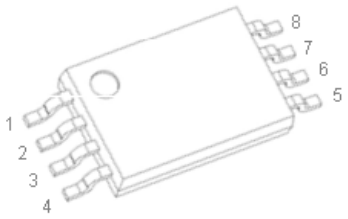
GP8205AS

20V N-Channel MOSFET

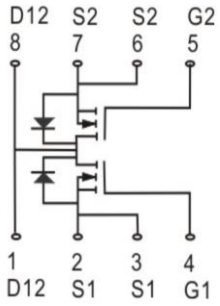
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	18mΩ@4.5V	4.5A
	22mΩ@2.5V	

TSSOP8



Schematic diagram



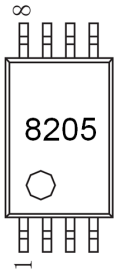
Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$
- Low Gate Charge
- High Power and Current Handing Capability
- Surface Mount Package

Application

- Battery Protection
- Load Switch
- Power Management

MARKING:



8205 = Device Code;

ABSOLUTE MAXIMUM RATINGS (T_a=25℃ 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	4.5*	A
Pulsed Drain Current[1]	I_{DM}	18*	A
Single Pulsed Avalanche Energy[2]	E_{AS}	19	mJ
Avalanche Current[1]	I_{AS}	4.5	A
Power Dissipation	P_D	2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

* Drain current limited by maximum junction temperature

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

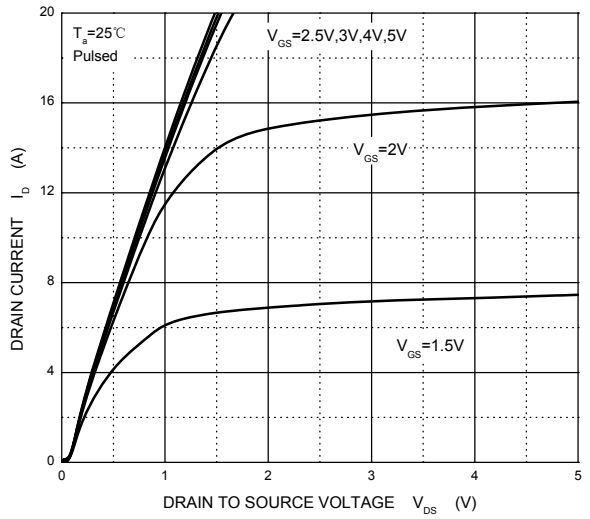
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =16V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.4	0.7	1.2	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =4.5V, I_D =3A		18	23	mΩ
		V_{GS} =2.5V, I_D =3A		22	30	
Forward Transconductance[3]	g_{fs}	V_{DS}=5V , ID=4A		19.6		S
Diode Forward Voltage	V_{SD}	V_{GS}=0V , I_S=2A			1.2	V
Dynamic characteristics						
Input Capacitance	C_{iss}	V_{DS} =8V,V_{GS} =0V,f =1MHz		465		pF
Output Capacitance	C_{oss}			99		
Reverse Transfer Capacitance	C_{rss}			76		
Switching Characteristics[3,4]						
Total Gate Charge	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		
Gate Resistance	R_g	V_{DS}=0V,Scan F mode		1.5		Ω
Turn-on delay time	$t_{d(on)}$	V_{DD}=10V , V_{GS}=4V , I_D=1A R_G=10Ω		8		ns
Turn-on rise time	t_r			17		
Turn-off delay time	$t_{d(off)}$			19		
Turn-off fall time	t_f			12		

Note :

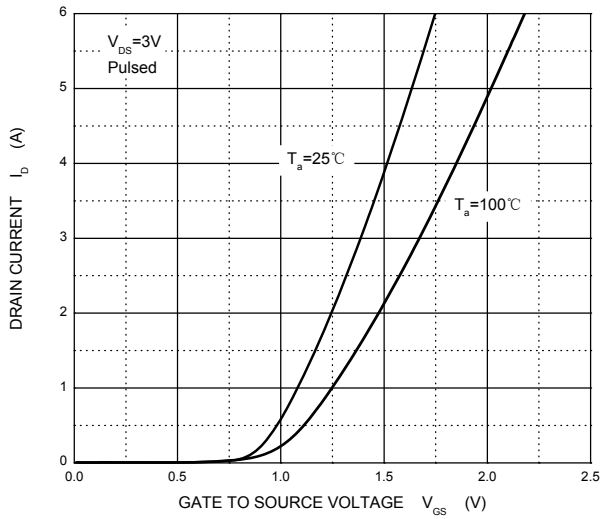
1. Repetitive Rating : Pulse width limited by maximum junction temperature
2. L = 1.88mH, I_{AS} = 4.5 A, V_{DD} = 10V, R_G = 25 Ω, Starting TJ = 25°C
3. Pulse Test : Pulse width ≤300us, Duty cycle ≤2%
4. Essentially independent of operating temperature

Typical Electrical and Thermal Characteristics

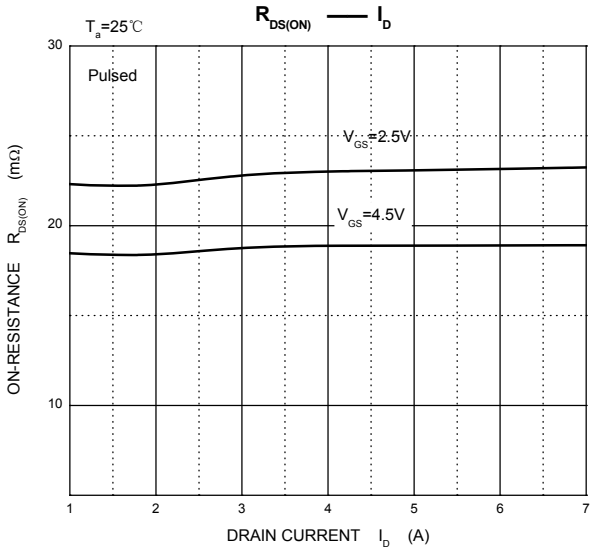
Output Characteristics



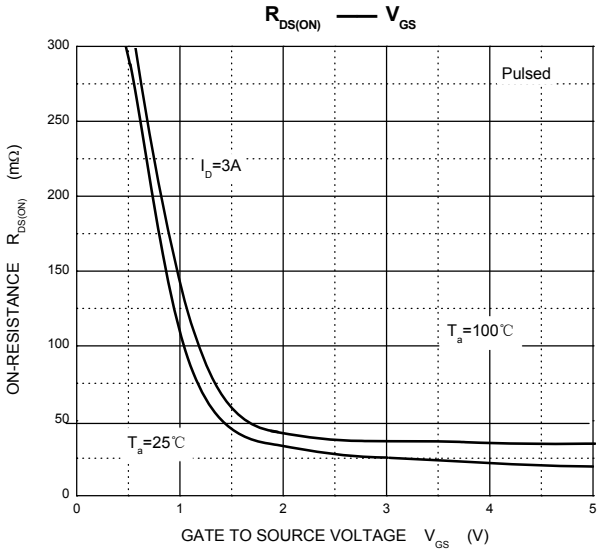
Transfer Characteristics



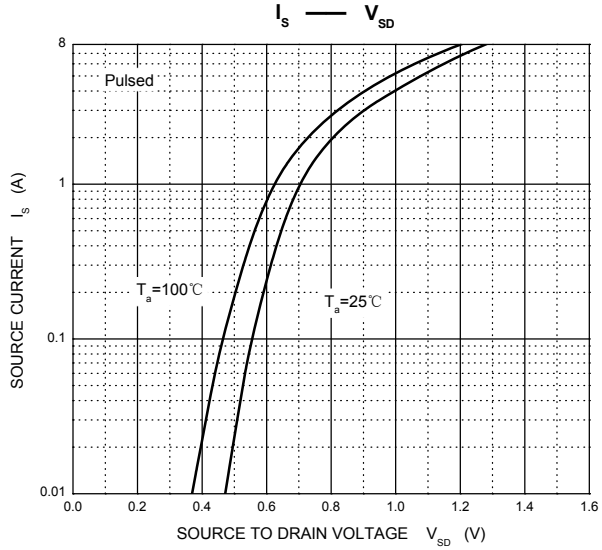
$R_{DS(ON)}$ — I_D



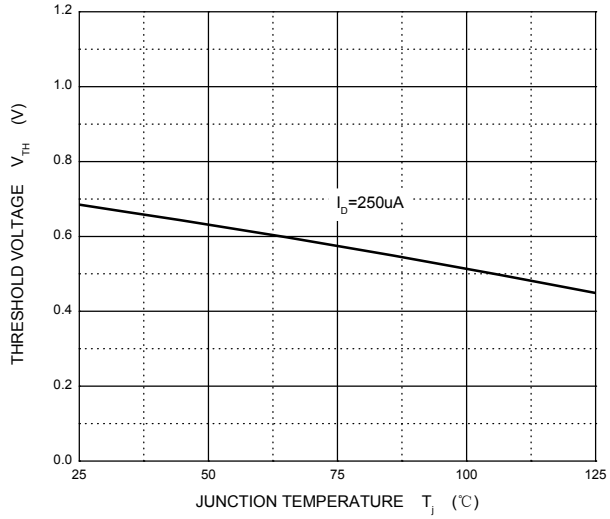
$R_{DS(ON)}$ — V_{GS}



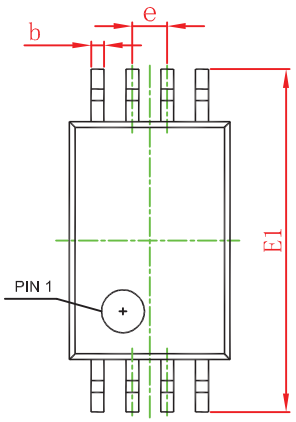
I_S — V_{SD}

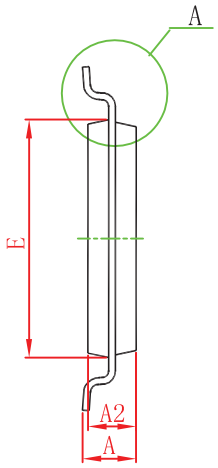


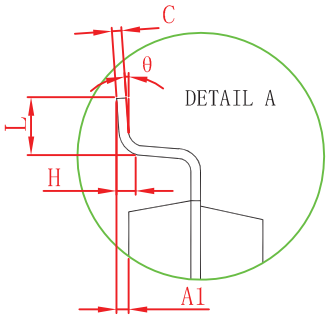
Threshold Voltage

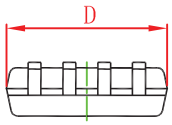


TSSOP8 Package Information





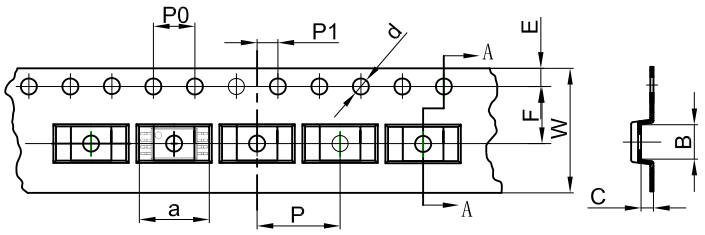




Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	**Max**	**Min**	**Max**
D	2.900	3.100	0.114	0.122
E	4.300	4.500	0.169	0.177
b	0.190	0.300	0.007	0.012
c	0.090	0.200	0.004	0.008
E1	6.250	6.550	0.246	0.258
A		1.200		0.047
A2	0.800	1.000	0.031	0.039
A1	0.050	0.150	0.002	0.006
e	0.65 (BSC)		0.026(BSC)	
L	0.500	0.700	0.020	0.028
H	0.25(TYP		0.01(TYP	
θ	1°	7°	1°	7°

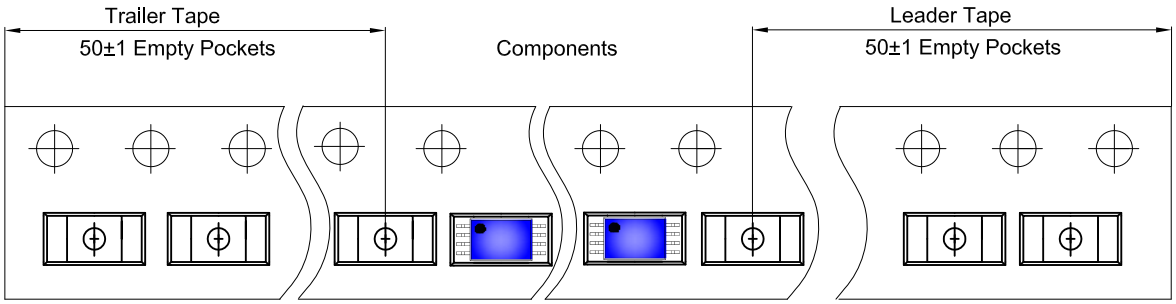
TSSOP8 Tape and Reel

TSSOP8 Embossed Carrier Tape

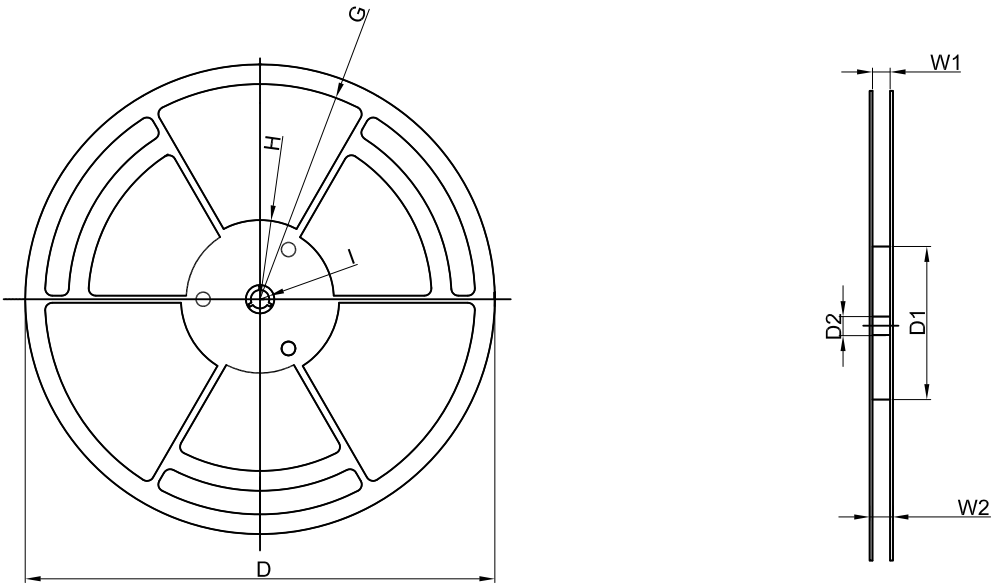


Dimensions are in millimeter										
Pkg type	a	B	C	d	E	F	P0	P	P1	W
TSSOP8	6.76	3.30	1.20	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

TSSOP8 Tape Leader and Trailer



TSSOP8 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
13"Dia	Ø330.00	100.00	13.00	R151.00	R56.00	R6.50	12.40	17.60

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3,000 pcs	13 inch	3,000 pcs	336×336×48	24,000 pcs	445×355×365	

单击下面可查看定价，库存，交付和生命周期等信息

>>GP(格瑞宝)