

Product Summary

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

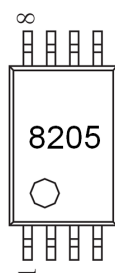
Feature

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

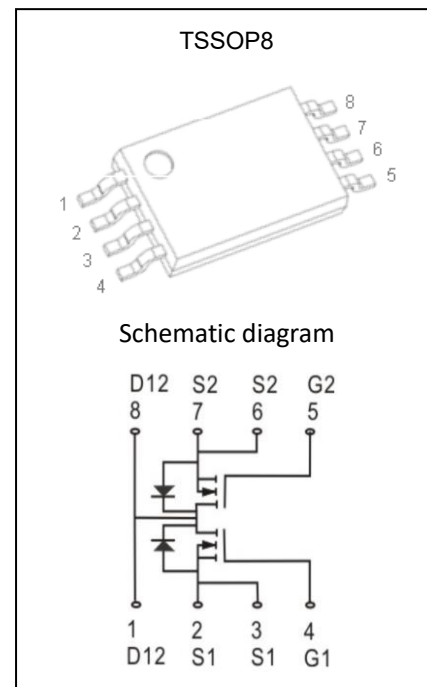
Application

- Battery Protection
- Load Switch
- Power Management

MARKING:



8205 = Device Code;



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	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	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

* Drain current limited by maximum junction temperature

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

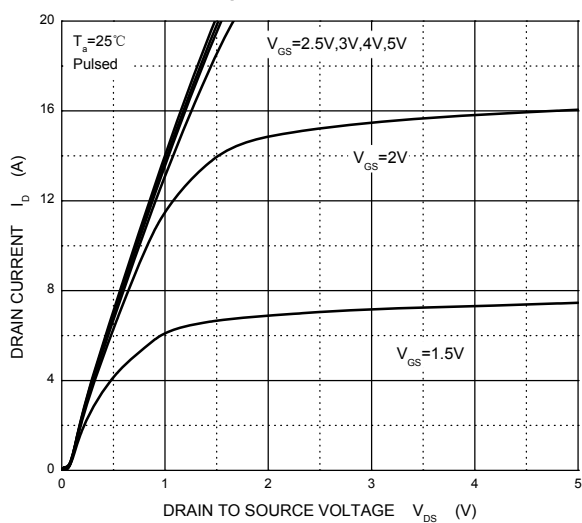
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =16V,V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±12V, V _{DS} = 0V			±100	nA
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 , I _D =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 :

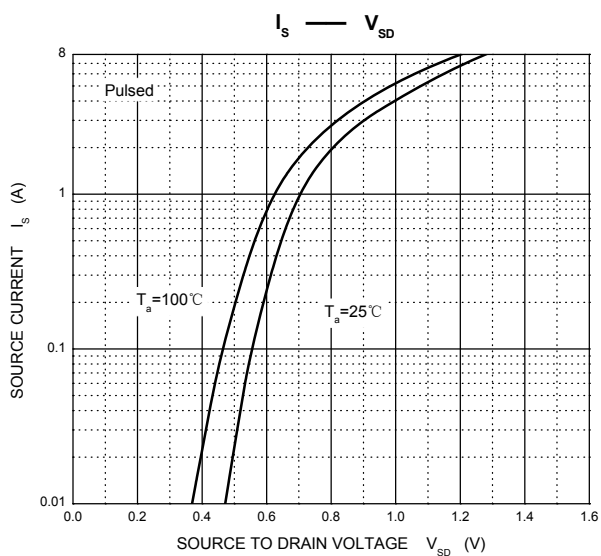
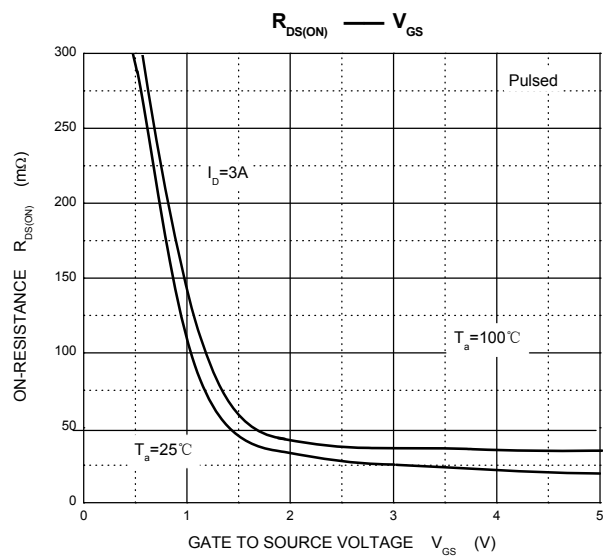
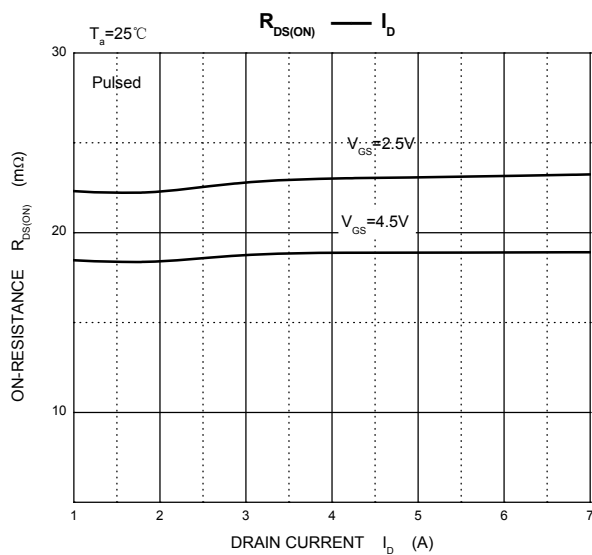
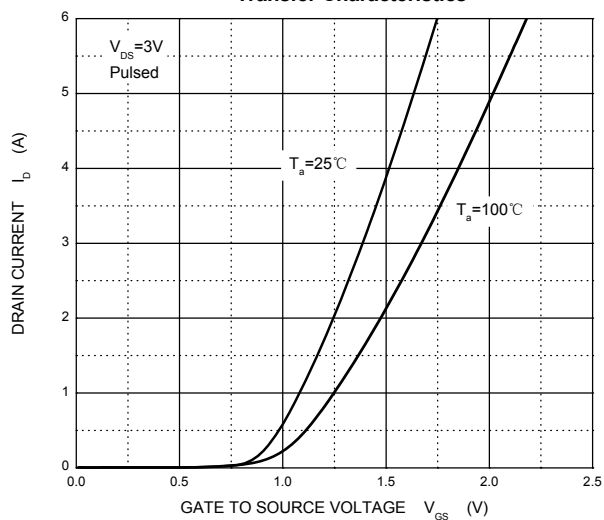
1. Repetitive Rating : Pulse width limited by maximum junction temperature
2. L = 1.88mH, I_{AS} = 4.5 A, V_{DD} = 10V, R_G = 25 Ω, Starting T_J = 25°C
3. Pulse Test : Pulse width ≤300us, Duty cycle ≤2%
4. Essentially independent of operating temperature

Typical Electrical and Thermal Characteristics

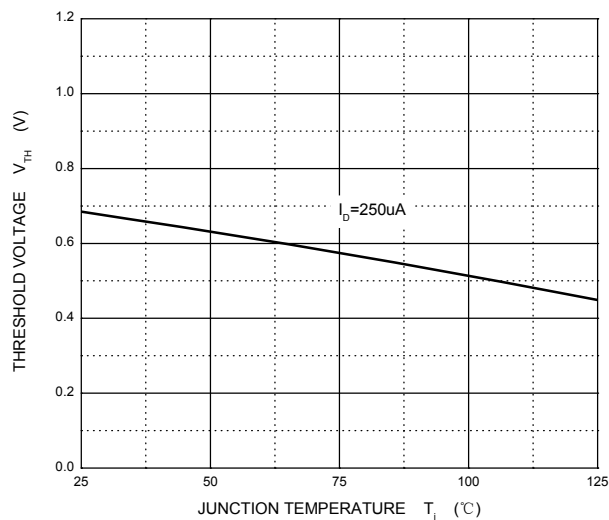
Output Characteristics

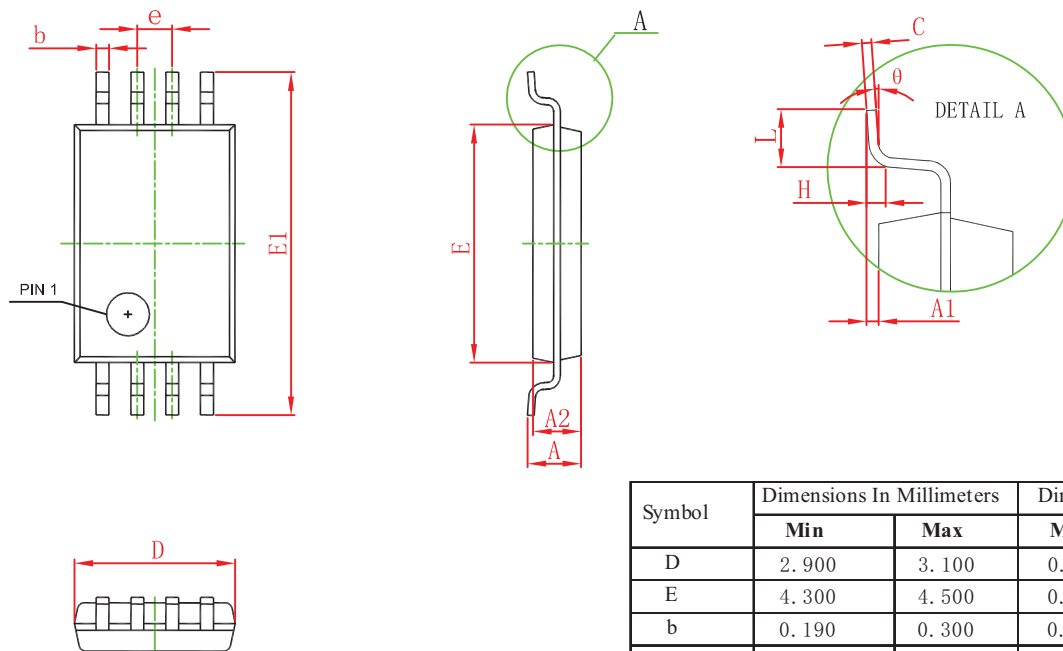


Transfer Characteristics

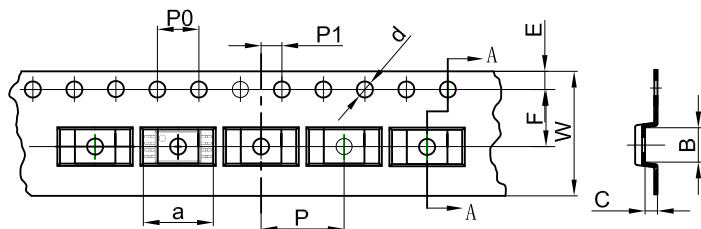


Threshold Voltage

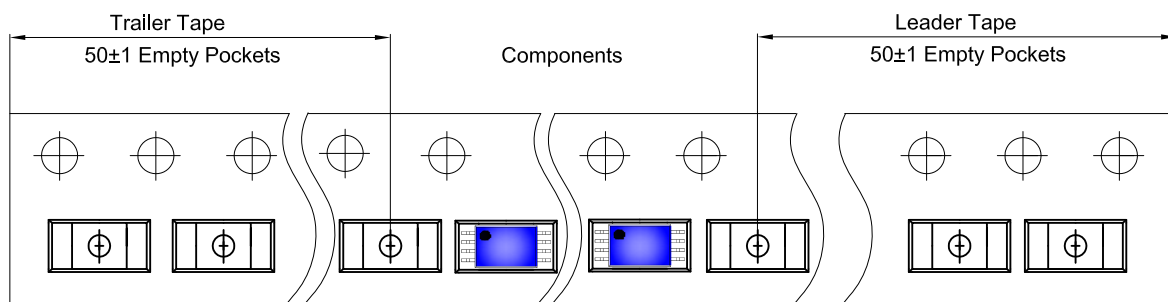
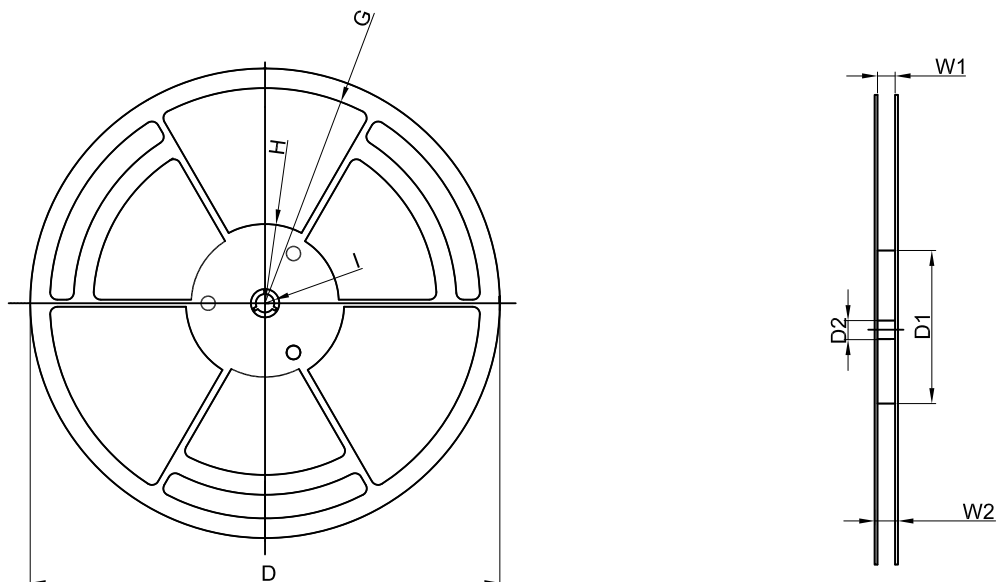


TSSOP8 Package Information


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	