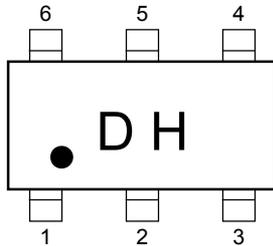
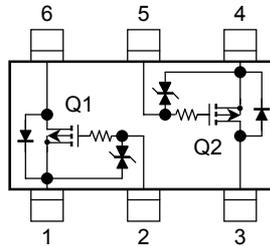


SSM6P05FU

Marking



Equivalent Circuit (top view)



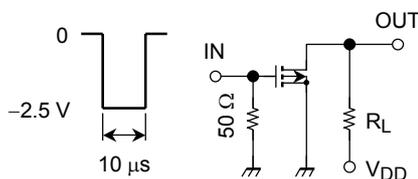
Electrical Characteristics (Ta = 25°C) (Q1, Q2 common)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit	
Gate leakage current	I_{GSS}	$V_{GS} = \pm 12\text{ V}, V_{DS} = 0$	—	—	± 1	μA	
Drain-Source breakdown voltage	$V_{(BR)DSS}$	$I_D = -1\text{ mA}, V_{GS} = 0$	-20	—	—	V	
Drain cut-off current	I_{DSS}	$V_{DS} = -20\text{ V}, V_{GS} = 0$	—	—	-1	μA	
Gate threshold voltage	V_{th}	$V_{DS} = -3\text{ V}, I_D = -0.1\text{ mA}$	-0.6	—	-1.1	V	
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = -3\text{ V}, I_D = -50\text{ mA}$ (Note2)	100	—	—	mS	
Drain-Source ON resistance	$R_{DS(ON)}$	$I_D = -100\text{ mA}, V_{GS} = -4\text{ V}$ (Note2)	—	2.1	3.3	Ω	
		$I_D = -50\text{ mA}, V_{GS} = -2.5\text{ V}$ (Note2)	—	3.2	4.0		
Input capacitance	C_{iss}	$V_{DS} = -3\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$	—	27	—	pF	
Reverse transfer capacitance	C_{rss}		—	7	—	pF	
Output capacitance	C_{oss}		—	21	—	pF	
Switching time	Turn-on time	t_{on}	$V_{DD} = -3\text{ V}, I_D = -50\text{ mA},$ $V_{GS} = 0 \sim -2.5\text{ V}$	—	70	—	ns
	Turn-off time	t_{off}		—	70	—	

Note2: Pulse test

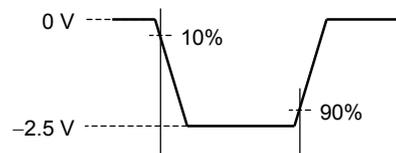
Switching Time Test Circuit (Q1, Q2 common)

(a) Test circuit

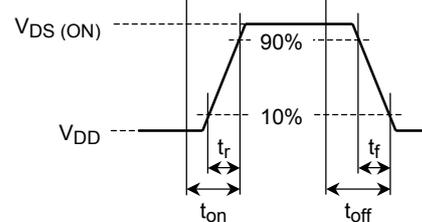


$V_{DD} = -3\text{ V}$
 Duty $\leq 1\%$
 V_{IN} : $t_r, t_f < 5\text{ ns}$
 ($Z_{out} = 50\ \Omega$)
 Common Source
 $T_a = 25^\circ\text{C}$

(b) V_{IN}



(c) V_{OUT}



Precaution

V_{th} can be expressed as voltage between gate and source when low operating current value is $I_D = -100\ \mu\text{A}$ for this product. For normal switching operation, $V_{GS(ON)}$ requires higher voltage than V_{th} and $V_{GS(OFF)}$ requires lower voltage than V_{th} . (Relationship can be established as follows: $V_{GS(OFF)} < V_{th} < V_{GS(ON)}$)

Please take this into consideration for using the device. V_{GS} recommended voltage of -2.5 V or higher to turn on this product.