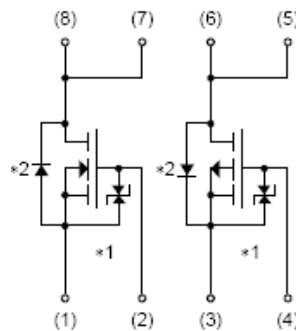
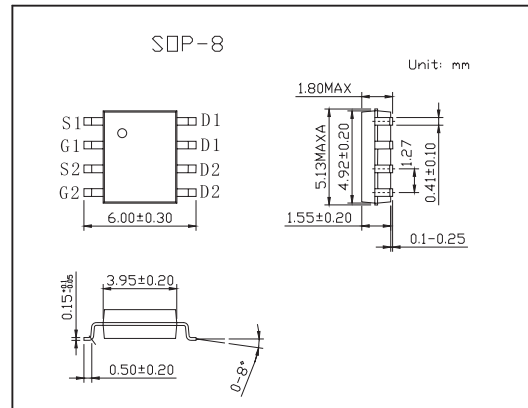


■ Features

- Low on-resistance.
- Built-in G-S Protection Diode.
- Small and Surface Mount Package.
- Power switching, DC / DC converter.



*1 ESD PROTECTION DIODE
*2 BODY DIODE

■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	N-Channel	P-Channel	Unit
Drain-source voltage	V _{DSS}	30	-30	V
Gate-source voltage	V _{GSS}	±20	±20	V
Drain current Continuous	I _D	±7.0	±4.5	A
Drain current Pulsed *	I _{DP}	±28	±18	A
Source current (Body diode) Continuous	I _S	1.6	-1.6	A
Source current (Body diode) Pulsed *	I _{SP}	6.4	-18	A
Total power dissipation (T _c =25°C)	P _D	2		W
Channel temperature	T _{ch}	150		°C
Storage temperature	T _{stg}	-55 to +150		°C
Channel to ambient	R _{th (ch-a)}	62.5		°C/W

* P_w ≤ 10 μ s, Duty cycle ≤ 1%

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Gate-source leakage	IGSS	VGS = ±20V, VDS = 0V			±10	μA
		VGS = ±20V, VDS = 0V			±10	
Drain-source breakdown voltage	V(BR)DSS	ID = 1mA, VGS = 0V	30			V
		ID = -1mA, VGS = 0V	-30			
Zero gate voltage drain current	IDSS	VDS = 30V, VGS = 0V			1	μA
		VDS = -30V, VGS = 0V			-1	
Gate threshold voltage	VGS(th)	VDS = 10V, ID = 1mA	1.0		2.5	V
		VDS = -10V, ID = -1mA	-1.0		-2.5	
Static drain-source on-state resistance	RDS(on)	ID = 7.0A, VGS = 10A		17	24	mΩ
		ID = 7.0A, VGS = 4.5V		23	33	
		ID = 7.0A, VGS = 4V		25	35	
Static drain-source on-state resistance	RDS(on)	ID = -4.5A, VGS = -10A		40	56	mΩ
		ID = -4.5A, VGS = -4.5V		57	80	
		ID = -4.5A, VGS = -4.0V		65	90	
Forward transfer admittance	Yfs	ID = 7.0A, VDS = 10V	5.0			S
		ID = -4.5A, VDS = -10V	3.5			
Input capacitance	Ciss	N-Channel VDS = 10V, VGS = 0V, f = 1MHz	N-Ch	600		pF
			P-Ch	850		
Output capacitance	Coss	P-Channel	N-Ch	200		pF
			P-Ch	190		
Reverse transfer capacitance	Crss	VDS = -10V, VGS = 0V, f = 1MHz	N-Ch	120		pF
			P-Ch	120		
Turn-on delay time	td(on)	ID = 3.5A, VDD = 15V	N-Ch	8		ns
		ID = -2.5A, VDD = -15V	P-Ch	10		
Rise time	tr	N-Channel VGS = 10V, RL = 4.29Ω, RG = 10Ω	N-Ch	10		ns
			P-Ch	25		
Turn-off delay time	td(off)	P-Channel	N-Ch	37		ns
			P-Ch	60		
Fall time	tf	VGS = -10V, RL = 6.0Ω, RG = 10Ω	N-Ch	11		ns
			P-Ch	25		
Total gate charge	Qg	N-Channel VDD = 15V, VGS = 5V, ID = 7.0A	N-Ch	8.4	11.8	nC
			P-Ch	8.5		
Gate-source charge	Qgs	P-Channel	N-Ch	1.9		nC
			P-Ch	2.5		
Gate-drain charge	Qgd	VDD = -15V, VGS = -5V, ID = -4.5A	N-Ch	3.3		nC
			P-Ch	3.0		
Forward voltage	VSD	IS = 6.4A, VGS = 0V	N-Ch		1.2	V
		IS = -1.6A, VGS = 0V	P-Ch		-1.2	