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N-Channel JFET
High Frequency Amplifier

2N5484-86/SST5484-86

FEATURES

- Up to 400MHz Operation
- Economy Packaging
- C_{rss} <1.0pF

PIN CONFIGURATION

SOT-23

TO-92

5000
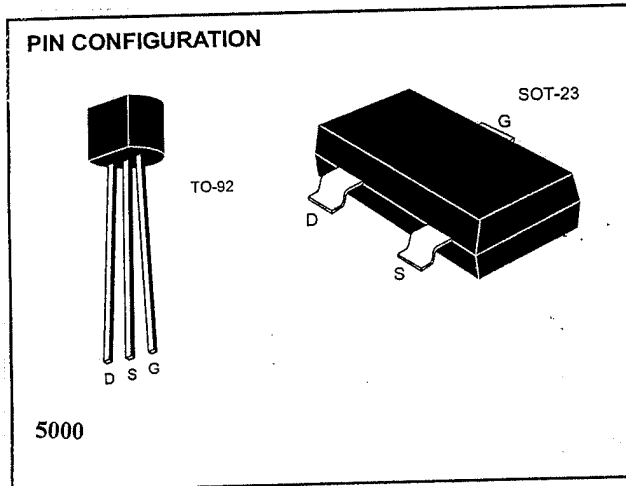
ABSOLUTE MAXIMUM RATINGS
(T_A = 25°C unless otherwise specified)

Drain-Gate Voltage	25V
Source Gate Voltage	25V
Drain Current	30mA
Forward Gate Current	10mA
Storage Temperature Range	-65°C to +150°C
Operating Temperature Range	-55°C to +135°C
Lead Temperature (Soldering, 10sec)	+300°C
Power Dissipation	310mW
Derate above 25°C	2.82mW/°C

NOTE: Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ORDERING INFORMATION

Part	Package	Temperature Range
2N5484-6	Plastic TO-92	-55°C to +135°C
SST5484-6	Plastic SOT-23	-55°C to +135°C
X2N5484-6	Sorted Chips in Carriers	-55°C to +135°C

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

SYMBOL	PARAMETER	2N5484 MIN	2N5484 MAX	2N5485 MIN	2N5485 MAX	2N5486 MIN	2N5486 MAX	UNITS	TEST CONDITIONS	
I_{GSS}	Gate Reverse Current		-1.0		-1.0		-1.0	nA	V_{GS} = -20V, V_{DS} = 0	
			-200		-200		-200			T_A = 100°C
BV_{GSS}	Gate-Source Breakdown Voltage	-25		-25		-25		V	I_G = -1µA, V_{DS} = 0	
$V_{GS(off)}$	Gate-Source Cutoff Voltage	-0.3	-3.0	-0.5	-4.0	-2.0	-6.0		V_{DS} = 15V, I_D = 10nA	
I_{DSS}	Saturation Drain Current	1.0	5.0	4.0	10	8.0	20	mA	V_{DS} = 15V, V_{GS} = 0 (Note 1)	
g_{fs}	Common-Source Forward Transconductance	3000	6000	3500	7000	4000	8000			f = 1kHz
g_{os}	Common-Source Output Conductance		50		60		75			
$Re_{(yfs)}$	Common-Source Forward Transconductance (Note 2)	2500						µS		f = 100MHz
				3000		3500				f = 400MHz
$Re_{(yos)}$	Common-Source Output Conductance (Note 2)		75						V_{DS} = 15V, V_{GS} = 0	f = 100MHz
					100		100			f = 400MHz
$Re_{(yis)}$	Common-Source Input Conductance (Note 2)		100							f = 100MHz
					1000		1000			f = 400MHz
C_{iss}	Common-Source Input Capacitance (Note 2)		5.0		5.0		5.0			
C_{rss}	Common-Source Reverse Transfer Capacitance (Note 2)		1.0		1.0		1.0	pF		f = 1MHz
C_{oss}	Common-Source Output Capacitance (Note 2)		2.0		2.0		2.0			

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ELECTRICAL CHARACTERISTICS (Continued) (T_A = 25°C unless otherwise specified)

SYMBOL	PARAMETER	2N5484		2N5485		2N5486		UNITS	TEST CONDITIONS	
		MIN	MAX	MIN	MAX	MIN	MAX			
NF	Noise Figure (Note 2)		2.5		2.5		2.5	dB	V_{DS} = 15V, V_{GS} = 0, R_G = 1MΩ	f = 1kHz
			3.0						V_{DS} = 15V, V_D = 1mA, R_G = 1kΩ	f = 100MHz
					2.0		2.0		V_{DS} = 15V, I_D = 4mA, R_G = 1kΩ	
					4.0		4.0			f = 400MHz
G_{ps}	Common-Source Power Gain (Note 2)	16	25						V_{DS} = 15V, I_D = 1mA	f = 100MHz
				18	30	18	30		V_{DS} = 15V, I_D = 4mA	
				10	20	10	20			f = 400MHz

NOTES: **1.** Pulse test required. Pulse width = 300µs, duty cycle $\leq$ 3%.
2. For design reference only, not 100% tested.