2N5484 SERIES
N-Channel JFETs

The 2N5484 Series of n-channel JFETs is designed to provide high-performance amplification, especially at high-frequency. These parts feature low noise (4 dB max @ 400 MHz), high gain (5.5 mS typical @ 400 MHz) and provide wide bandwidth. Additionally, its low-cost TO-92 package is available with tape and reel to support automated assembly. (See Section 7.)

PART NUMBER	$V_{GS(OFF)}$ MAX (V)	$V_{(BR)GSS}$ MIN (V)	g_{fs} MIN (mS)	I_{DSS} MAX (mA)
2N5484	-3	-25	3	5
2N5485	-4	-25	3.5	10
2N5486	-6	-25	4	20

For additional design information please see performance curves NH.

TO-92 (TO-226AA) BOTTOM VIEW

1 DRAIN
2 SOURCE
3 GATE

SIMILAR PRODUCTS

- SOT-23, See SST4416
- Chips, See NH Series Die

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS	SYMBOL	LIMITS	UNITS
Gate-Drain Voltage	V_{GD}	-25	V
Gate-Source Voltage	V_{GS}	-25	
Gate Current	I_G	10	mA
Drain Current	I_D	30	
Power Dissipation	P_D	360	mW
Power Derating		3.27	mW/°C
Operating Junction Temperature Range	T_J	-65 to 135	°C
Storage Temperature Range	T_{stg}	-65 to 150	
Lead Temperature ($^1/_{16}$" from case for 10 sec.)	T_L	300	

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SPECIFICATIONS[a]				LIMITS							
					2N5484		2N5485		2N5486		
PARAMETER	SYMBOL	TEST CONDITIONS		TYP[b]	MIN	MAX	MIN	MAX	MIN	MAX	UNIT
STATIC											
Gate-Source Breakdown Voltage	$V_{(BR)GSS}$	I_G = -1 µA, V_{DS} = 0 V		-35	-25		-25		-25		V
Gate-Source Cutoff Voltage	$V_{GS(OFF)}$	V_{DS} = 15 V, I_D = 10 nA			-0.3	-3	-0.5	-4	-2	-6	
Saturation Drain Current[c]	I_{DSS}	V_{DS} = 15 V, V_{GS} = 0 V			1	5	4	10	8	20	mA
Gate Reverse Current	I_{GSS}	V_{GS} = -20 V, V_{DS} = 0 V		-0.002		-1		-1		-1	nA
			T_A = 100°C	-0.2		-200		-200		-200	
Gate Operating Current[d]	I_G	V_{DG} = 10 V, I_D = 1 mA		-20							pA
Gate-Source Forward Voltage[d]	$V_{GS(F)}$	I_G = 10 mA, V_{DS} = 0 V		0.8							V
DYNAMIC											
Common-Source Forward Transconductance[c]	g_{fs}	V_{DS} = 15 V, V_{GS} = 0 V f = 1 kHz			3	6	3.5	7	4	8	mS
Common-Source Output Conductance[c]	g_{os}					50		60		75	µS
Common-Source Input Capacitance	C_{iss}	V_{DS} = 15 V, V_{GS} = 0 V f = 1 MHz		2.2		5		5		5	pF
Common-Source Reverse Transfer Capacitance	C_{rss}			0.7		1		1		1	
Common-Source Output Capacitance	C_{oss}			1		2		2		2	
Equivalent Input Noise Voltage[d]	$\overline{e}_n$	V_{DS} = 15 V, V_{GS} = 0 V f = 100 Hz		10							$nV/\sqrt{Hz}$
HIGH-FREQUENCY											
Common-Source Transconductance	Y_{fs}	V_{DS} = 15 V, V_{GS} = 0 V	f = 100 MHz	4.5	2.5						mS
			f = 400 MHz	5.5			3		3.5		
Common-Source Output Conductance	Y_{os}		f = 100 MHz	30		75					µS
			f = 400 MHz	50				100		100	
Common-Source Input Conductance	Y_{is}		f = 100 MHz			0.1					mS
			f = 400 MHz					1		1	
Common-Source Power Gain	G_{ps}	V_{DS} = 15 V, I_D = 1 mA f = 100 MHz		20	16	25					dB
		V_{DS} = 15 V, I_D = 4 mA	f = 100 MHz	21			18	30	18	30	
			f = 400 MHz	13			10	20	10	20	
Noise Figure	NF	V_{DS} = 15 V, V_{GS} = 0 V R_G = 1 MΩ, f = 1 kHz		0.3		2.5		2.5		2.5	
		V_{DS} = 15 V, I_D = 1 mA R_G = 1 MΩ, f = 100 MHz		2		3					
		V_{DS} = 15 V, I_D = 4 mA	f = 100 MHz	1				2		2	
		R_G = 1 MΩ	f = 400 MHz	2.5				4		4	

NOTES:
a. T_A = 25°C unless otherwise noted.
b. For design aid only, not subject to production testing.
c. Pulse test; PW = 300 µS, duty cycle ≤ 3%.
d. This parameter not registered with JEDEC.