

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

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 ($T_A=25^{\circ}\text{C}$ 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, T_{stg}	-65 TO +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

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