

Part No. 

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SPF-2086T Datasheet (PDF) - SIRENZA MICRODEVICES

Part No.	SPF-2086T
Description	Low Noise pHEMT GaAs FET 0.1 - 12 GHz Operation
File Size	583.24 Kbytes
Html View	1 2 3 4 5
Manufacturer	SIRENZA [SIRENZA MICRODEVICES]
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22 dB Gmax at 1.9 GHz

- 0.4 dB F_{MIN} at 1.9 GHz
- +32 dBm Output IP3
- +20 dBm Output Power at 1dB Compression

Applications

- LNA for Analog and Digital Wireless Systems
- 3G, Cellular, PCS
- Fixed Wireless, Pager Systems
- Driver Stage for low power applications

Symbol	Device Characteristics, T = 25°C $V_{DS} = -3V, I_{DS} = 20mA$ (unless otherwise noted)	Test Condition [1] = 100% Tested	Units	Min.	Typ.	Max.
Gmax	Maximum Available Gain $Z_S = Z_S^*, Z_L = Z_L^*$	f = 0.9 GHz f = 1.9 GHz f = 4.0 GHz [1] f = 12.0 GHz [1]	dB dB dB dB	- - 16.8 8.4	25.2 21.8 18.7 9.3	- - - -
S_{21}	Insertion Gain $Z_S = Z_L = 50 \text{ Ohms}$	f = 1.9 GHz [1]	dB	16.0	17.7	19.4
F_{MIN}	Minimum Noise Figure $Z_S = Z_{S_OPT}, Z_L = Z_{L_OPT}$	f = 1 GHz f = 2 GHz f = 4 GHz f = 6 GHz	dB dB dB dB	- - - -	0.3 0.4 0.5 0.7	- - - -
OIP3	Output Third Order Intercept Point $Z_S = Z_{S_OPT}, Z_L = Z_{L_OPT}$	$V_{DS} = 5.0V, I_{DS} = 40mA$ $V_{DS} = 3.0V, I_{DS} = 20mA$	dBm dBm	- -	32 28	- -
P1dB	Output 1dB Compression Point $Z_S = Z_{S_OPT}, Z_L = Z_{L_OPT}$	$V_{DS} = 5.0V, I_{DS} = 40mA$ $V_{DS} = 3.0V, I_{DS} = 20mA$	dBm dBm	- -	20 15	- -
I_{DSS}	Saturated Drain Current $V_{DS} = V_{DSS}, V_{GS} = 0V$		mA	30	85	140
g_m	Transconductance: $V_{DS} = V_{DSS}, V_{GS} = -0.25V$		mS	-	112	-
V_p	Pinch-Off Voltage: $V_{DS} = 2.0V, I_{DS} = 150\mu A$	[1]	V	-1.5	-1.0	-0.5
BV_{GS}	Gate-to-Source Breakdown Voltage $I_{GS} = 0.3mA, \text{drain open}$	[1]	V	-	-17	-8
BV_{GD}	Gate-to-Drain Breakdown Voltage $I_{GD} = 0.3mA, V_{GS} = -3.0V$	[1]	V	-	-17	-8
Rth	Thermal Resistance, junction-to-lead		°C/W	-	110	-

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1 EDS-101189 Rev E

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Part No.	Description	Html View	Manufacturer
SPF-3143	Low Noise pHEMT GaAs FET	1 2 3	SIRENZA MICRODEVICES
HMC519	GaAs PHEMT MMIC LOW NOISE AMPLIFIER 18 - 32 GHz	1 2 3 4 5 More	Hittite Microwave Corporation
HMC462	GaAs PHEMT MMIC LOW NOISE AMPLIFIER 2.0 - 20.0 GHz	1 2 3 4 5 More	Hittite Microwave Corporation
HMC565	GaAs PHEMT MMIC LOW NOISE AMPLIFIER 6 - 20 GHz	1 2 3 4 5 More	Hittite Microwave Corporation
HMC490	GaAs PHEMT MMIC LOW NOISE HIGH IP3 AMPLIFIER 12 - 17 GHz	1 2 3 4 5 More	Hittite Microwave Corporation
HMC490LP5	GaAs PHEMT MMIC LOW NOISE HIGH IP3 AMPLIFIER 12 - 16 GHz	1 2 3 4 5 More	Hittite Microwave Corporation
HMC564	GaAs PHEMT MMIC LOW NOISE AMPLIFIER 7 - 13.5 GHz	1 2 3 4 5 More	Hittite Microwave Corporation
HMC566	GaAs PHEMT MMIC LOW NOISE AMPLIFIER 29 - 36 GHz	1 2 3 4 5 More	Hittite Microwave Corporation
HMC460	GaAs PHEMT MMIC LOW NOISE AMPLIFIER DC - 20.0 GHz	1 2 3 4 5 More	Hittite Microwave Corporation

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