

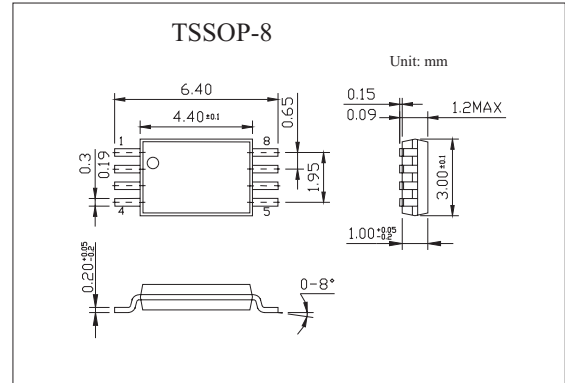
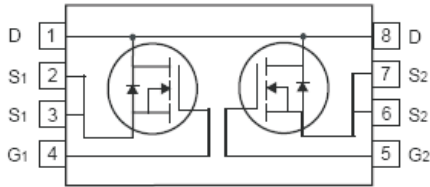


Dual N-Channel Enhancement Mode Field Effect Transistor

S8205A

■ Features

- 5A,20V. $r_{DS(on)} = 0.025 \Omega @ V_{GS} = 4.5 V$
 $r_{DS(on)} = 0.040 \Omega @ V_{GS} = 2.5 V.$



■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	20	V	
Gate-Source Voltage	V_{GS}	± 8	V	
Continuous Drain Current	I_D	5	A	
Pulsed Drain Current	I_{DM}	20	A	
Maximum Power Dissipation	P_D	$T_A = 25^\circ C$	2.0	W
		$T_A = 70^\circ C$	1.6	W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	78	$^\circ C/W$	
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	40	$^\circ C/W$	
Junction temperature and Storage temperature	$T_{j, T_{stg}}$	-55 to +150	$^\circ C$	



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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Drain-Source Breakdown Voltage	V _{DSS}	V _{GS} = 0 V, I _D = 250 μA	20			V	
Zero Gate Voltage Drain Current	I _{BSS}	V _{DS} = 16V, V _{GS} = 0V			1	μA	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±8V			±50	nA	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.5		1.0	V	
Drain-Source On-State Resistance *	r _{DSON}	V _{GS} = 4.5V, I _D = 5A		0.020	0.025	Ω	
		V _{GS} = 2.5V, I _D = 4A		0.035	0.040		
On-State Drain Current *	I _{D(on)}	V _{DS} = 5V, V _{GS} = 4.5V	15			A	
Forward Transconductance *	g _{fs}	V _{DS} = 5V, I _D = 3A		11		S	
Input Capacitance	C _{iss}	V _{DS} = 10 V, V _{GS} = 0 V, f = 1.0 MHz		700		pF	
Output Capacitance	C _{oss}				175		pF
Reverse Transfer Capacitance	C _{rss}				85		pF
Total Gate Charge	Q _g	V _{DS} = 10V, V _{GS} = 4.5V, I _D = 3A		7	10	nC	
Gate-Source Charge	Q _{gs}			1.2			
Gate-Drain Charge	Q _{gd}			1.9			
Turn-On Delay Time	t _{d(on)}	V _{DD} = 10V I _D = 1A, V _{GS} = 4.5V, R _G = 6 Ω		8	16	ns	
Rise Time	t _r			10	18		
Turn-Off Delay Time	t _{d(off)}			18	29		
Fall Time	t _f			5	10		
Maximum Continuous Drain-Source Diode Forward Current	I _S				1.3	A	
Diode Forward Voltage *	V _{SD}	I _S = 1.7 A, V _{GS} = 0 V		0.65	1.2	V	

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