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Manufacturers of World Class Discrete Semiconductors

Data Sheet

2N5949
2N5950
2N5951
2N5952
2N5953

N-CHANNEL FET

TO-92-18R CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5949 Series types are Silicon N Channel Junction FETs designed for switching, RF amplifier and mixer applications where low capacitance is desired.

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

	SYMBOL		UNIT
Gate-Source Voltage	V_{GS}	30	V
Drain-Gate Voltage	V_{DG}	30	V
Gate Current	I_G	10	mA
Power Dissipation	P_D	360	mW
Operating and Storage Junction Temperature	T_J, Tstg	-65 TO +150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

		2N5949		2N5950		2N5951		2N5952		2N5953		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	UNIT
I_{GSS}	V_{GS}=15V		1.0		1.0		1.0		1.0		1.0	nA
I_{GSS}	V_{GS}=15V, T_A=100°C		200		200		200		200		200	nA
I_{DSS}	V_{DS}=15V	12	18	10	15	7.0	13	4.0	8.0	2.5	5.0	mA
BV_{GSS}	I_G=1.0μA	30		30		30		30		30		V
V_{GS}	V_{DS}=15V, I_D=1.2mA	2.25	6.0	-	-	-	-	-	-	-	-	V
V_{GS}	V_{DS}=15V, I_D=1.0mA	-	-	1.8	5.0	-	-	-	-	-	-	V
V_{GS}	V_{DS}=15V, I_D=0.7mA	-	-	-	-	1.3	4.5	-	-	-	-	V
V_{GS}	V_{DS}=15V, I_D=0.4mA	-	-	-	-	-	-	0.75	3.0	-	-	V
V_{GS}	V_{DS}=15V, I_D=0.25mA	-	-	-	-	-	-	-	-	0.5	2.5	V
$V_{GS(OFF)}$	V_{DS}=15V, I_D=100nA	3.0	7.0	2.5	6.0	2.0	5.0	1.3	3.5	0.8	3.0	V
Y_{fs}	V_{DS}=15V, V_{GS}=0, f=1.0kHz	3.5	7.5	3.5	7.5	3.5	6.5	2.0	6.5	2.0	6.5	mmho
Y_{os}	V_{DS}=15V, V_{GS}=0, f=1.0kHz		75		75		75		50		50	μmho
C_{iss}	V_{DS}=15V, V_{GS}=0, f=1.0MHz		6.0		6.0		6.0		6.0		6.0	pF
C_{rss}	V_{DS}=15V, V_{GS}=0, f=1.0MHz		2.0		2.0		2.0		2.0		2.0	pF
$r_{ds(ON)}$	V_{GS}=0, I_D=0, f=1.0kHz		200		210		250		300		375	Ω
g_{is}	V_{DS}=15V, V_{GS}=0, f=100MHz		250		250		250		250		250	μmho
g_{fs}	V_{DS}=15V, V_{GS}=0, f=100MHz	3.0	7.5	3.0	7.5	3.0	6.5	1.0	6.5	1.0	6.5	mmho
g_{os}	V_{DS}=15V, V_{GS}=0, f=100MHz		150		125		100		75		50	μmho
NF	V_{DS}=15V, V_{GS}=0, f=100MHz, R_G=1.0kΩ		5.0		5.0		5.0		5.0		5.0	dB
NF	V_{DS}=15V, V_{GS}=0, f=1.0kHz, R_G=1.0MΩ		2.0		2.0		2.0		2.0		2.0	dB
V_N	V_{DS}=15V, V_{GS}=0, f=1.0kHz		100		100		100		100		100	nV/√Hz