

Features ➤ Super Low Gate Charge ➤ Green Device Available ➤ 100% EAS Guaranteed ➤ Excellent CdV/dt effect decline ➤ Advanced high cell density Trench technology	Bvdss	Rdson	ID
	-30V	18mΩ	-9.5A
	Application ➤ Battery Switch ➤ Load switch ➤ Power management		



Package			
1. Marking and pin assignment	2. SOP-8 top view		3. Schematic diagram

Package Marking and Ordering Information

Device Marking	Device	Device Package	Quantity
4805	4805	SOP-8	3000

Absolute Maximum Ratings (T_C=25°C unless otherwise specified)

Parameter		Symbol	Max.	Unit
Drain-Source Voltage		V _{DS}	-30	V
Gate-Source Voltage		V _{GS}	±20	V
Continuous Drain Current	T _a = 25°C	I _D	-9.5	A
Continuous Drain Current	T _a = 100°C	I _D	-5.9	A
Pulsed Drain Current(1)		I _{DM}	-36	A
Single Pulse Avalanche Energy(2)		EAS	25	mJ
Power Dissipation(2)	T _C = 25°C	P _d	3.3	W
Junction Temperature		T _J	-55~+150	°C
Storage Temperature		T _{STG}	-55~+150	°C

Thermal Resistance Ratings

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-ambient	R _{θJA}	38	°C/W



Ordering Information

Ordering Number	Package	Pin Assignment						Packing
Halogen Free		G1	G2	D1	D2	S1	S2	
HL4805	SOP-8	2	4	7,8	5,6	1	3	Tape Reel

Electrical Characteristics (T_J=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain- Source Breakdown Voltage	B _{VDSS}	V _{GS} =0V, I _D =-250uA	-30	---	---	V
B _{VDSS} Temperature Coefficient	ΔB _{VDSS} /Δ T _J	Reference to 25°C, I _D =- 1mA	---	-0.022	---	V/°C
Static Drain- Source On- Resistance(2)	R _{DS(ON)}	V _{GS} =- 10V, I _D =-6A	---	18	25	mΩ
		V _{GS} =-4.5V, I _D =-4A	---	25	42	
Gate Threshold Voltage	V _{GS(th)}	V _{GS} =V _{DS} , I _D =-250uA	-1.0	---	-2.5	V
V _{GS(th)} Temperature Coefficient	ΔV _{GS(th)}		---	4.6	---	mV/ C
Drain- Source Leakage Current	I _{DSS}	V _{DS} =- 24 V, V _{GS} =0 V, T _J =25°C	---	---	- 1	uA
		V _{DS} =- 24 V, V _{GS} =0 V, T _J =55°C	---	---	-5	
Gate- Source Leakage Current	I _{GSS}	V _{GS} =±20 V, V _{DS} =0 V	---	---	±100	nA
Forward Transconductance	g _{fs}	V _{DS} =-5V, I _D =-6A	---	17	---	S
Gate Resistance	R _g	V _{DS} =0V, V _{GS} =0V, f=1 MHz	---	13	---	Ω
Total Gate Charge (-4.5 V)	Q _g	V _{DS} =- 15V, V _{GS} =-4.5V, I _D =-6A	---	12.6	---	nC
Gate- Source Charge	Q _{gs}		---	4.8	---	
Gate- Drain Charge	Q _{gd}		---	4.8	---	
Turn- On Delay Time	T _{d(on)}	V _{DD} =- 15V, V _{GS} =- 10V , R _G =3.3Ω, I _D =-6A	---	4.6	---	ns
Rise Time	T _r		---	14.8	---	
Turn- Off Delay Time	T _{d(off)}		---	41	---	
Fall Time	T _f		---	19.6	---	
Input Capacitance	C _{iss}	V _{DS} =- 15V, V _{GS} =0V, f=1MHz	---	1345	---	pF
Output Capacitance	C _{oss}		---	194	---	
Reverse Transfer Capacitance	C _{rss}		---	158	---	
Continuous Source Current(1)(5)	I _s	V _G =V _D =0 V, Force Current	---	---	-6.5	A
Pulsed Source Current(2)(5)	I _{SM}		---	---	-26	A
Diode Forward Voltage(2)	V _{SD}	V _{GS} = 0V, I _S =- 1A, T _J =25°C	---	---	-1.2	V
Reverse Recovery Time	t _{rr}	I _F =-6 A, dI/dt=100 A/μs , T _J =25°C	---	16.3	---	nS
Reverse Recovery Charge	Q _{rr}		---	5.9	---	nC

Notes:

1. The data tested by surface mounted on a 1 inch² FR- 4 board with 2 OZ copper.
2. The data tested by pulsed , pulse width ≤300us , duty cycle ≤2%
3. The EAS data shows Max. rating . The test condition is V_{DD}=-25V, V_{GS}=-10V, L=0.1mH, I_{AS}=- 38A
4. The power dissipation is limited by 150°C junction temperature
5. The data is theoretically the same as I_D and I_{DM} , in real applications , should be limited by total power dissipation.

Typical Characteristics

Figure1 : Output Characteristics

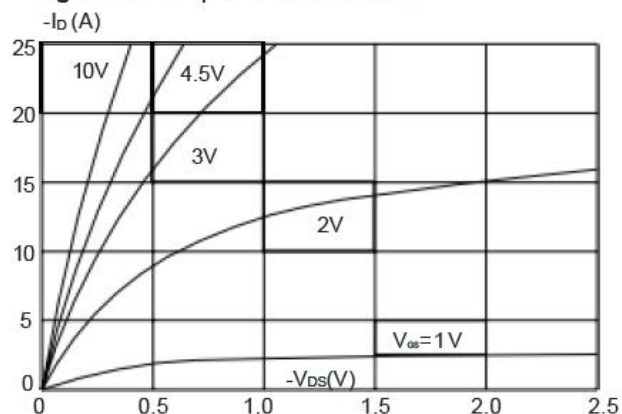


Figure 2 : Typical Transfer Characteristics

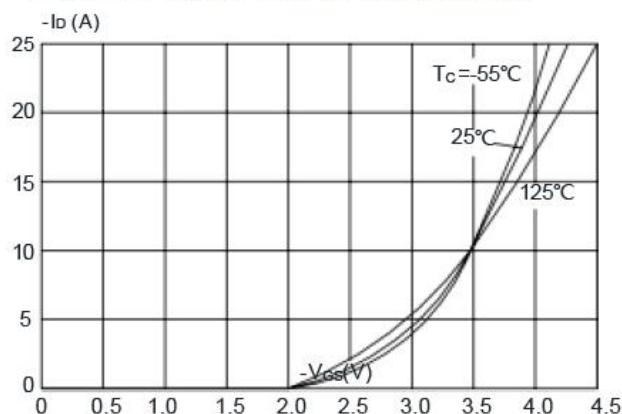


Figure 3: On-resistance vs. Drain Current

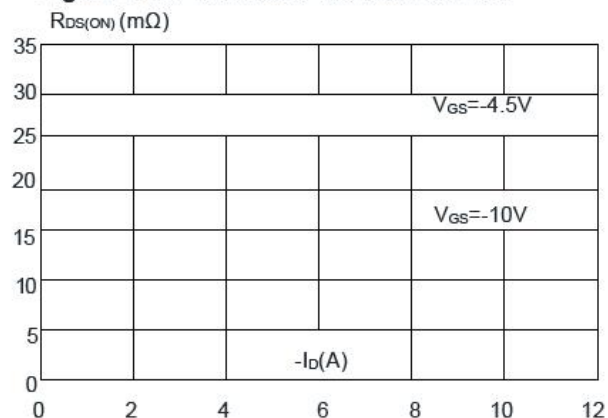


Figure 4 : Body Diode Characteristics

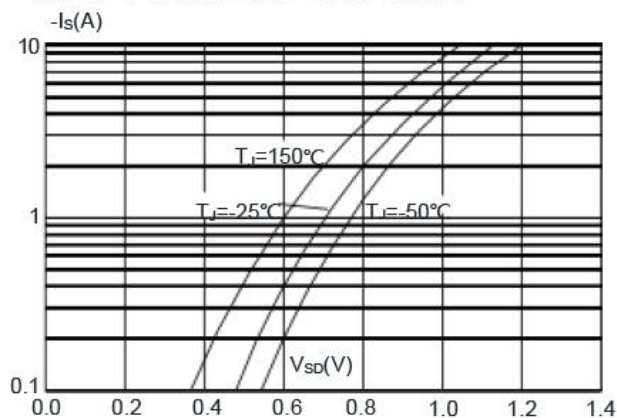


Figure 5: Gate Charge Characteristics

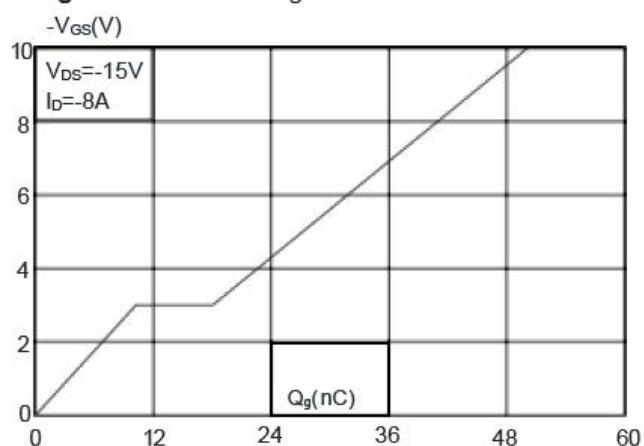


Figure 6: Capacitance Characteristics

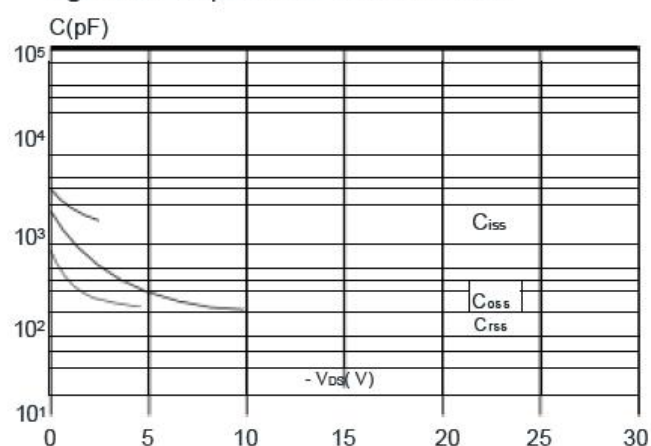


Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

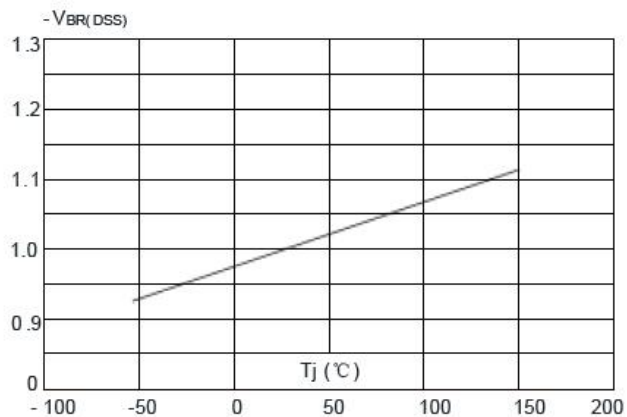


Figure 8: Normalized on Resistance vs. Junction Temperature

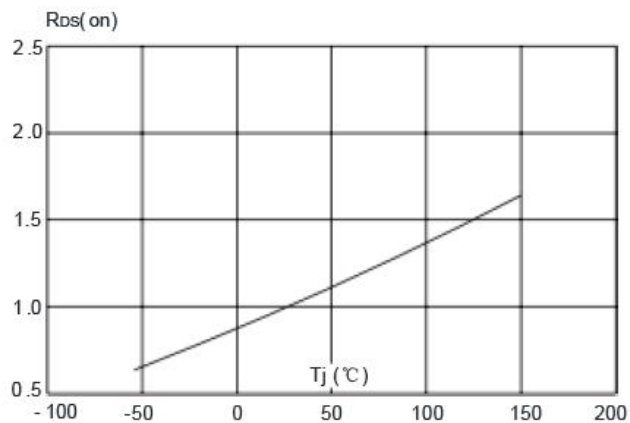


Figure 9: Maximum Safe Operating Area

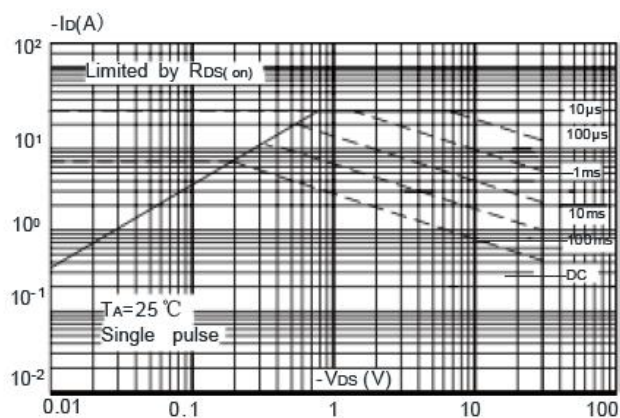


Figure 10: Maximum Continuous Drain Current vs. Ambient Temperature

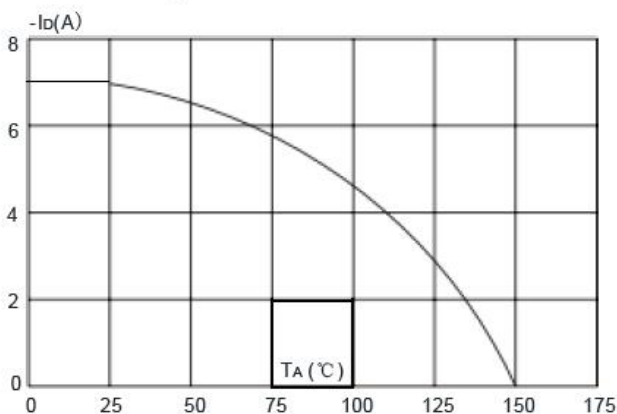
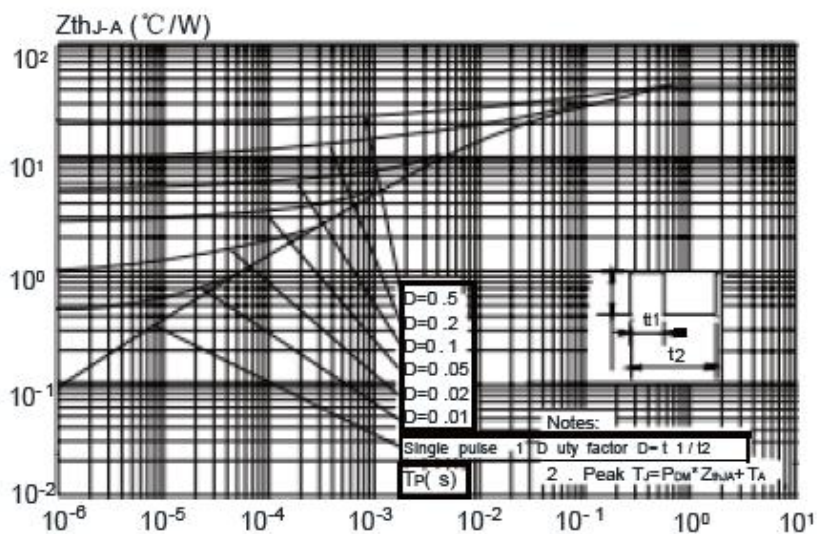
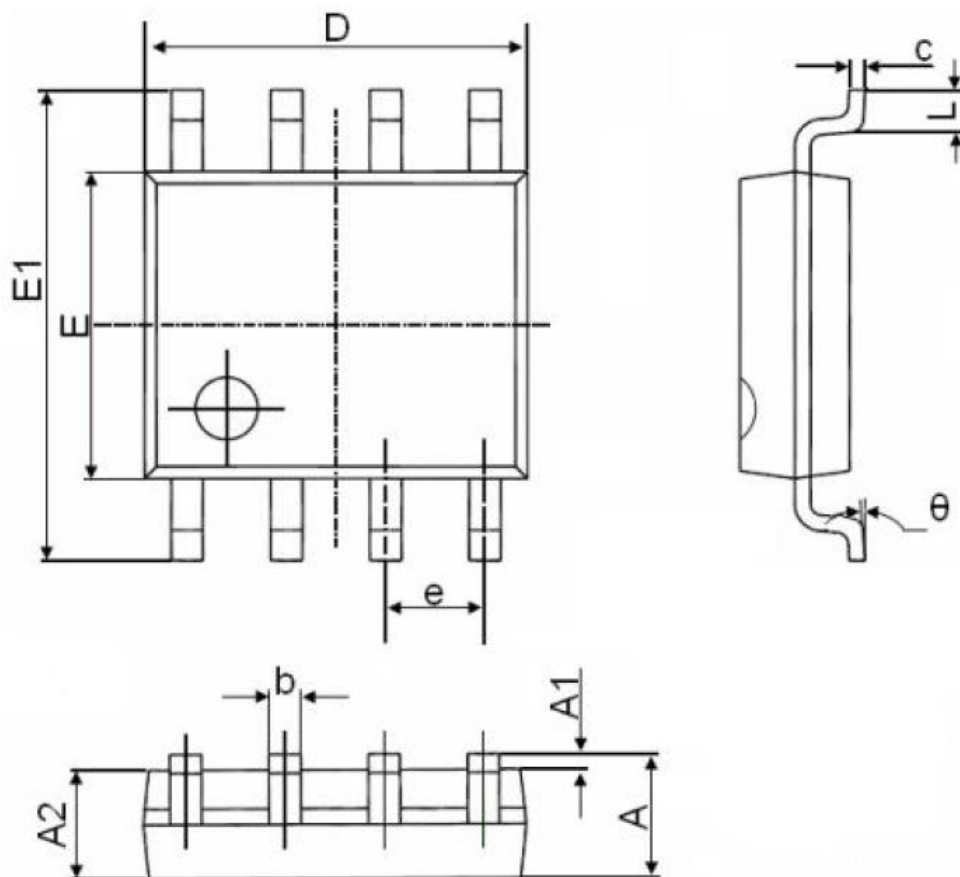


Figure 11: Maximum Continuous Drain Current vs. Ambient Temperature



Package Dimensions

➤ SOP-8



COMMON DIMENSIONS
(UNITS OF MEASURE=mm)

SYMBOL	MIN	NOM	MAX
A	1.40	1.60	1.80
A1	0.05	0.15	0.25
A2	1.35	1.45	1.55
b	0.30	0.40	0.50
c	0.153	0.203	0.253
D	4.80	4.90	5.00
E	3.80	3.90	4.00
E1	5.80	6.00	6.20
L	0.45	0.70	1.00
θ	2°	4°	6°
L1	1.04 REF		
e	1.27 BSC		
R1	0.07 TYP		
R2	0.07 TYP		



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