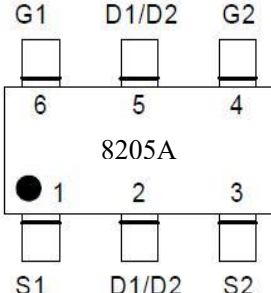
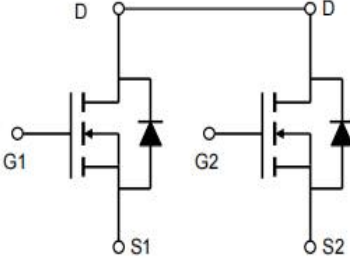


Features ➤ Super Low Gate Charge ➤ Green Device Available ➤ Excellent CdV/dt effect decline ➤ Advanced high cell density Trench technology	Bvdss	Rdson	ID
	20V	19mΩ	4.5A
	Application ➤ Battery protection ➤ Battery Powered Systems ➤ Power Management in Notebook Computer ➤ Portable Equipment		



Packaging			
------------------	---	---	---

Marking and pin assignment

SOT23-6L Top view

Schematic diagram

Package Marking and Ordering Information

Device Marking	Device	Device Package	Quantity
8205A	8205	SOT23-6L	3000

Absolute Maximum Ratings

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current,	I_D	4.5	A
Pulsed Drain Current	I_{DM}	25	A
Power Dissipation	P_D	1.25	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~ 150	°C

Thermal Resistance Ratings

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-ambient	$R_{\theta JA}$	1.25	°C/W
Thermal Resistance Junction-Case	$R_{\theta JC}$	--	°C/W



Ordering Information

Ordering Number	Package	Pin Assignment			Packing
Halogen Free		G	D	S	
HL8205	SOT23-6L	4,6	2,5	1,3	Tape Reel

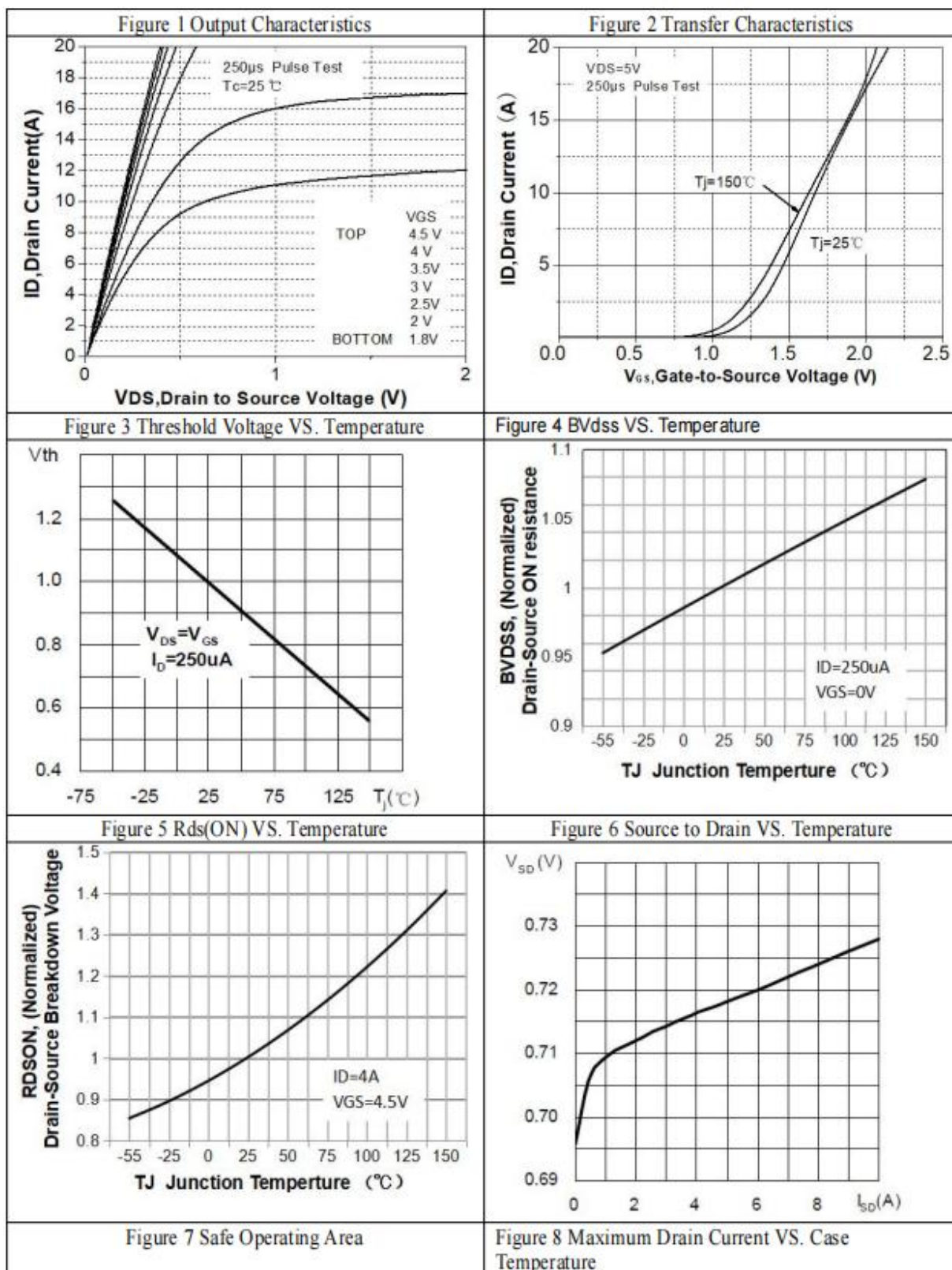
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

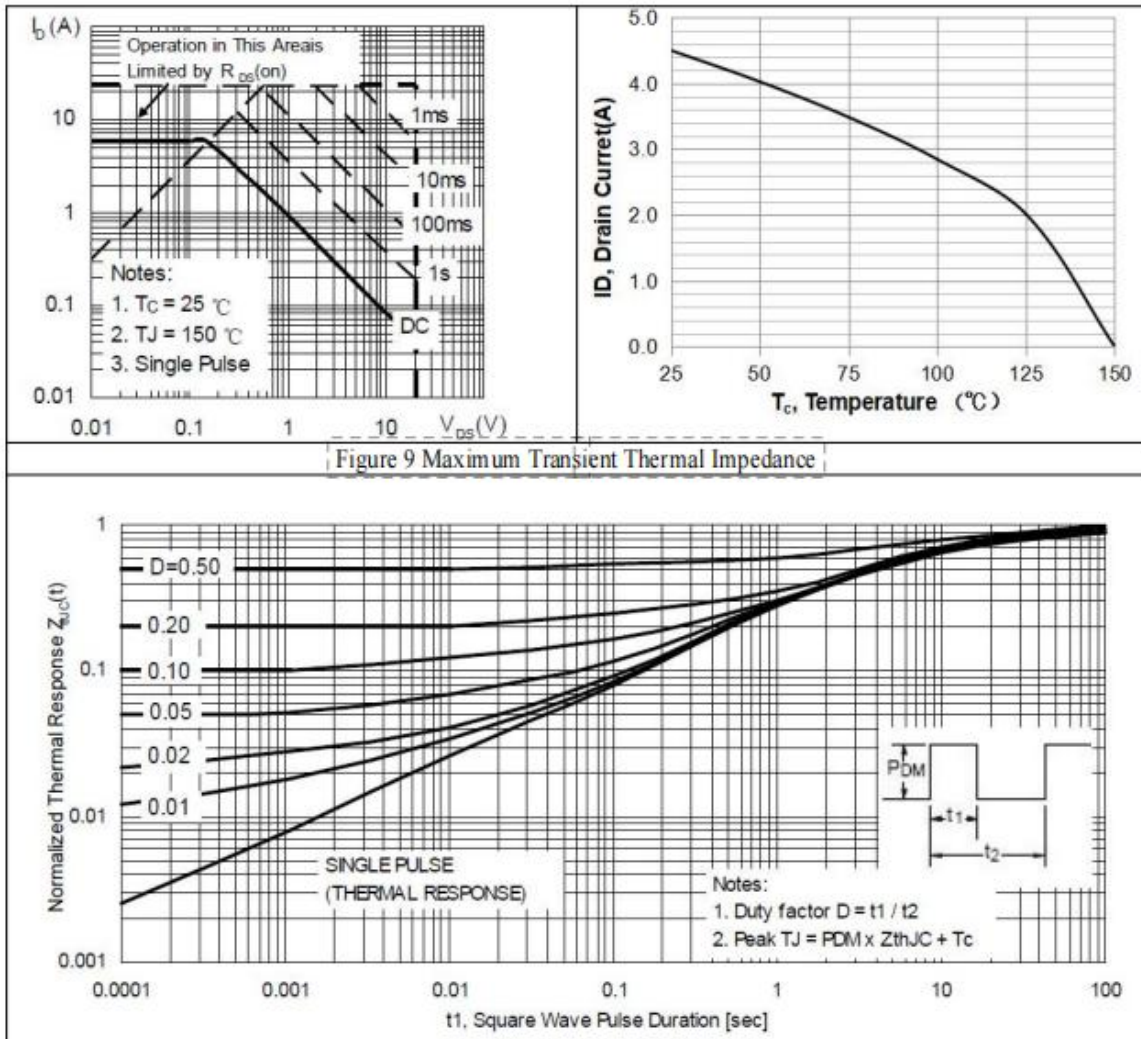
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$B_{V_{DS}}$	$V_{GS}=0V, I_D=250\mu A$	19.5	-	-	V
Zero gate voltage drain current	I_{DSS}	$V_{DS}=19.5V, V_{GS}=0V$	-	-	1	μA
Gate-body leakage current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	0.55	0.7	0.95	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=3A$	-	19	23	m Ω
		$V_{GS}=2.5V, I_D=2A$	-	23	30	
Input Capacitance ²	C_{iss}	$V_{DS}=10V, V_{GS}=0V, f=1MHz$	-	465	-	pF
Output Capacitance	C_{oss}		-	99	-	
Reverse Transfer Capacitance	C_{rss}		-	76	-	
Total Gate Charge ²	Q_g	$V_{DS}=10V, V_{GS}=4.5V, I_D=4A$	-	6.1	-	nC
Gate-Source Charge	Q_{gs}		-	0.9	-	
Gate-Drain Charge	Q_{gd}		-	1.8	-	
Turn-On Delay Time ²	$T_{d(on)}$	$V_{DD}=10V, V_{GS}=4.5V, R_{GEN}=10\Omega, I_D=1A$	-	8	-	ns
Rise Time	T_r		-	17	-	
Turn-Off Delay Time	$T_{d(off)}$		-	19	-	
Fall Time	T_f		-	12	-	
Diode Forward Voltage ¹	V_{SD}	$V_{GS}=0V, I_S=2.8A$	-	0.7	1.2	V
Diode forward current ³	I_S	-	-	-	4.5	A

Notes:

1. Pulse Test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production.
3. Surface mounted on FR4 board, $t \leq 10sec$.

Typical Characteristics

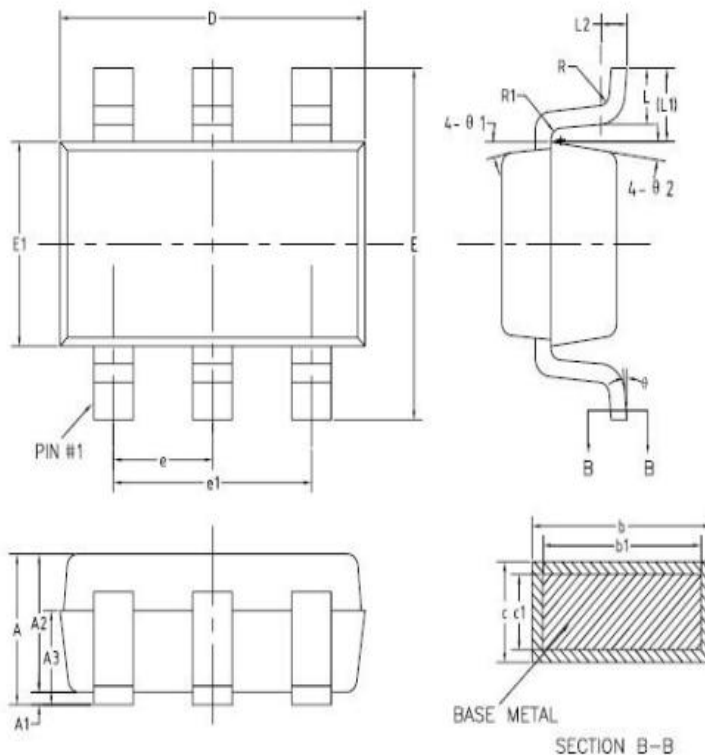




Package Dimensions SOT23-6L

COMMON DIMENSIONS
(UNITS OF MEASURE=MILLIMETER)

SYMBOL	MIN	NOM	MAX
A	—	—	1.45
A1	0	—	0.15
A2	0.90	1.15	1.30
A3	0.60	0.65	0.70
b	0.39	—	0.49
b1	0.35	0.40	0.45
c	0.08	—	0.22
c1	0.08	0.13	0.20
D	2.80	2.90	3.00
E	2.60	2.80	3.00
E1	1.50	1.60	1.70
e	0.85	0.95	1.05
e1	1.80	1.90	2.00
L	0.35	0.45	0.60
L1	0.60REF		
L2	0.25BSC		
R	0.10	—	—
R1	0.10	—	0.25
θ	0°	—	8°
θ 1	7°	9°	11°
θ 2	8°	10°	12°



NOTES:

ALL DIMENSIONS REFER TO JEDEC STANDARD MO-178 C
DO NOT INCLUDE MOLD FLASH OR PROTRUSIONS.



Important Notice and Disclaimer

HL Microelectronics reserves the right to make changes to this document and its products and specifications at any time without notice.

Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

HL Microelectronics makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, not does HL Microelectronics assume any liability for application assistance or customer product design.

HL Microelectronics does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of HL Microelectronics.

HL Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of HL Microelectronics.