



TSSOP—8 Plastic-Encapsulate MOSFETS

8205A MOSFET(N-Channel)

FEATURES

$V_{DS}=20V, I_D=6A$

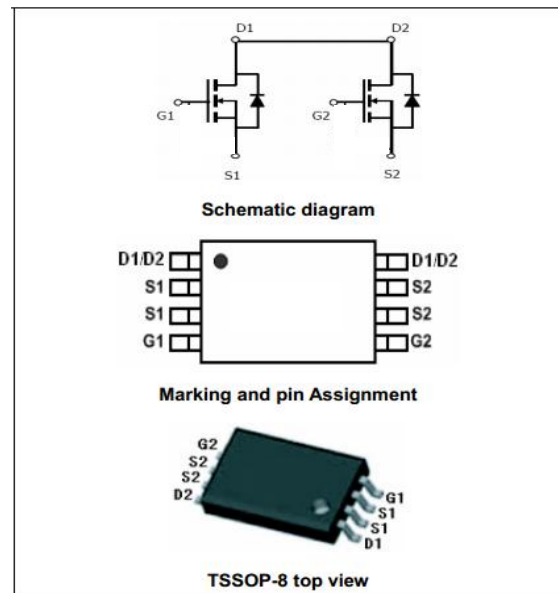
$R_{DS(ON)} < 40m\Omega @ V_{GS}=2.5V$

$R_{DS(ON)} < 25m\Omega @ V_{GS}=4.5V$

High Power and current handing capability

Lead free product is acquired

Surface Mount Package



MAXIMUM RATINGS (TA=25°C unless otherwise noted)

Symbol (符号)	Parameter (参数名称)	Value (额定值)	Units (单位)
V_{DS}	Drain-Source voltage	20	V
V_{GS}	Gate-Source voltage	± 10	V
I_D	Drain current-Continuous	6	A
I_{DM}	Pulsed Drain Current(Note1)	25	A
P_D	Maximum Power Dissipation	1.3	W
T_J, T_{stg}	Operating Junction and Storage Temperature Range	-55-150	°C
$R_{\theta JA}$	Thermal Resistance, Junction-to-Case(Note2)	100	°C/W

ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20	21		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=16V, V_{GS}=0V$			1	μA
Gate-body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 8V$			± 100	nA
On Characteristics(Note3)						
Gate-Threshold Voltage	$V_{th(GS)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.45		1.0	V
Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=4.5V, I_D=4.5A$		23	25	$m\Omega$
		$V_{GS}=2.5V, I_D=3.5A$		30	40	$m\Omega$
Forward Trans conductance	g_{fs}	$V_{DS}=5V, I_D=4.5A$	1			S
Dynamic Characteristics(Note4)						



Input Capacitance	C _{iss}	V _{DS} =8V, V _{GS} =0V, f=1MHz		600		pF
Output Capacitance	C _{oss}			330		
Reverse Transfer Capacitance	C _{rss}			140		
Switching Capacitance(Note4)						
Turn-on Delay Time	t _{d(on)}	V _{DD} =10V, I _D =1A, V _{GS} =4.5V R _{GEN} =6.0Ω		10	20	nS
Turn-on Rise Time	t _r			11	25	nS
Turn-off Delay Time	t _{d(off)}			35	70	nS
Turn-off Fall Time	t _f			30	60	nS
Total Gate Charge	Q _g	V _{DS} =10V, I _D =6A, V _{GS} =4.5V,		10		nC
Gate-Source Charge	Q _{gs}			2.3		nC
Gate-Drain Charge	Q _{gd}			1.5		nC
Drain-Source Diode Characteristics						
Diode Forward Voltage(Note3)	V _{SD}	V _{GS} =0V, I _D =6.0A		0.75	1.2	V
Diode Forward Current(Note2)	I _s				6.0	A

Notes:

- 1.Repetitive Rating:Pulse width limited by maximum junction temperature
- 2.Surface Mounted on FR4 Board,t<10sec
- 3.Pulse Test :Pulse Width <300us,Duty Cycle <2%
- 4.Guaranteed by design,not subject to production



Typical Characteristics

8205A

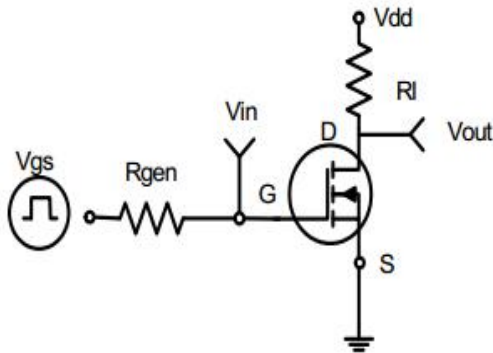


Figure 1: Switching Test Circuit

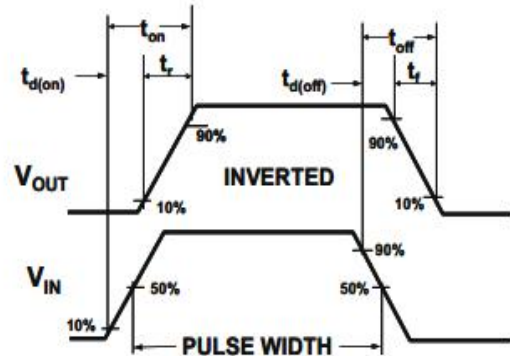


Figure 2: Switching Waveforms

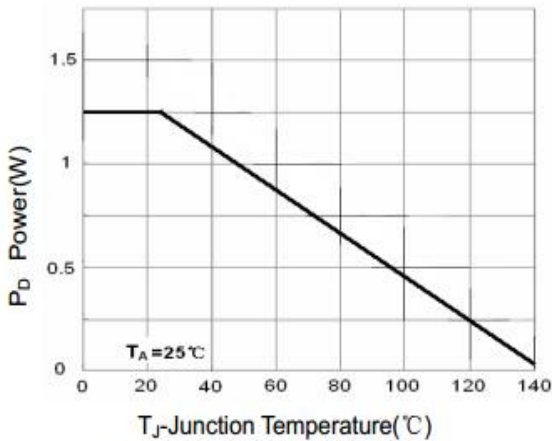


Figure 3 Power Dissipation

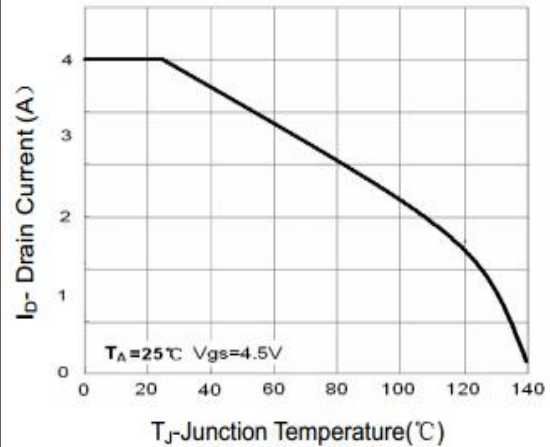


Figure 4 Drain Current

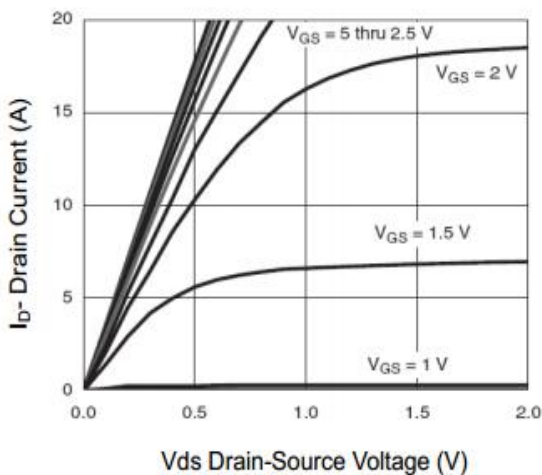


Figure 5 Output Characteristics

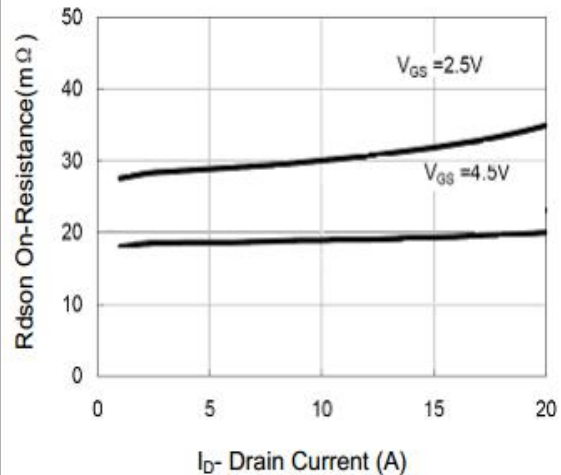


Figure 6 Drain-Source On-Resistance

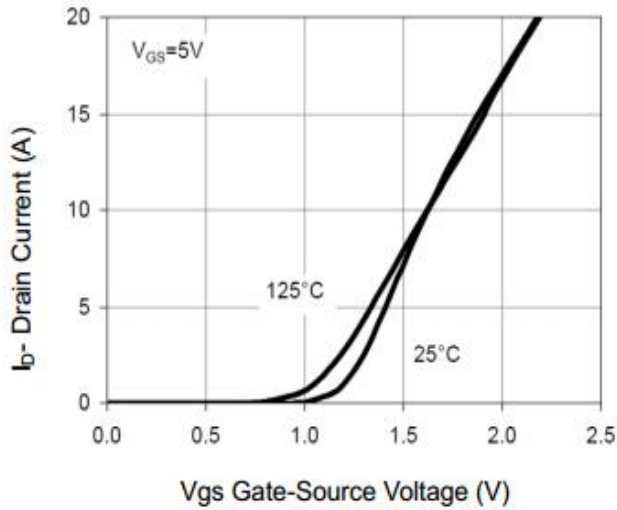


Figure 7 Transfer Characteristics

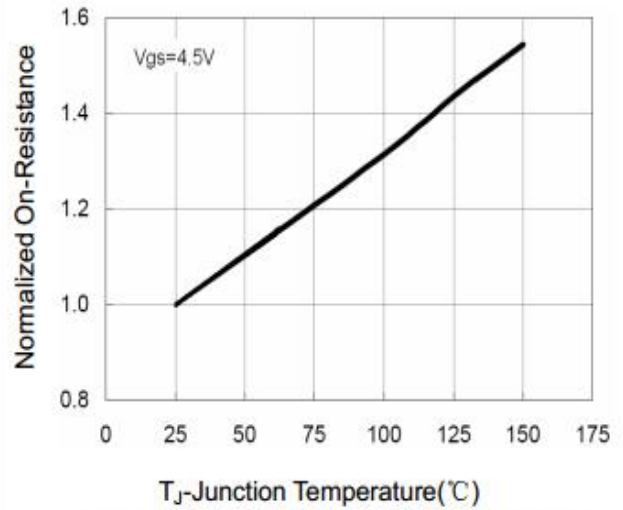


Figure 8 Drain-Source On-Resistance

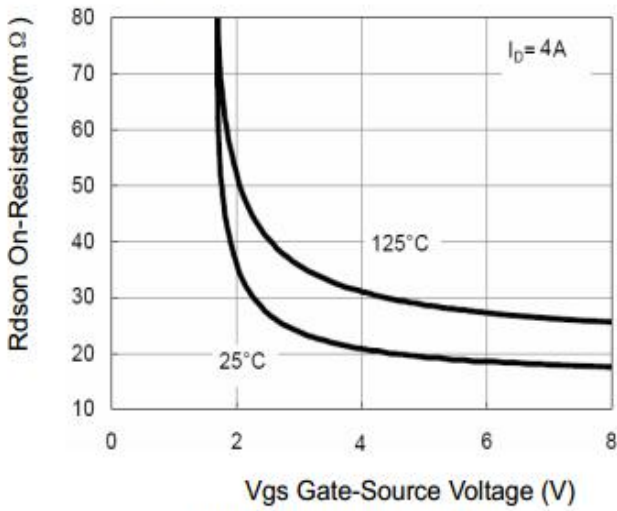


Figure 9 Rdson vs Vgs

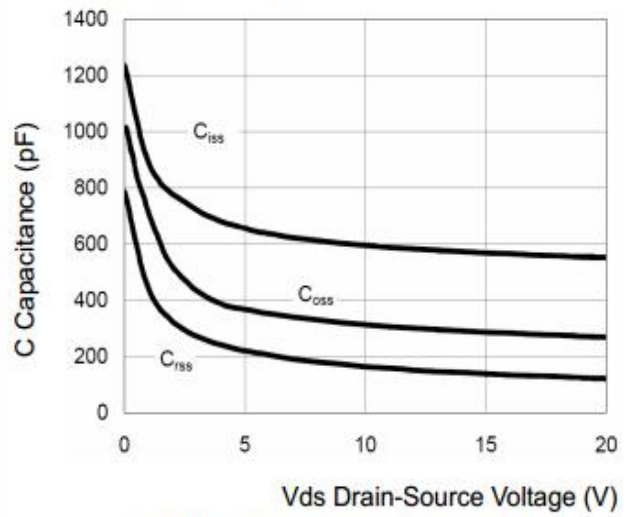


Figure 10 Capacitance vs Vds

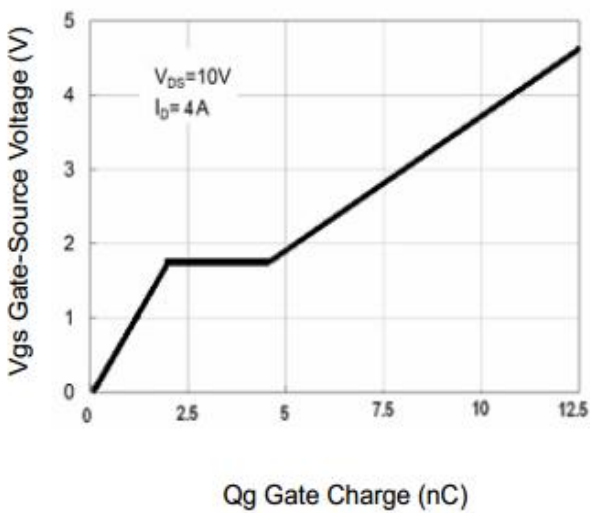


Figure 11 Gate Charge

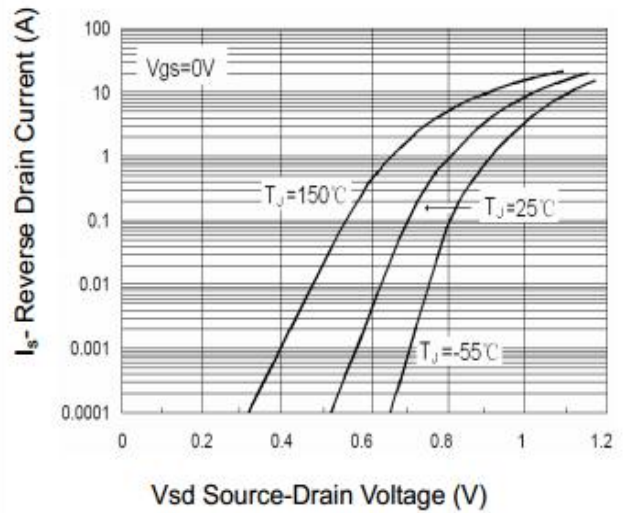


Figure 12 Source- Drain Diode Forward

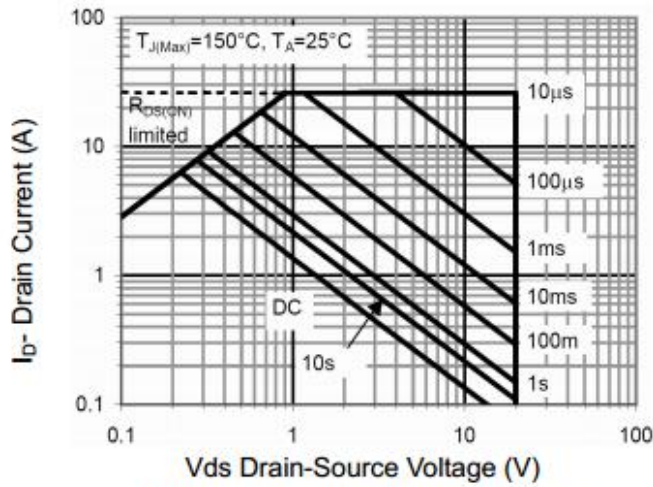


Figure 13 Safe Operation Area

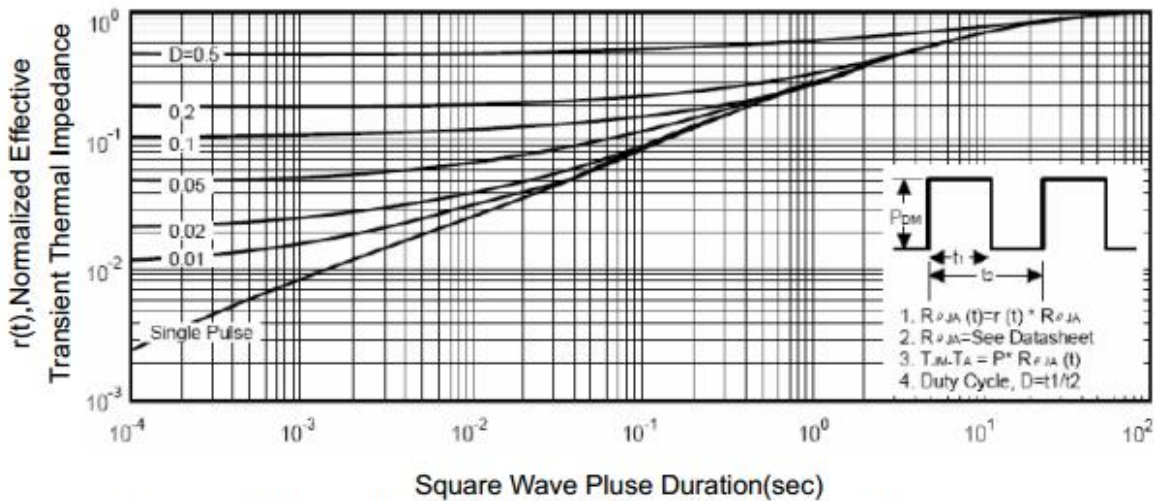


Figure 14 Normalized Maximum Transient Thermal Impedance



TSSOP-8 Package Information

TSSOP-8		尺寸要求			
		代码	MIN	TYP	MAX
		D	2.900		3.200
		E	4.300		4.500
		b	0.190		0.300
		c	0.090		0.200
		E1	6.250		6.550
		A		1.100	
		A2	0.800		1.000
		A1	0.020		0.150
		e		0.65	
		L	0.500		0.700
		H		0.25	
		O	1°		7°