Prisemi®

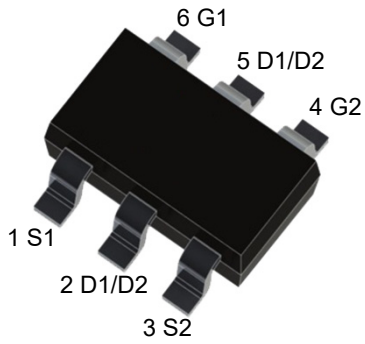
PDNM6T8205A

N-Channel MOSFET

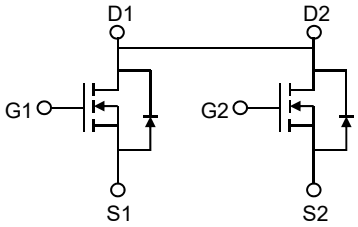
Feature

- Surface Mount Package
- Advanced trench cell design
- Extremely low threshold voltage

MOSFET Product Summary		
V_{DS}(V)	$R_{DS(on)}$(mΩ)(Typ.)	I_D(A)
20	19@ V_{GS} = 4.5V	5.0



SOT23-6L(Top View)



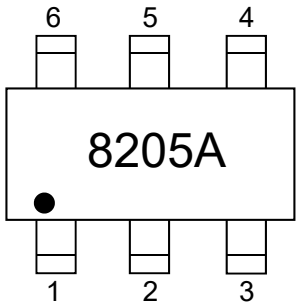
Circuit Diagram

Applications

- Portable appliances
- Battery management

Mechanical Data

- Case: SOT23-6L
- Case Material: "Green" Molding Compound. UL-Flammability Classification Rating 94V-0.
- Weight: 0.15 grams (approximate) .



Marking (Top View)

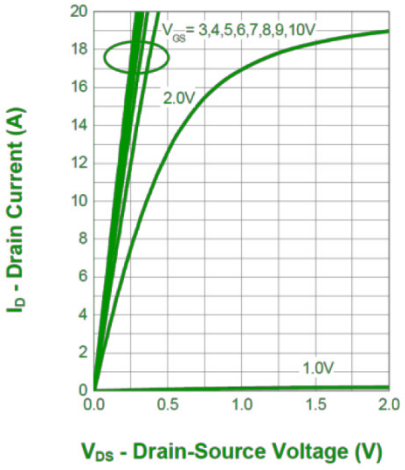
Absolute maximum rating@25℃

Rating		Symbol	Value	Units
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±12	V
Drain Current-Continuous		I_D	5.0	A
Pulsed Drain Current		I_{DM}	20	A
Maximum Power Dissipation	T_A= 25℃	P_{tot}	0.83	W
	T_A= 100℃		0.3	
Thermal Resistance Junction-to-Ambient		$R_{\theta JA}$	150	℃/W
Junction and Storage Temperature Range		T_J,T_{STG}	-55~+150	℃

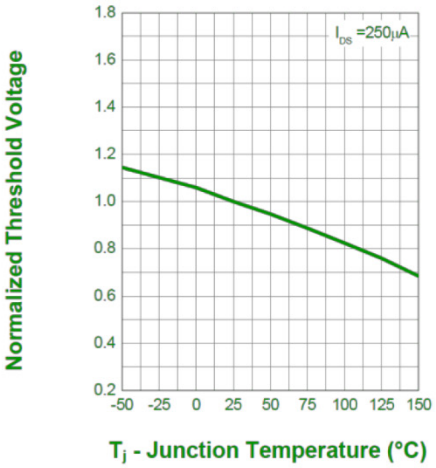
Electrical characteristics per line@25℃ (unless otherwise specified)(N-Channel)

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Units
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	T_J= 25℃	-	-	1.0	μA
			T_J= 85℃	-	-	30	
Gate-Body Leakage Current	I_{GSS}	V_{GS} = ±10V,V_{DS} = 0V		-	-	±100	nA
On Characteristics							
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS},I_D = 250μA		0.5	-	1.0	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS} = 4.5V,I_D = 5.0A		-	19	21	mΩ
		V_{GS} = 2.5V,I_D = 3.0A		-	24	33	
Dynamic Characteristics							
Input Capacitance	C_{lss}	V_{DS} = 10V,V_{GS} = 0V, f = 1.0MHz		-	417	-	pF
Output Capacitance	C_{oss}			-	90	-	
Reverse Transfer Capacitance	C_{rss}			-	74	-	
Switching Characteristics							
Turn-on Delay Time	$t_{d(on)}$	V_{DS} = 10V, V_{GS} = 4.5V, R_G = 6Ω, R_L = 1.6Ω, I_D = 5A		-	6.0	-	ns
Turn-on Rise Time	t_r			-	56	-	
Turn-Off Delay Time	$t_{d(off)}$			-	23	-	
Turn-Off Fall Time	t_f			-	13	-	
Total Gate Charge	Q_g	V_{DS} = 10V, V_{GS} = 4.5V, I_D = 5A		-	1.2	-	nC
Gate-Source Charge	Q_{gs}			-	2.0	-	
Gate-Drain Charge	Q_{gd}			-	6.7	-	
Drain-Source Diode Characteristics And Maximum Ratings							
Diode Forward Voltage	V_{SD}	V_{GS} = 0V,I_S = 1A		-	-	1.3	V
Diode Forward Current	I_S	-		-	-	1.0	A

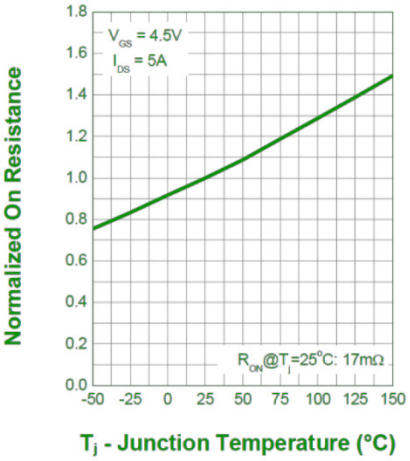
Typical Characteristics



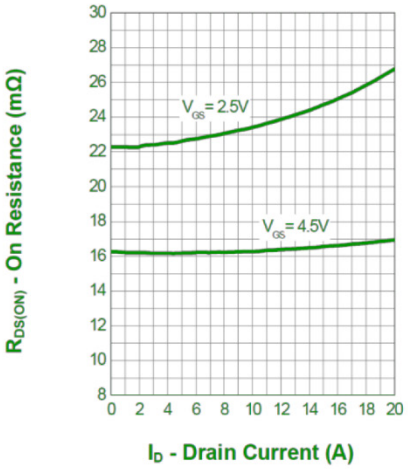
TYP.Output Characteristics



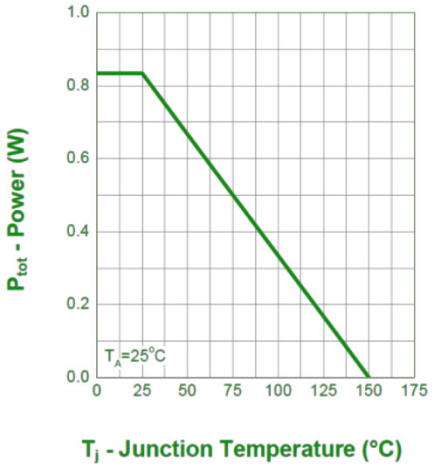
TYP.Normalized Threshold Voltage vs Junction Tem erature



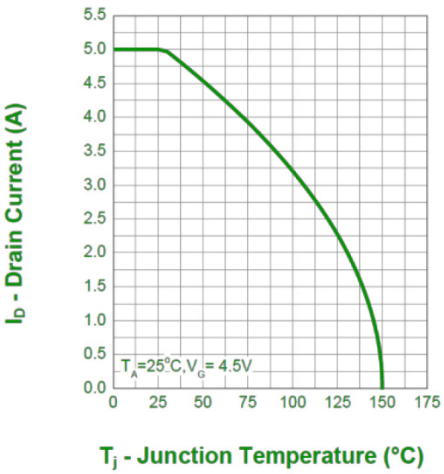
TYP.Normalized On-Resistance vs Junction Temperature



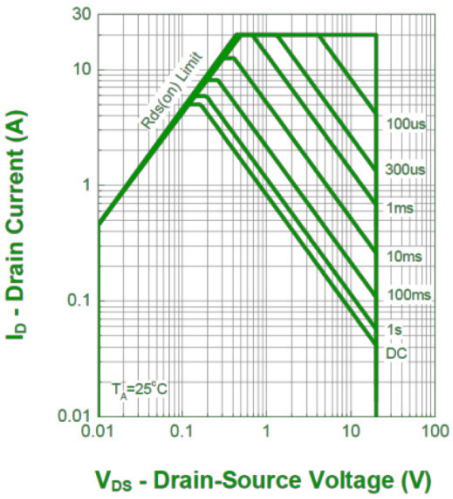
TYP.Drain-Source On-Resistance vs Drain Current



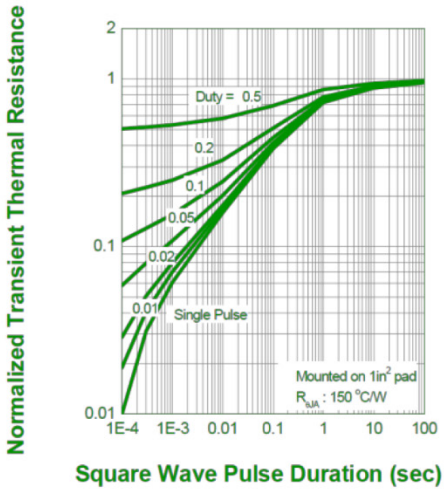
TYP.Maximum Power Dissipation vs Junction Tem erature



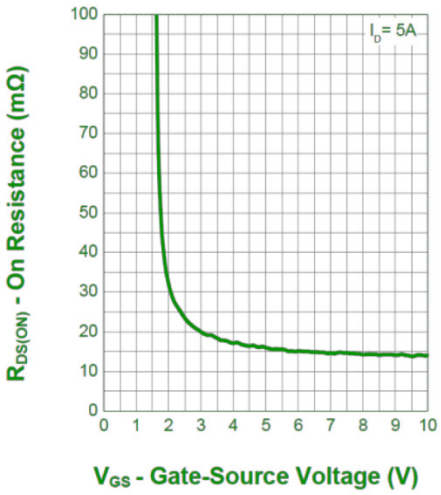
TYP.Drain Current vs Junction Temperature



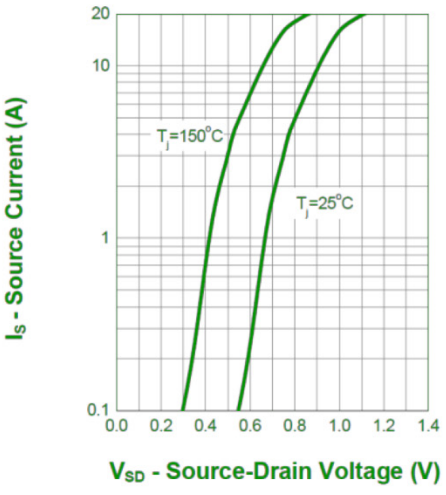
TYP.Safe Operation Area



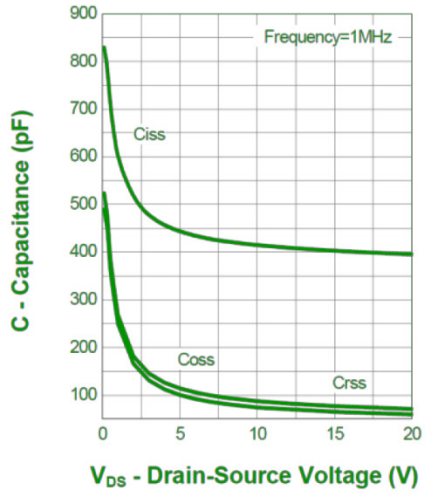
TYP.Transient Thermal Impedance



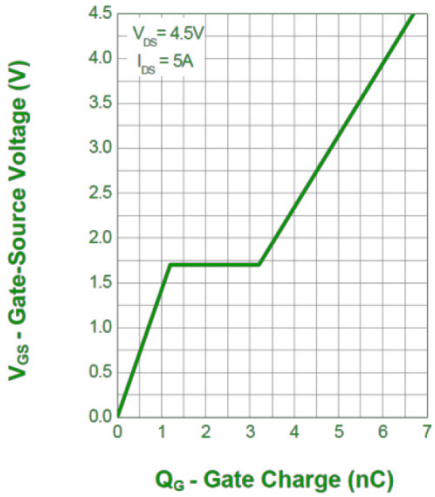
TYP.Transfer Characteristics



TYP.Body Diode Characteristics

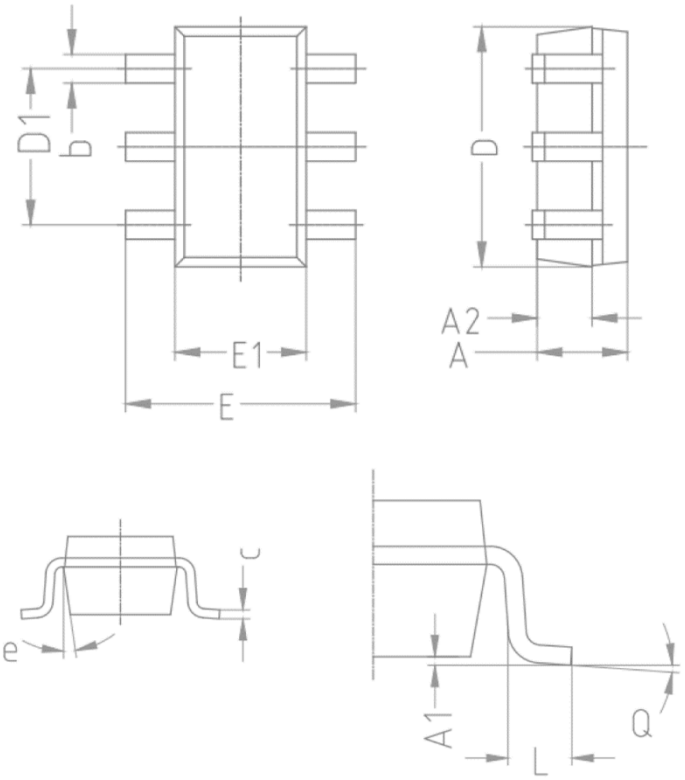


TYP.Capacitance



TYP.Gate Charge

Product dimension (SOT23-6L)

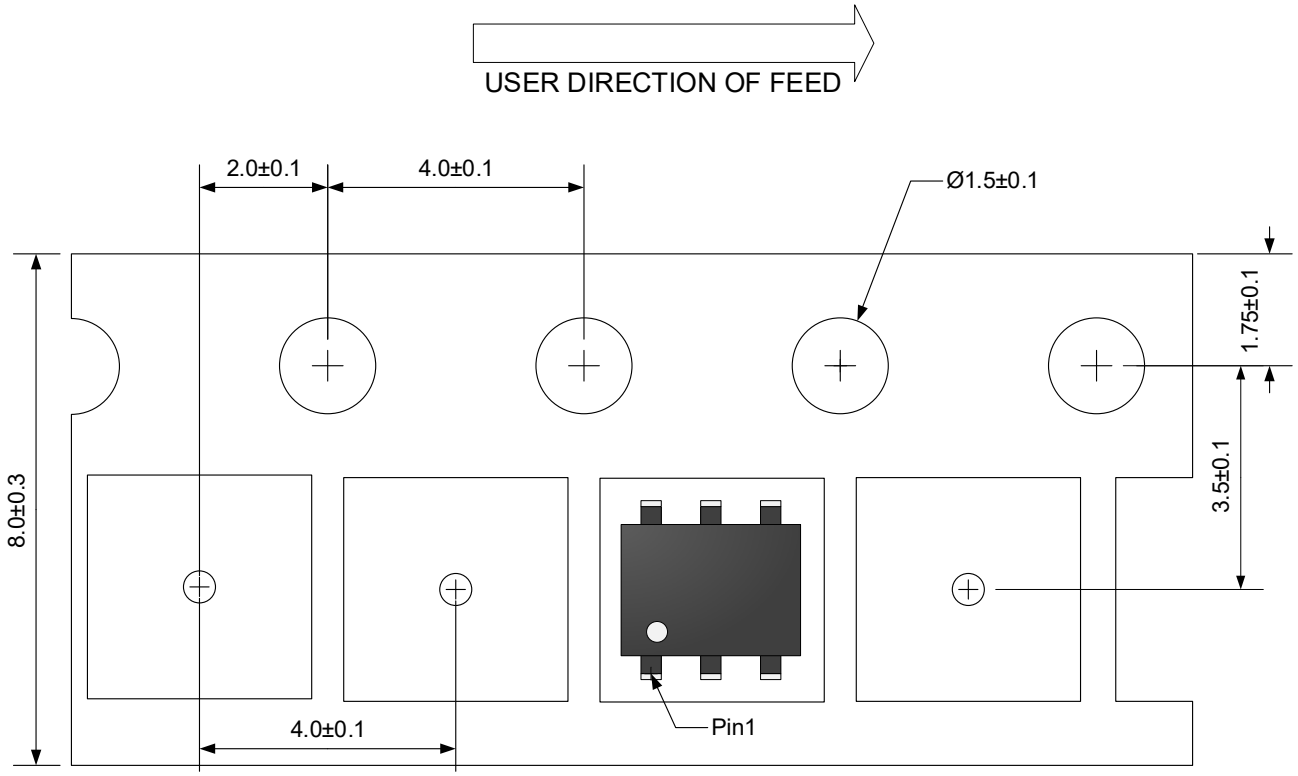


Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	1.08	1.12	0.043	0.044
A1	0.01	0.15	0.000	0.006
A2	0.64	0.70	0.025	0.028
b	0.325	0.375	0.013	0.015
c	0.125	0.15	0.005	0.006
D	2.92	2.98	0.115	0.117
D1	1.875	1.925	0.074	0.076
E	2.65	2.95	0.104	0.116
E1	1.58	1.67	0.062	0.066
L	0.30	0.60	0.012	0.024
e	8°		8°	
Q	0°	8°	0°	8°

Ordering Information

Package	Reel	Shipping
SOT23-6L	13"	10000 / Tape & Reel

Load with Information



Unit:mm

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