2N5484 thru 2N5486

CASE 29-05, STYLE 5
TO-92 (TO-226AA)

JFET
VHF/UHF AMPLIFIER

N-CHANNEL — DEPLETION

Refer to 2N4416 for graphs.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Gate Voltage	V_{DG}	25	Vdc
Reverse Gate-Source Voltage	V_{GSR}	25	Vdc
Drain Current	I_D	30	mAdc
Forward Gate Current	$I_{G(f)}$	10	mAdc
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	310 2.82	mW mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−65 to +150	°C

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

Characteristic		Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Gate-Source Breakdown Voltage (I_G = −1.0 μAdc, V_{DS} = 0)		$V_{(BR)GSS}$	−25	—	—	Vdc
Gate Reverse Current		I_{GSS}				
(V_{GS} = −20 Vdc, V_{DS} = 0)			—	—	−1.0	nAdc
(V_{GS} = −20 Vdc, V_{DS} = 0, T_A = 100°C)			—	—	−0.2	μAdc
Gate Source Cutoff Voltage		$V_{GS(off)}$				Vdc
(V_{DS} = 15 Vdc, I_D = 10 nAdc)	2N5484		−0.3	—	−3.0	
	2N5485		−0.5	—	−4.0	
	2N5486		−2.0	—	−6.0	
ON CHARACTERISTICS						
Zero-Gate-Voltage Drain Current		I_{DSS}				mAdc
(V_{DS} = 15 Vdc, V_{GS} = 0)	2N5484		1.0	—	5.0	
	2N5485		4.0	—	10	
	2N5486		8.0	—	20	
SMALL-SIGNAL CHARACTERISTICS						
Forward Transfer Admittance		$\lvert y_{fs} \rvert$				μmhos
(V_{DS} = 15 Vdc, V_{GS} = 0, f = 1.0 kHz)	2N5484		3000	—	6000	
	2N5485		3500	—	7000	
	2N5486		4000	—	8000	
Input Admittance		$Re(y_{is})$				μmhos
(V_{DS} = 15 Vdc, V_{GS} = 0, f = 100 MHz)	2N5484		—	—	100	
(V_{DS} = 15 Vdc, V_{GS} = 0, f = 400 MHz)	2N5485, 2N5486		—	—	1000	
Output Admittance		$\lvert y_{os} \rvert$				μmhos
(V_{DS} = 15 Vdc, V_{GS} = 0, f = 1.0 kHz)	2N5484		—	—	50	
	2N5485		—	—	60	
	2N5486		—	—	75	
Output Conductance		$Re(y_{os})$				μmhos
(V_{DS} = 15 Vdc, V_{GS} = 0, f = 100 MHz)	2N5484		—	—	75	
(V_{DS} = 15 Vdc, V_{GS} = 0, f = 400 MHz)	2N5485, 2N5486		—	—	100	
Forward Transconductance		$Re(y_{fs})$				μmhos
(V_{DS} = 15 Vdc, V_{GS} = 0, f = 100 MHz)	2N5484		2500	—	—	
(V_{DS} = 15 Vdc, V_{GS} = 0, f = 400 MHz)	2N5485		3000	—	—	
	2N5486		3500	—	—	

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

Characteristic		Symbol	Min	Typ	Max	Unit
Input Capacitance (V_{DS} = 15 Vdc, V_{GS} = 0, f = 1.0 MHz)		C_{iss}	—	—	5.0	pF
Reverse Transfer Capacitance (V_{DS} = 15 Vdc, V_{GS} = 0, f = 1.0 MHz)		C_{rss}	—	—	1.0	pF
Output Capacitance (V_{DS} = 15 Vdc, V_{GS} = 0, f = 1.0 MHz)		C_{oss}	—	—	2.0	pF
FUNCTIONAL CHARACTERISTICS						
Noise Figure		NF				dB
(V_{DS} = 15 Vdc, V_{GS} = 0, R_G = 1.0 Megohm, f = 1.0 kHz)			—	—	2.5	
(V_{DS} = 15 Vdc, I_D = 1.0 mAdc, $R_G \approx$ 1.0 k ohm, f = 100 MHz)	2N5484		—	—	3.0	
(V_{DS} = 15 Vdc, I_D = 1.0 mAdc, $R_G \approx$ 1.0 k ohm, f = 200 MHz)	2N5484		—	4.0	—	
(V_{DS} = 15 Vdc, I_D = 4.0 mAdc, $R_G \approx$ 1.0 k ohm, f = 100 MHz)	2N5485, 2N5486		—	—	2.0	
(V_{DS} = 15 Vdc, I_D = 4.0 mAdc, $R_G \approx$ 1.0 k ohm, f = 400 MHz)	2N5485, 2N5486		—	—	4.0	
Common Source Power Gain		G_{ps}				dB
(V_{DS} = 15 Vdc, I_D = 1.0 mAdc, f = 100 MHz)	2N5484		16	—	25	
(V_{DS} = 15 Vdc, I_D = 1.0 mAdc, f = 200 MHz)	2N5484		—	14	—	
(V_{DS} = 15 Vdc, I_D = 4.0 mAdc, f = 100 MHz)	2N5485, 2N5486		18	—	30	
(V_{DS} = 15 Vdc, I_D = 4.0 mAdc, f = 400 MHz)	2N5485, 2N5486		10	—	20	