

2N5196, 2N5197, 2N5198, 2N5199

N-Channel Dual Silicon Junction Field-Effect Transistor

- Differential Inputs

Absolute maximum ratings at $T_A = 25^\circ\text{C}$

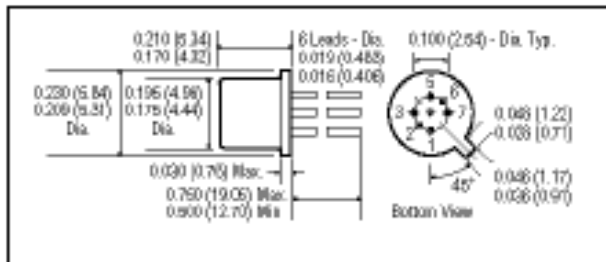
Reverse Gate Source & Gate Drain Voltage	-50V
Continuous Forward Gate Current	50 mA
Continuous Device Power Dissipation	300 mW
Power Derating	2.6 mW/ $^\circ\text{C}$
Storage Temperature Range	-65 $^\circ\text{C}$ to +150 $^\circ\text{C}$

At 25 $^\circ\text{C}$ free air temperature Static Electrical Characteristics		2N5196, 2N5197, 2N5198, 2N5199				Process NJ16	
		Min	Typ	Max	Unit	Test Conditions	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	-50			V	$I_G = -1 \mu\text{A}$, $V_{DS} = 0 \text{ V}$	
Gate Reverse Current	I_{GSS}			-25	pA	$V_{GS} = -10 \text{ V}$, $V_{DS} = 0 \text{ V}$	
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	-0.7		-4	V	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0 \text{ V}$	
Drain Saturation Current (pulsed)	I_{DSS}	0.7		7	mA	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0 \text{ V}$	

Dynamic Electrical Characteristics

Common-Source Forward Transconductance	g_{fs}	1		4	mS	$V_{DS} = 10 \text{ V}$, $I_D = 5 \text{ mA}$	$f = 1 \text{ kHz}$
Common-Source Input Capacitance	C_{iss}			6	pF	$V_{DS} = -10 \text{ V}$, $V_{GS} = 1 \text{ V}$	$f = 1 \text{ MHz}$
Common-Source Reverse Transfer Capacitance	C_{rss}			2	pF	$V_{DS} = 10 \text{ V}$, $I_D = 5 \text{ mA}$	$f = 1 \text{ MHz}$
Equivalent Short Circuit Input Noise Voltage	$\sim e_N$		20		nV/ $\sqrt{\text{Hz}}$	$V_{DS} = 10 \text{ V}$, $I_D = 5 \text{ mA}$	$f = 1 \text{ kHz}$

		2N5196		2N5197		2N5198		2N5199		Unit	Test Conditions
		Min	Max	Min	Max	Min	Max	Min	Max		
Differential Gate-Source Voltage	$(V_{GS1} - V_{GS2})$		5		5		10		15	mV	$V_{DS} = 10 \text{ V}$, $I_D = -10 \text{ mA}$
Differential Gate Source Voltage with Temperature	$\frac{\Delta V_{GS1} - V_{GS2} }{\Delta T}$		5		10		20		40	$\mu\text{V}/^\circ\text{C}$	$V_{DG} = 10 \text{ V}$, $I_D = 30 \mu\text{A}$



TO-71 Package
 Dimensions in inches (mm)
Pin Configuration
 1 Source, 2 Drain, 3 Gate,
 5 Source, 6 Drain, 7 Gate

Surface Mount Version:
 SMP5196, SMP5197,
 SMP5198, SMP5199



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