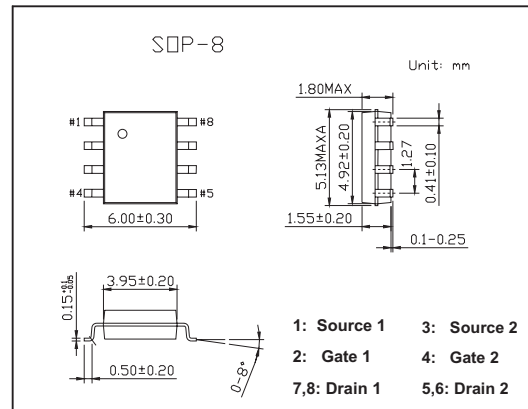
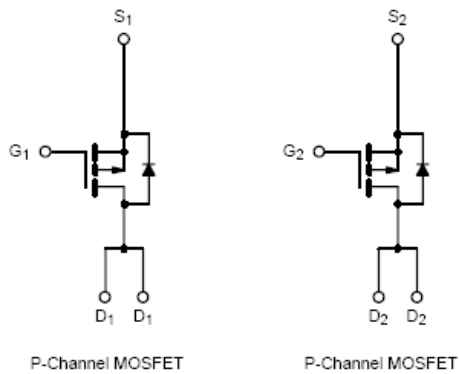


## Dual P-Channel 30-V(D-S) MOSFET

## KI4953DY

## ■ 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	$V_{GS}$	$\pm 20$		
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	$^\circ\text{C}/\text{W}$	

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

## KI4953DY

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu A$	-1			V	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0 V, V_{GS} = \pm 20 V$			$\pm 100$	nA	
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -30V, V_{GS} = 0 V$			-1	$\mu A$	
		$V_{DS} = -30V, V_{GS} = 0 V, T_J = 55^\circ C$			-25	$\mu A$	
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	$\Omega$	
		$V_{GS} = -4.5 V, I_D = -3.6A$		0.070	0.095	$\Omega$	
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	$\Omega$	
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  $\leq 2\%$ .