

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
20V	27mΩ@4.5V	5A
	32mΩ@2.5V	

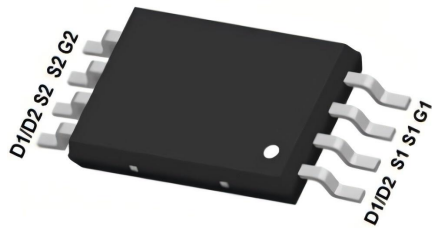
Feature

- High power and current handling capability
- Surface mount package

Application

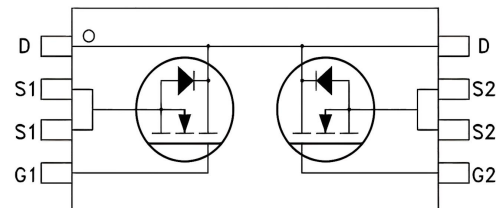
- Battery Switch
- DC/DC Converter

Package

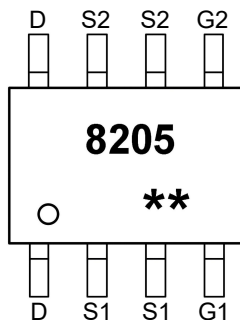


TSSOP-8

Circuit diagram



Marking



Absolute maximum ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	5	A
Pulsed Drain Current	I_{DM}	20	A
Power Dissipation	P_D	1.5	W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	83.3	$^{\circ}\text{C/W}$
Operating Junction Temperature	T_J	$-55 \sim +150$	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	$-55 \sim +150$	$^{\circ}\text{C}$

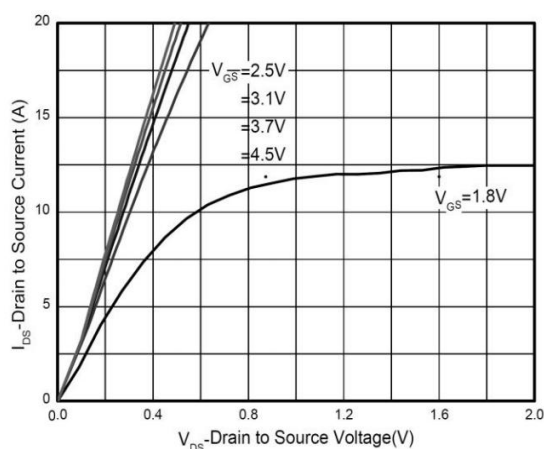
Electrical characteristics ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS}=16V, V_{GS}=0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 12V$			± 100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5	0.66	1.2	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=4.5A$		20	27	m Ω
		$V_{GS}=2.5V, I_D=3.5A$		26	32	
Dynamic characteristics ¹⁾						
Input Capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0V, f=1MHz$		415		pF
Output Capacitance	C_{oss}			87		
Reverse Transfer Capacitance	C_{rss}			70		
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=4.5V, I_D=4A$		6.5		nC
Gate-Source Charge	Q_{gs}			1.2		
Gate-Drain Charge	Q_{gd}			1.5		
Turn-on delay time	$t_{d(on)}$	$V_{DS}=10V, V_{GS}=4.5V, I_D=1A$ $R_G=3\Omega$		4.5		nS
Turn-on rise time	t_r			80		
Turn-off delay time	$t_{d(off)}$			25		
Turn-off fall time	t_f			23		
Source-Drain Diode characteristics						
Diode Forward Current	I_S				5	A
Diode Forward voltage	V_{SD}	$V_{GS}=0V, I_S=1A, T_J=25^{\circ}C$			1.2	V

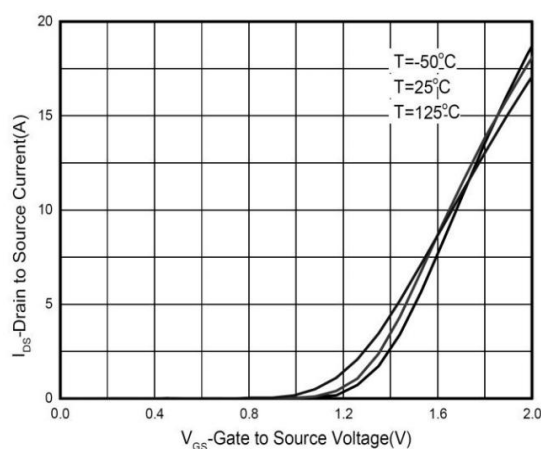
Notes:

1) Guaranteed by design, not subject to production testing.

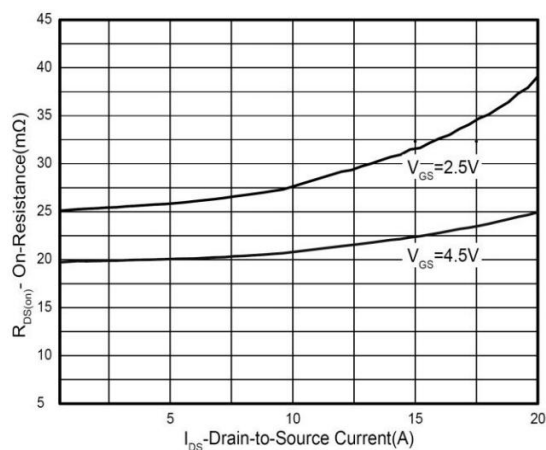
Typical Characteristics



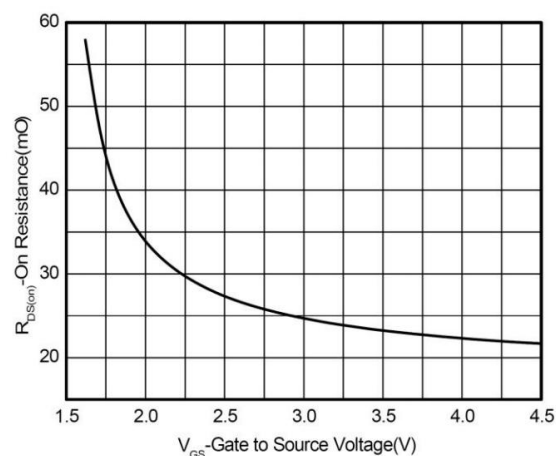
Output characteristics



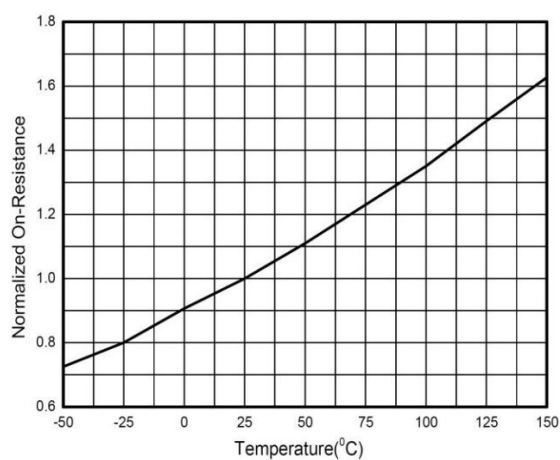
Transfer characteristics



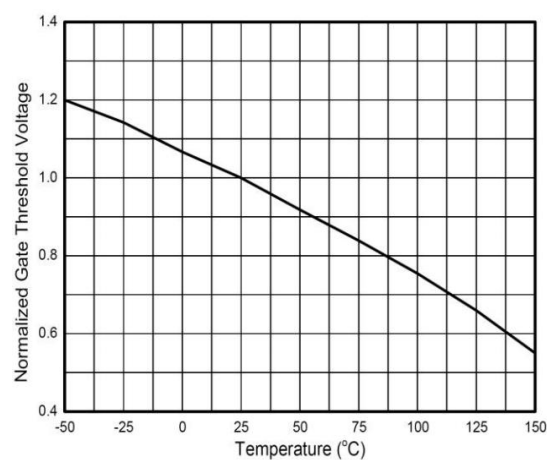
On-Resistance vs. Drain current



On-Resistance vs. Gate-to-Source voltage

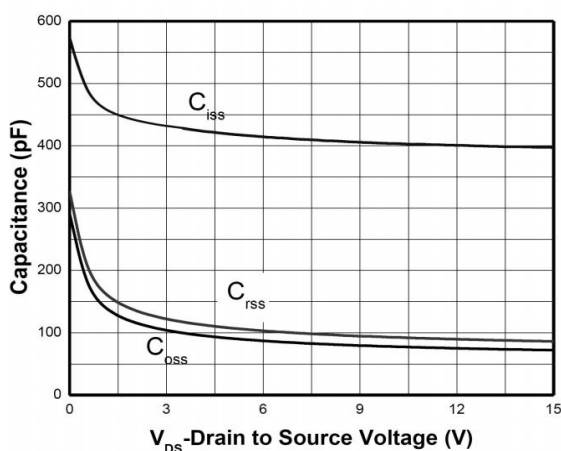


On-Resistance vs. Junction temperature

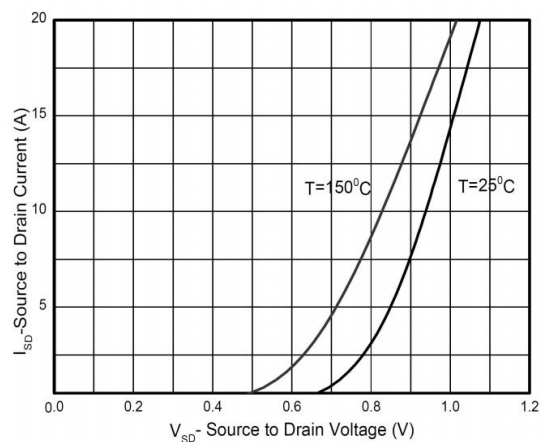


Threshold voltage vs. Temperature

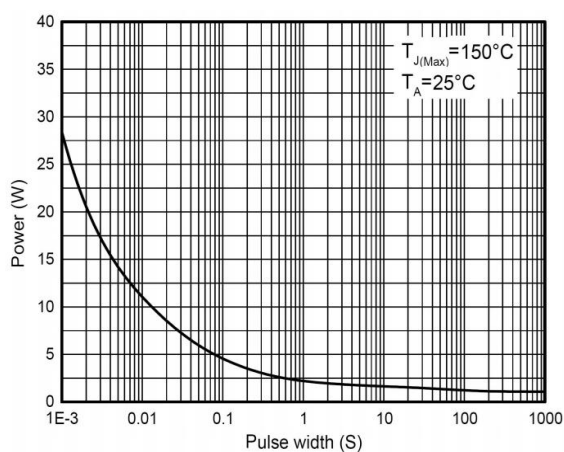
Typical Characteristics



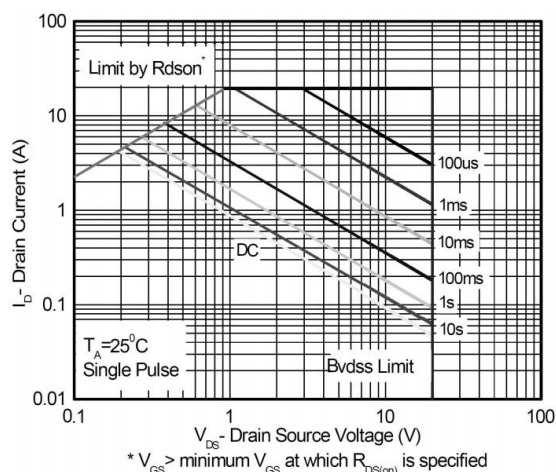
Capacitance



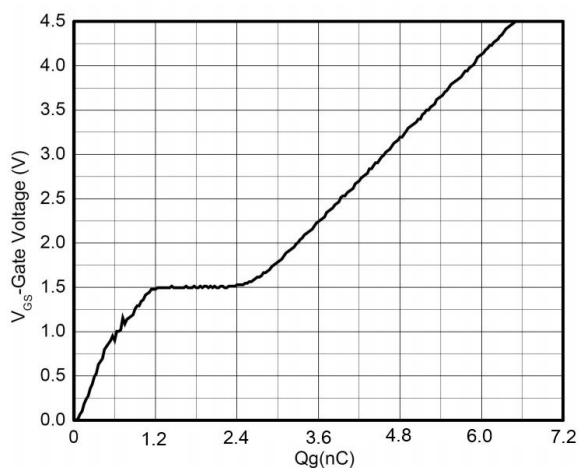
Body diode forward voltage



Single pulse power

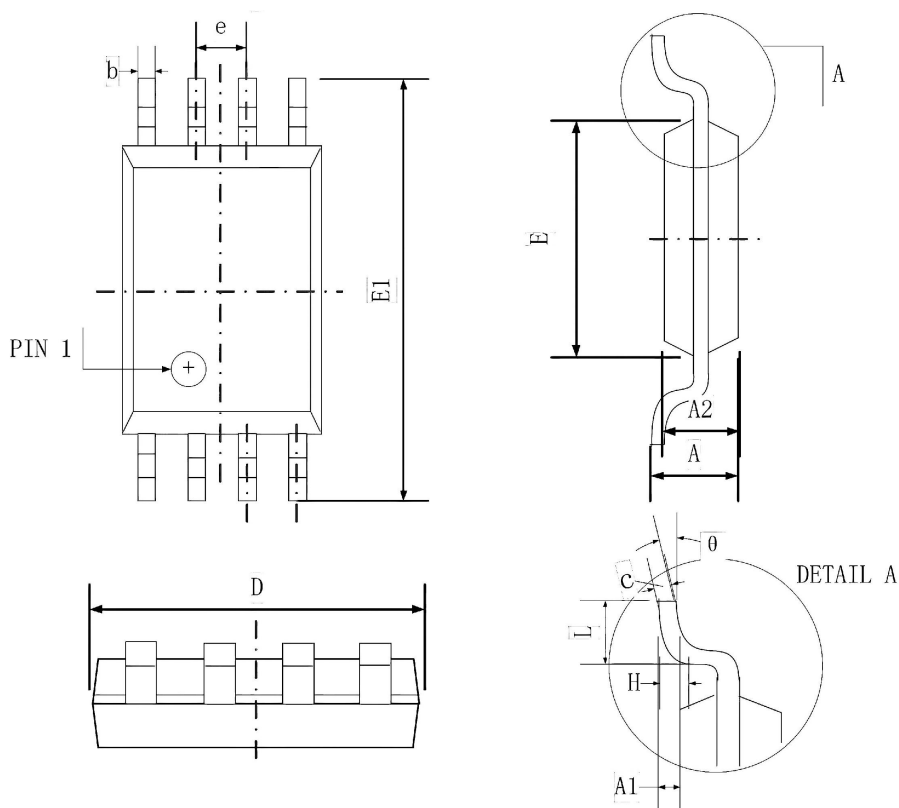


Safe operating power



Gate charge Characteristics

TSSOP-8 Package Information



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	0.650 BSC.		0.260 BSC.	
L	0.500	0.700	0.020	0.028
H	0.250 TYP.		0.010 TYP.	
θ	1°	7°	1°	7°