

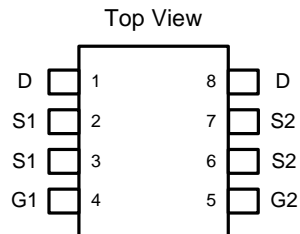
FS8205A

Dual N-Channel Enhancement Mode MOSFET

Features

- 20V/6A,
 $R_{DS(ON)} < 25m\Omega$ @ $V_{GS}=4.5V$
 $R_{DS(ON)} < 34m\Omega$ @ $V_{GS}=2.5V$
- Super High Dense Cell Design
- Reliable and Rugged
- Lead Free Available (RoHS Compliant)

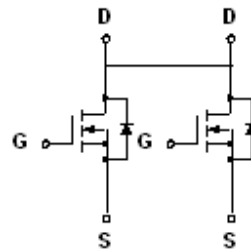
Pin Description



TSSOP-8

Applications

- Portable Equipment and Battery Powered Systems.



N Channel MOSFET

Absolute Maximum Ratings (T_A=25°C Unless Otherwise Noted)

Symbol	Parameter	Rating	Unit	
V _{DSS}	Drain-Source Voltage	20	V	
V _{GSS}	Gate-Source Voltage	±8		
I _D *	Continuous Drain Current	6	A	
I _{DM} *	300μs Pulsed Drain Current			20
I _S *	Diode Continuous Forward Current	1	A	
T _J	Maximum Junction Temperature	150	°C	
T _{STG}	Storage Temperature Range	-55 to 150		
P _D *	Maximum Power Dissipation	T _A =25°C	1.25	W
		T _A =100°C	0.5	
R _{θJA} *	Thermal Resistance-Junction to Ambient	100	°C/W	

Notes :

*Surface Mounted on 1in² pad area, t ≤ 10sec.

Electrical Characteristics (T_A=25°C Unless Otherwise Noted)

Symbol	Parameter	Test Condition	8205A			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =250μA	20			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =16V, V _{GS} =0V T _J =85°C			1	μA
					30	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250μA	0.5	0.7	1.5	V
I _{GSS}	Gate Leakage Current	V _{GS} =±8V, V _{DS} =0V			±100	nA
R _{DS(ON)} ^a	Drain-Source On-state Resistance	V _{GS} =4.5V, I _{DS} =6A		20	25	mΩ
		V _{GS} =2.5V, I _{DS} =5.2A		27	34	
Diode Characteristics						
V _{SD} ^a	Diode Forward Voltage	I _{SD} =1A, V _{GS} =0V		0.8	1.3	V
t _{rr}	Reverse Recovery Time	I _{DS} =6A, dI _{SD} /dt=100A/μs		14		ns
Q _{rr}	Reverse Recovery Charge			5		nC
Dynamic Characteristics^b						
R _G	Gate Resistance	V _{GS} =0V, V _{DS} =0V, F=1MHz		5.5		Ω
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =10V, Frequency=1.0MHz		595		pF
C _{oss}	Output Capacitance			140		
C _{riss}	Reverse Transfer Capacitance			125		
t _{d(ON)}	Turn-on Delay Time	V _{DD} =10V, R _L =10Ω, I _{DS} =1A, V _{GEN} =4.5V, R _G =6Ω		3.5	7	ns
T _r	Turn-on Rise Time			13.5	25	
t _{d(OFF)}	Turn-off Delay Time			32	58	
T _f	Turn-off Fall Time			6.6	13	
Gate Charge Characteristics^b						
Q _g	Total Gate Charge	I _{DS} =6A, dI _{SD} /dt=100A/μs		21	29	nC
Q _{gs}	Gate-Source Charge			1.3		
Q _{gd}	Gate-Drain Charge			3.3		

Notes :

a : Pulse test ; pulse width ≤ 300μs, duty cycle ≤ 2%.

b : Guaranteed by design, not subject to production testing.