

PJ99 Process

Silicon Junction Field-Effect Transistor

- General Purpose Amplifier
- Analog Switch

Absolute maximum ratings at TA = 25 °C

Gate Current, I _G	10 mA
Operating Junction Temperature, T _J	+150°C
Storage Temperature, T _S	- 65°C to +175°C

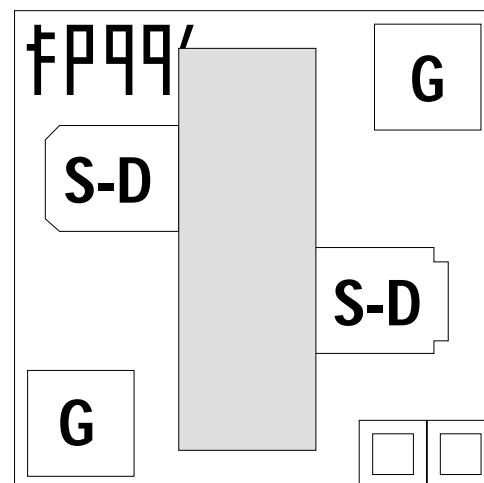
Devices in this Databook based on the PJ99 Process.

Datasheet

2N3993, 2N3993A
 2N3994, 2N3994A
 2N5114, 2N5115
 2N5116
 2SJ44
 IFN5114, IFN5115
 IFN5116

Datasheet

IFP44
 J174, J175
 J176, J177
 P1086, P1087
 VCR3P



Die Size = 0.021" X 0.021"
 All Bond Pads = 0.004" Sq.
 Substrate is also Gate.

At 25°C free air temperature:

Static Electrical Characteristics

		PJ99 Process						
		Min	Typ	Max	Unit	Test Conditions		
Gate Source Breakdown Voltage	V _{(BR)GSS}	30	40		V	I _G = 1 μA, V _{DS} = 0V		
Reverse Gate Leakage Current	I _{GSS}		0.5	1	nA	V _{GS} = 20V, V _{DS} = 0V		
Drain Saturation Current (Pulsed)	I _{DSS}	- 5		- 60	mA	V _{DS} = - 15V, V _{GS} = 0V		
Gate Source Cutoff Voltage	V _{GS(OFF)}	1		8	V	V _{DS} = - 15V, I _D = 1 nA		

Dynamic Electrical Characteristics

Drain Source ON Resistance	r _{ds(on)}		75		Ω	I _D = 1 mA, V _{GS} = 0V	f = 1 kHz
Forward Transconductance	g _{fs}		15		mS	V _{DS} = - 15V, V _{GS} = 0V	f = 1 kHz
Input Capacitance	C _{iss}		18		pF	V _{DS} = 15V, V _{GS} = 0V	f = 1 MHz
Feedback Capacitance	C _{iss}		4.5		pF	V _{DS} = 0V, V _{GS} = 10V	f = 1 MHz
Equivalent Noise Voltage	e _N		8		nV/√HZ	V _{DS} = - 10V, V _{GS} = 0V	f = 1 kHz
Turn On Delay Time	t _{d(on)}		5		ns	V _{DD} = - 10V, I _{D(ON)} = - 15 mA R _L = 580 Ω, V _{GS(ON)} = 0V V _{GS(OFF)} = 12V	
Rise Time	t _r		10		ns		
Turn Off Delay Time	t _{d(off)}		6		ns		
Fall Time	t _f		5		ns		



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