2N5020, 2N5021

P-Channel Silicon Junction Field-Effect Transistor

- Analog Switches

Absolute maximum ratings at T_A = 25°C

Reverse Gate Source & Reverse Gate Drain Voltage	– 50 V
Continuous Forward Gate Current	50 mA
Continuous Device Power Dissipation	500 mW
Power Derating	4 mW/°C
Storage Temperature Range	– 65°C to + 200°C

At 25°C free air temperature:		2N5020		2N5021		Process PJ32		
Static Electrical Characteristics		**Min**	**Max**	**Min**	**Max**	**Unit**	**Test Conditions**	
Gate Source Breakdown Voltage	$V_{(BR)GDO}$	25		25		V	I_G = 1 µA, V_{DS} = ØV	
Gate Reverse Current	I_{GSS}		1		1	nA	V_{GS} = 15 V, V_{DS} = ØV	
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	0.3	1.5	0.5	2.5	V	V_{DS} = – 15 V, I_D = 1 nA	
Drain Saturation Current (Pulsed)	I_{DSS}	– 0.3	– 1.2	– 1	– 3.5	mA	V_{DS} = – 15 V, V_{GS} = ØV	
Dynamic Electrical Characteristics								
Common Source Forward Transconductance	g_{fs}	1	3.5	1.5	6	mS	V_{DS} = – 15 V, V_{GS} = ØV	
Common Source Output Conductance	g_{os}		20		20	µS	V_{DS} = – 15 V, V_{GS} = ØV	
Common Source Input Capacitance	C_{iss}		25		25	pF	V_{DS} = – 15 V, V_{GS} = ØV	f = 1 MHz
Common Source Reverse Transfer Capacitance	C_{rss}		7		7	pF	V_{DS} = – 15 V, V_{GS} = ØV	f = 1 MHz

TO-18 Package
Dimensions in Inches (mm)

Pin Configuration
1 Source 1, 2 Gate & Case, 3 Drain

Surface Mount
SMP5020, SMP5021

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