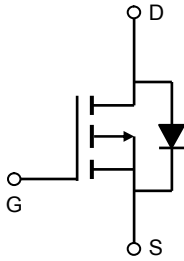
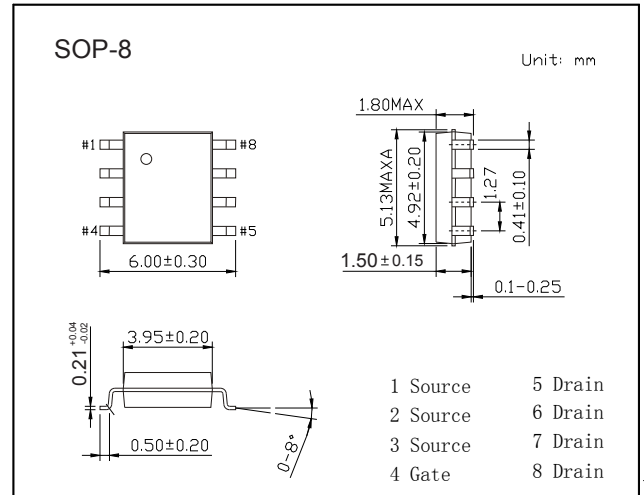


Features

- $V_{DS(V)} = -30V$
- $I_D = -10.5 A (V_{GS} = -20V)$
- $R_{DS(ON)} < 13m\Omega (V_{GS} = -10V)$
- $R_{DS(ON)} < 25m\Omega (V_{GS} = -4.5 V)$



Package



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

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	-30	V	
Gate-Source Voltage	V_{GS}	± 20		
Continuous Drain Current	I_D	$T_A = 25^\circ C$	-10.5	A
		$T_A = 70^\circ C$	-8	
Pulsed Drain Current	I_{DM}	-60		
Avalanche Current	I_{AR}	-17		
Repetitive Avalanche Energy	$L = 0.3mH$	E_{AR}	60	mJ
Power Dissipation	P_D	$T_A = 25^\circ C$	3.1	W
		$T_A = 70^\circ C$	2	
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	40	$^\circ C/W$
		Steady-State	75	
Thermal Resistance.Junction- to-Lead	R_{thJL}	24		
Junction Temperature	T_J	150	$^\circ C$	
Junction Storage Temperature Range	T_{stg}	-55 to 150		



Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Drain-Source Breakdown Voltage	V _{DSS}	I _D =-250 μA, V _{GS} =0V	-30			V	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA	
		V _{DS} =-30V, V _{GS} =0V, T _J =55°C			-5		
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} = ±20V			±100	nA	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-0.8		-2.5	V	
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-20V, I _D =-10A		11		m Ω	
		V _{GS} =-20V, I _D =-10A T _J =125°C		12			
		V _{GS} =-10V, I _D =-10A		13			
		V _{GS} =-4.5V, I _D =-5A		25			
On state drain current	I _{D(ON)}	V _{GS} =-10V, V _{DS} =-5V	-60			A	
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-10A		22		S	
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-15V, f=1MHz		1130	1400	pF	
Output Capacitance	C _{oss}		240				
Reverse Transfer Capacitance	C _{rss}		155				
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	1		8	Ω	
Total Gate Charge (10V)	Q _g	V _{GS} =-10V, V _{DS} =-15V, I _D =-10A		18	24	nC	
Total Gate Charge (4.5V)				9.5			
Gate Source Charge			Q _{gs}		5.5		
Gate Drain Charge			Q _{gd}		3.3		
Turn-On DelayTime	t _{d(on)}	V _{GS} =-10V, V _{DS} =-15V, R _L =1.5Ω, R _{GEN} =3Ω		8.7		ns	
Turn-On Rise Time	t _r			8.5			
Turn-Off DelayTime	t _{d(off)}			18			
Turn-Off Fall Time	t _f			7			
Body Diode Reverse Recovery Time	t _{rr}	I _F =-10A, di/dt=100A/us		25	30	nC	
Body Diode Reverse Recovery Charge	Q _{rr}			12			
Maximum Body-Diode Continuous Current	I _S				-3.5	A	
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V			-1	V	

Note : The static characteristics in Figures 1 to 6 are obtained using <300 μs pulses, duty cycle 0.5% max.

Marking

Marking	4435
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