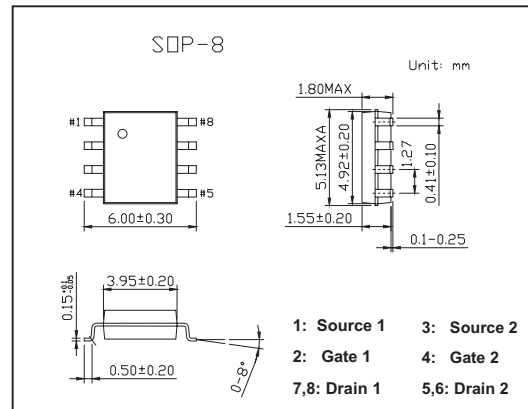
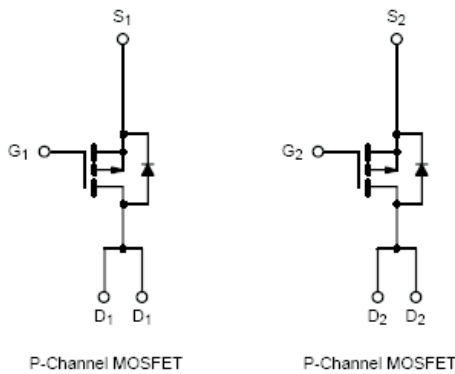


SI4953

■ Features

- 100% Rg Tested



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

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	-30	V	
Gate-Source Voltage	V_{GS}	± 20		
Continuous Drain Current ($T_J = 150^\circ\text{C}$) *	I_D	$T_A = 25^\circ\text{C}$	-4.9	A
		$T_A = 70^\circ\text{C}$	-3.9	
Pulsed Drain Current	I_{DM}	-30		
Continuous Source Current *	I_S	-1.7		
Maximum Power Dissipation *	P_D	$T_A = 25^\circ\text{C}$	2	W
		$T_A = 70^\circ\text{C}$	1.3	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ\text{C}$	
Maximum Junction-to-Ambient*	R_{thJA}	62.5	$^\circ\text{C/W}$	

* Surface Mounted on 1" X 1" FR4 Board.

SI4953

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu A$	-1			V	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0 V, V_{GS} = \pm 20 V$			± 100	nA	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30V, V_{GS} = 0 V$			-1	μA	
		$V_{DS} = -30V, V_{GS} = 0 V, T_J = 55^\circ C$			-25	μA	
On-State Drain Current*	$I_{D(on)}$	$V_{DS} \leq -5 V, V_{GS} = -10 V$	-20			A	
Drain-Source On-State Resistance*	$r_{DS(on)}$	$V_{GS} = -10 V, I_D = -4.9A$		0.043	0.053	Ω	
		$V_{GS} = -4.5 V, I_D = -3.6A$		0.070	0.095	Ω	
Forward Transconductance*	g_{fs}	$V_{DS} = -15 V, I_D = -4.9A$		10		S	
Schottky Diode Forward Voltage*	V_{SD}	$I_S = -1.7 A, V_{GS} = 0 V$		0.8	-1.2	V	
Total Gate Charge	Q_g	$V_{DS} = -15V, V_{GS} = -10 V, I_D = -4.9A$		16	25	nC	
Gate-Source Charge	Q_{gs}			5		nC	
Gate-Drain Charge	Q_{gd}			2		nC	
Gate Resistance	R_g		2		7.1	Ω	
Turn-On Delay Time	$t_{d(on)}$	$I_D = -1 A, V_{GEN} = -10V, R_G = 6 \Omega$		9	15	ns	
Rise Time	t_r		$V_{DD} = -15 V, R_L = 15 \Omega$		13	20	ns
Turn-Off Delay Time	$t_{d(off)}$				25	40	ns
Fall Time	t_f				15	25	ns
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = -1.7 A, di/dt = 100 A/\mu s$		60	90	ns	

* Pulse test; pulse width $\leq 300 \mu s$, duty cycle $\leq 2\%$.