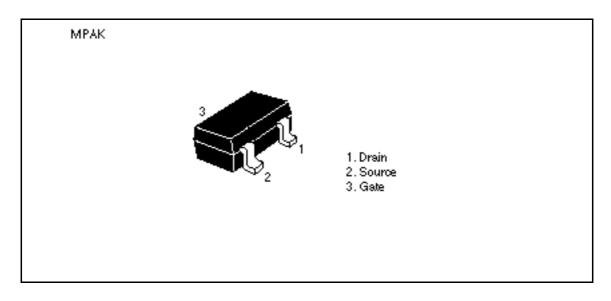
Silicon N-Channel Junction FET

HITACHI

Application

Video frequency low noise amplifier

Outline





Absolute Maximum Ratings ($Ta = 25^{\circ}C$)

Item	Symbol	Ratings	Unit	
Drain to source voltage	V_{DSX}^{*1}	12	V	
Gate to source voltage	$V_{\sf GSS}$	– 15	V	
Drain current	I _D	40	mA	
Gate current	I _G	±1	mA	
Channel power dissipation	Pch	150	mW	
Channel temperature	Tch	150	°C	
Storage temperature	Tstg	-55 to +150	°C	

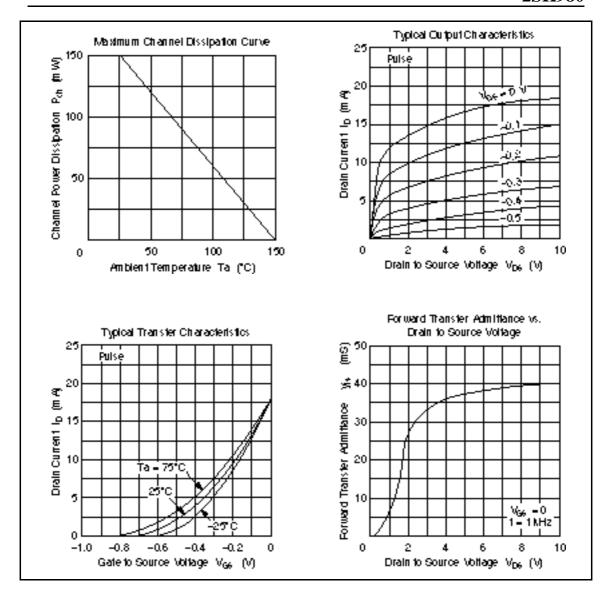
Note: 1. at $V_{GS} = -3 \text{ V}$

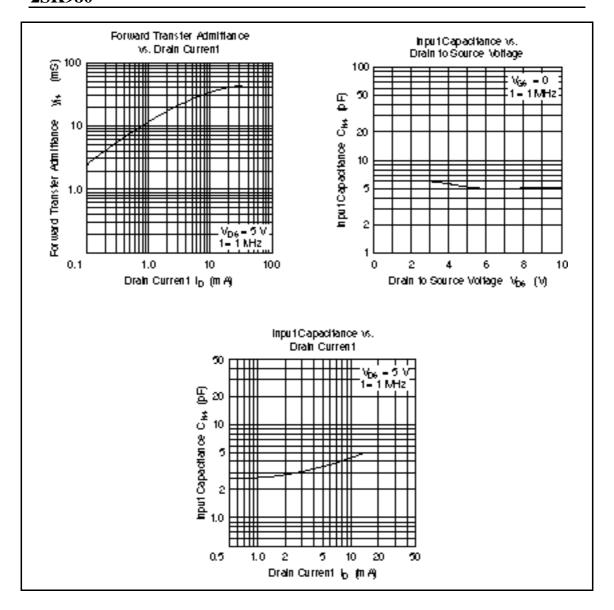
Electrical Characteristics ($Ta = 25^{\circ}C$)

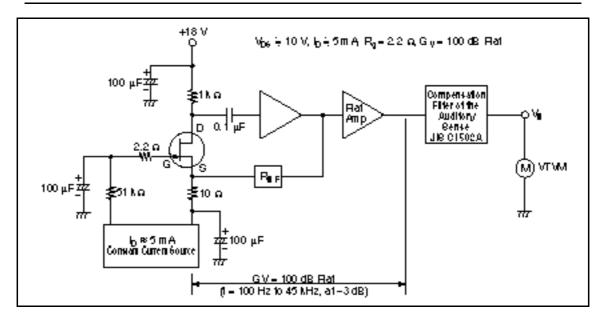
Item	Symbol	Min	Тур	Max	Unit	Test conditions
Drain to source cutoff current	I _{DSX}	_	_	-100	μΑ	$V_{DS} = 12 \text{ V}, V_{GS} = -3 \text{ V}$
Gate cutoff current	I _{GSS}	_	_	-10	nA	$V_{GS} = -7 \text{ V}, V_{DS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	–15	_	_	V	$I_{G} = -100 \ \mu A, \ V_{DS} = 0$
Drain current	l _{DSS} *1	8	_	32	mA	V_{DS} = 5 V, V_{GS} = 0, Pulse test
Gate to source cutoff voltage	$V_{GS(off)}$	-0.1	_	-2.5	V	$V_{DS} = 5 \text{ V}, I_{D} = 1 \mu A$
Forward transfer admittance	y _{fs}	28	33	_	mS	$V_{DS} = 5 \text{ V}, I_{D} = 8 \text{ mA},$ f = 1 kHz
Input capacitance	Ciss	_	4	5	pF	$V_{DS} = 5 \text{ V}, I_{D} = 8 \text{ mA},$ f = 1 MHz
Output noise voltage	V_N	_	_	20	mV	See Test Circuit

Note: 1. The 2SK980 is grouped by I_{DSS} as follows.

Grade	F	G
Mark	XAF	XAG
I _{DSS(mA)}	8 to 20	16 to 32







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