{DSS}	V_{GS}=0V, I_D=250μA	20			V
Gate threshold voltage	$V_{GS(th)}$	V_{DS}=VGS, I_D=250μA	0.5	0.7	1.0	V
Gate-body leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±12V			±10	nA
Zero gate voltage drain current	I_{DSS}	V_{DS}=16V, V_{GS}=0V			1	uA
		V_{DS}=16V, V_{GS}=0V Tj=85℃			30	
Drain-source on-state resistance	$R_{DS(ON)}$	V_{GS}=4.5V, I_D=6A		16	20	mΩ
		V_{GS}=2.5V, I_D=5A		24	35	
Diode forward voltage	V_{SD}	V_{GS}=0V,Is=1.5 A		0.7	1.1	V
Reverse Recovery Time	tff	I_{SD}=6.4A,dI_{SD}/dt=100A/μs		27		ns
Reverse Recovery Charge	Qff			15		nc
Dynamic						
Total gate charge	Q_g	V_{DS}=10V I_D=6.4A V_{GS}=4.5V		14.5	20	nC
Gate-source charge	Q_{gs}			0.88		
Gate-drain charge	Q_{gd}			5.6		
Gate resistance	R_g	V_{GS}= V_{DS}=0V ,F=1MHz		4		Ω
Input capacitance	C_{ISS}	V_{DS}=10V V_{GS}=0V f=1MHz		690		pF
Output capacitance	C_{OSS}			145		
Reverse transfer capacitance	C_{RSS}			140		
Turn-on delay time	$t_{D(ON)}$	V_{DS}=10V V_{GEN}=4.5V I_{DS}=1A R_G=6Ω R_L=10Ω		7	12	ns
Rise time	tr			11	24	
Turn-off delay time	$t_{D(OFF)}$			63	120	
Fall time	tf			38	65	

■ Package Information

- TSSOP-8



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	**Max**	**Min**	**Max**
D	2. 900	3. 100	0. 114	0. 122
E	4. 300	4. 500	0. 169	0. 177
b	0. 190	0. 300	0. 007	0. 012
c	0. 090	0. 200	0. 004	0. 008
E1	6. 250	6. 550	0. 246	0. 258
A		1. 200		0. 047
A2	0. 800	1. 000	0. 031	0. 039
A1	0. 050	0. 150	0. 002	0. 006
e	0. 65 （BSC）		0. 026（BSC）	
L	0. 500	0. 700	0. 020	0. 028
H	0.25(TYP)		0.01(TYP)	
θ	1°	7°	1°	7°