

<b>Features</b> ➤ Fast switching ➤ Green Device Available ➤ Improved dv/dt capability ➤ Advanced high cell density Trench technology	<b><i>Bvdss</i></b>	<b><i>Rdson</i></b>	<b><i>ID</i></b>
	<b>20V</b>	<b>18.5mΩ</b>	<b>6A</b>
<b>Application</b> ➤ Battery protection ➤ Battery Powered Systems ➤ Power Management in Notebook Computer ➤ Portable Equipment			
<b>Package</b> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Marking and pin assignment</p> </div> <div style="text-align: center;"> <p>TSSOP8 Top view</p> </div> <div style="text-align: center;"> <p>Schematic diagram</p> </div> </div>			

### Package Marking and Ordering Information

Device Marking	Device	Device Package	Quantity
8205A	HL8205A	TSSOP8	5000

### Absolute Maximum Ratings

Parameter	Symbol	Rating	Units
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Continuous Drain Current	$I_D@T_C=25^\circ C$	6	A
	$I_D@T_C=70^\circ C$	4.8	A
Pulsed Drain Current	$I_{DM}$	20	A
Continuous Source Current	$I_S$	1.6	A
Maximum Power Dissipation	$P_D@T_A=25^\circ C$	1.07	W
	$P_D@T_A=70^\circ C$	0.68	W
Junction Temperature Range	$T_J$	-55 ~ 150	$^\circ C$
Storage Temperature Range	$T_{STG}$	-55 ~ 150	$^\circ C$

### Thermal Resistance Ratings

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-ambient	$R_{\theta JA}$	117	$^\circ C/W$
Thermal Resistance Junction-Case	$R_{\theta JC}$	--	$^\circ C/W$



## Ordering Information

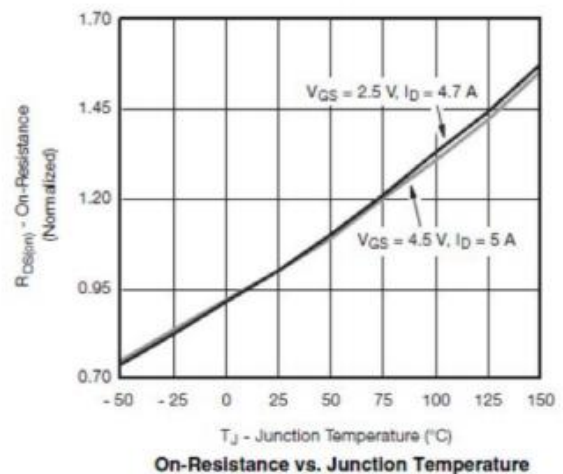
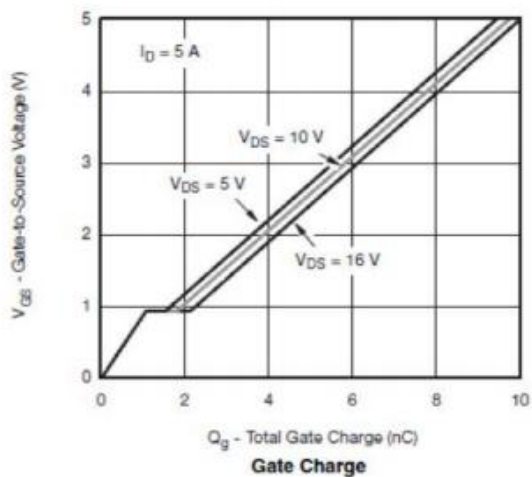
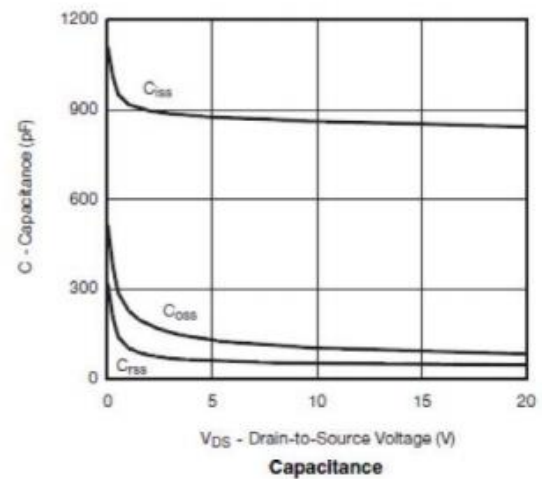
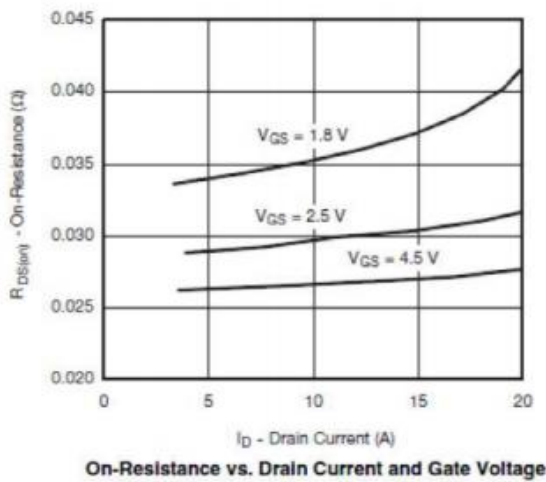
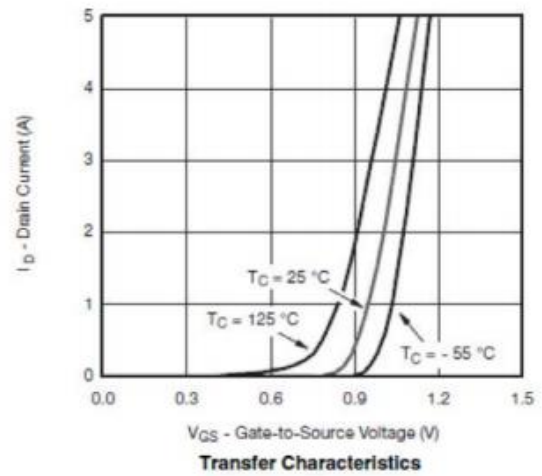
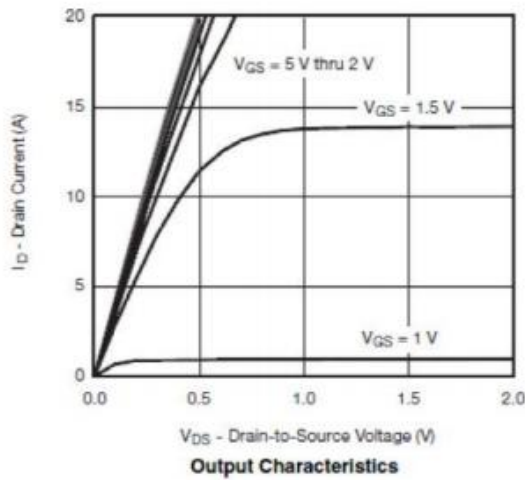
Ordering Number	Package	Pin Assignment			Packing
Halogen Free		G	D	S	
HL8205A	TSSOP8	4,6	2,5	1,3	Tape Reel

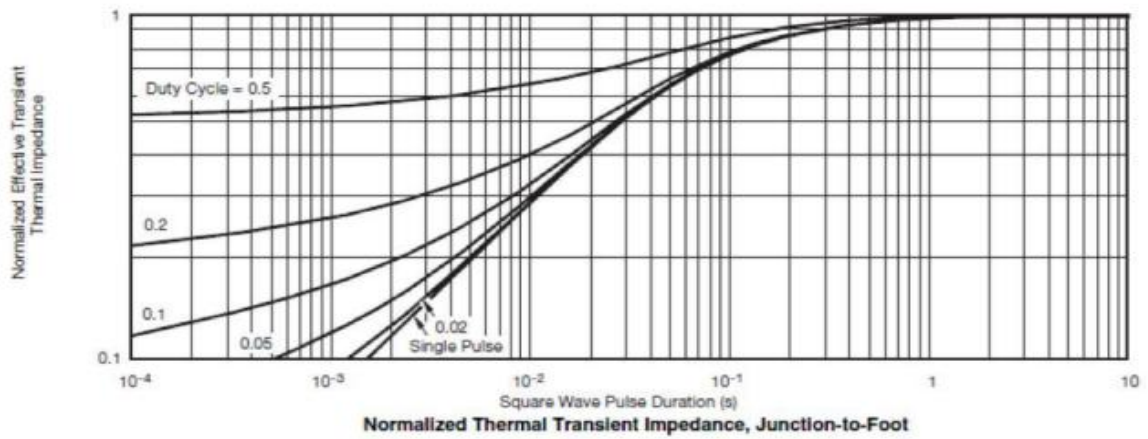
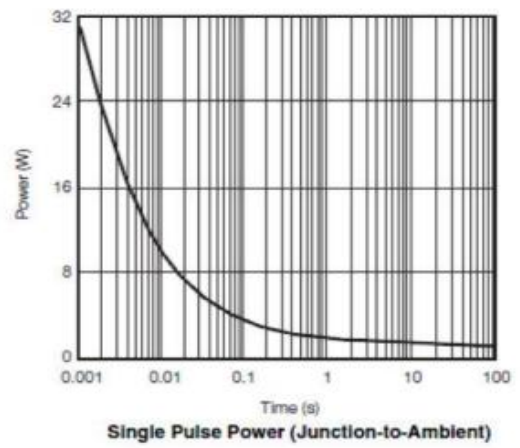
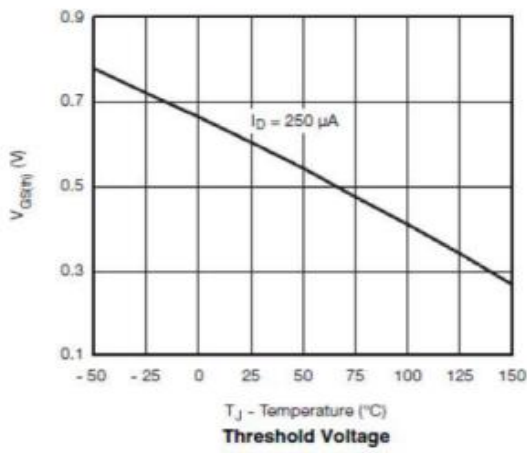
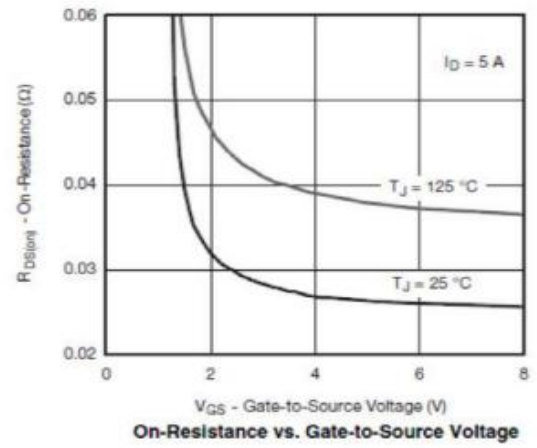
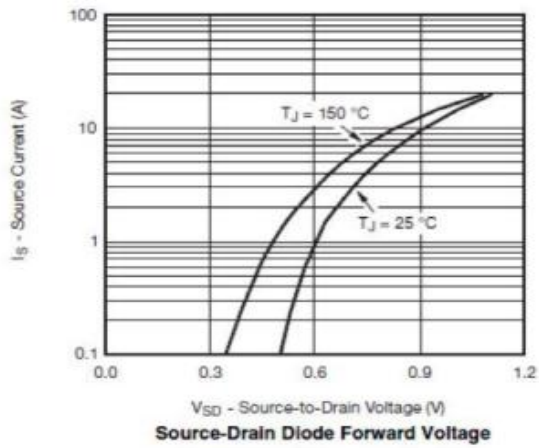
Electrical Characteristics ( $T_J=25^\circ\text{C}$  unless otherwise noted)

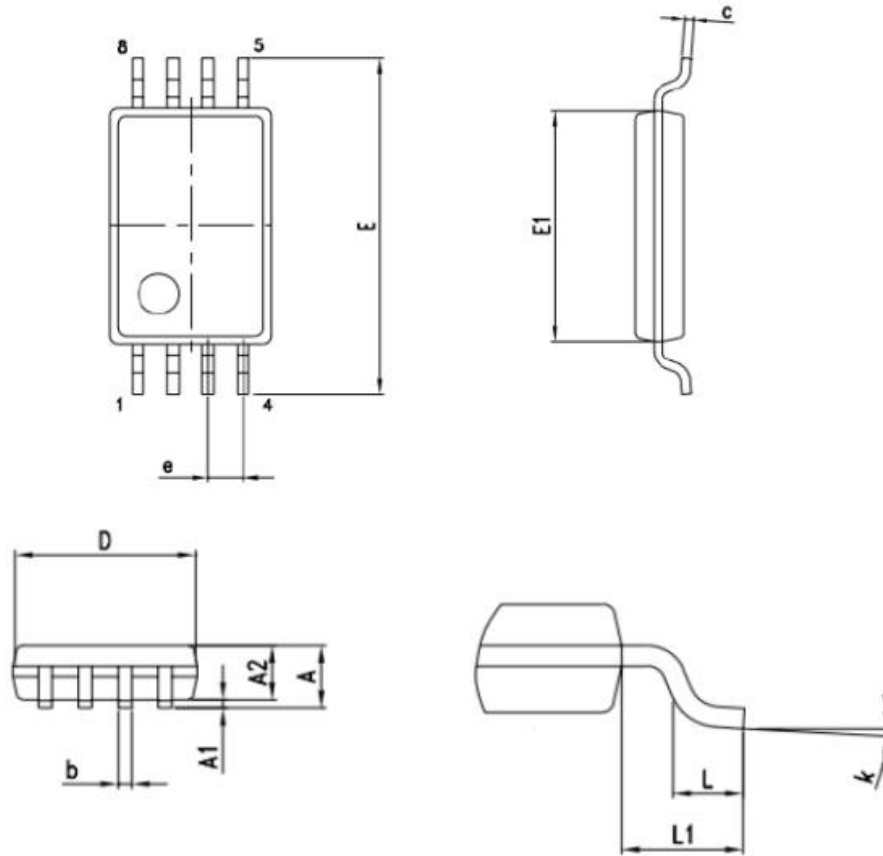
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$B_{V_{DS}}$	$V_{GS}=0V, I_D=250\mu A$	20	-	-	V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS}=20V, V_{GS}=0V$	-	-	1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS}=\pm 10V, V_{DS}=0V$	-	-	$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	0.4	-	1	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=4A$	-	18.5	21	m $\Omega$
		$V_{GS}=2.5V, I_D=3A$	-	23	28	
Input Capacitance	$C_{iss}$	$V_{DS}=10V, V_{GS}=0V, f=1MHz$	-	850	-	pF
Output Capacitance	$C_{oss}$		-	120	-	
Reverse Transfer Capacitance	$C_{rss}$		-	60	-	
Total Gate Charge	$Q_g$	$V_{DS}=10V, V_{GS}=4.5V,$ $I_D=1A$	-	8.2	-	nC
Gate-Source Charge	$Q_{gs}$		-	1.2	-	
Gate-Drain Charge	$Q_{gd}$		-	1	-	
Turn-On Delay Time	$T_{d(on)}$	$V_{DS}=10V, V_{GS}=4.5V,$ $R_G=1\Omega, I_D=5A$	-	10	16	ns
Rise Time	$T_r$		-	16	25	
Turn-Off Delay Time	$T_{d(off)}$		-	31	45	
Fall Time	$T_f$		-	10	16	
Forward Trans conductance	$g_{fs}$	$V_{DS}=5V, I_D=3.6A$	-	10	-	S
Diode Forward Voltage	$V_{SD}$	$I_S=1.6A$	-	0.7	1.15	V



Typical Characteristics





**Package Dimensions TSSOP8**


DIM.	mm.			inch.		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	1.05		1.20	0.041		0.047
A1	0.05		0.15	0.002		0.006
A2	0.80		1.05	0.032		0.041
b	0.19		0.30	0.008		0.012
c	0.090		0.20	0.003		0.007
D	2.90		3.10	0.114		0.122
E	6.20		6.60	0.240		0.260
E1	4.30		4.50	0.170		0.177
e		0.65			0.025	
L	0.45		0.75	0.018		0.030
L1		1.00			0.039	
k	0°		8°	0.192		0.208



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