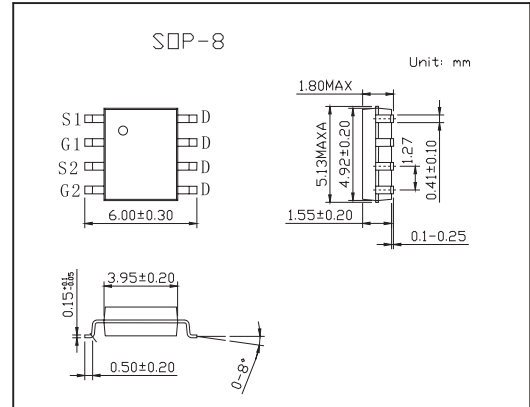
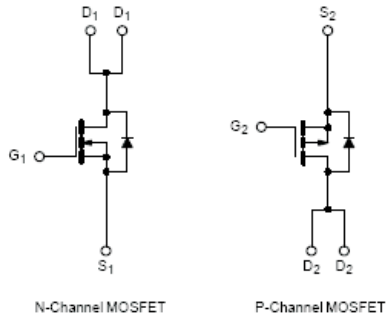


N- and P-Channel 2.5-V (G-S) MOSFET

KI4562DY

■ PIN Configuration

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

Parameter	Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage	V_{DS}	20	-20	V
Gate-Source Voltage	V_{GS}	± 12	± 12	V
Continuous Drain Current ($T_J = 150^\circ\text{C}$)* $T_A = 25^\circ\text{C}$	I_D	± 7.1	± 6.2	A
		± 5.7	± 4.9	A
$T_A = 70^\circ\text{C}$				
Pulsed Drain Current	I_{DM}	± 40	± 40	A
Continuous Source Current (Diode Conduction)*	I_S	1.7	-1.7	A
Maximum Power Dissipation* $T_A = 25^\circ\text{C}$	P_D	2		W
		1.3		W
$T_A = 70^\circ\text{C}$				
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 FR4 Board, $t \leq 10$ sec.

KI4562DY

■ Electrical Characteristics $T_J = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250 \mu\text{A}$	N-Ch	0.6		V	
		$V_{DS} = V_{GS}, I_D = -250 \mu\text{A}$	P-Ch	-0.6			
Gate Body Leakage	I_{GSS}	$V_{DS} = 0\text{V}, V_{GS} = \pm 12\text{V}$	N-Ch		± 100	nA	
		$V_{DS} = 0\text{V}, V_{GS} = \pm 12\text{V}$	P-Ch		± 100		
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$	N-Ch		1	μA	
		$V_{DS} = -20\text{V}, V_{GS} = 0\text{V}$	P-Ch		-1		
		$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}, T_J = 55^\circ\text{C}$	N-Ch		5		
		$V_{DS} = -20\text{V}, V_{GS} = 0\text{V}, T_J = 55^\circ\text{C}$	P-Ch		-5		
On State Drain Currenta	$I_{D(on)}$	$V_{DS} \geq 5\text{V}, V_{GS} = 4.5\text{V}$	N-Ch	20		A	
		$V_{DS} \leq -5\text{V}, V_{GS} = -4.5\text{V}$	P-Ch	-20			
Drain Source On State Resistance*	$r_{DS(on)}$	$V_{GS} = 4.5\text{V}, I_D = 7.1\text{A}$	N-Ch		0.019	0.025	Ω
		$V_{GS} = -4.5\text{V}, I_D = -6.2\text{A}$	P-Ch		0.027	0.033	
		$V_{GS} = 2.5\text{V}, I_D = 6.0\text{A}$	N-Ch		0.025	0.035	
		$V_{GS} = -2.5\text{V}, I_D = -5.0\text{A}$	P-Ch		0.040	0.050	
Forward Transconductance*	g_{fs}	$V_{DS} = 10\text{V}, I_D = 7.1\text{A}$	N-Ch		27	S	
		$V_{DS} = -10\text{V}, I_D = -6.2\text{A}$	P-Ch		20		
Diode Forward Voltage*	V_{SD}	$I_S = 1.7\text{A}, V_{GS} = 0\text{V}$	N-Ch		1.2	V	
		$I_S = -1.7\text{A}, V_{GS} = 0\text{V}$	P-Ch		-1.2		
Total Gate Charge	Q_g	N-Channel $V_{DS} = 10\text{V}, V_{GS} = 4.5\text{V}, I_D = 7.1\text{A}$	N-Ch	25	50	nC	
Gate Source Charge	Q_{gs}	P-Channel $V_{DS} = -10\text{V}, V_{GS} = -4.52\text{V}, I_D = -6.2\text{A}$	N-Ch	6.5			
			P-Ch	7			
Gate Drain Charge	Q_{gd}		N-Ch	4			
			P-Ch	3.5			
Turn On Time	$t_{d(on)}$	N Channel $V_{DD} = 10\text{V}, R_L = 10\Omega$	N-Ch	40	60	ns	
Rise Time	t_r	$I_D = 1\text{A}, V_{GEN} = 4.5\text{V}, R_g = 6\Omega$	P-Ch	27	50		
			N-Ch	40	60		
Turn Off Delay Time	$t_{d(off)}$	P-Channel $V_{DD} = -10\text{V}, R_L = 10\Omega$	N-Ch	90	150		
			P-Ch	95	150		
Fall Time	t_f	$I_D = -1\text{A}, V_{GEN} = -4.5\text{V}, R_g = 6\Omega$	N-Ch	40	60		
			P-Ch	45	70		
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = 1.7\text{A}, di/dt = 100\text{A}/\mu\text{s}$	N-Ch	40	80		
		$I_F = -1.7\text{A}, di/dt = 100\text{A}/\mu\text{s}$	P-Ch	40	80		

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