

Satellite Communication Series SSPA 卫星通信 SSPA 系列
Ka Band 100W SSPA Ka 波段 100W 固态功率放大器

产品特性 Product Features

- 工作频率范围 Frequency Coverage: 27.5GHz - 31GHz
- 输出功率范围 Output Power Range: $\geq 100\text{W}$
- 基于氮化镓的极高线性度及高能效 Extreme GaN Linearity and Efficiency
- 稳定性高、可靠性高、寿命长 High Stability, High Reliability, and Long Life

电气特性 Electrical Characteristics

工作频率 Operating Frequency	27.5GHz-31GHz
饱和输出功率 Output Power (Psat)	$\geq 100\text{W}$
增益 Gain	$\geq 60\text{dB}$
增益变化 Gain Variation	1.2dB p-p@80MHz; 3.2dB p-p@/ 3500MHz
增益稳定度 Gain Stability	$\leq \pm 0.25\text{dB}/24\text{h}$ at constant temperature & drive level
增益调节范围 Gain Adjustment Range	25dB, 0.1dB step
杂散 Spurious	$\leq -60\text{dBc}$
谐波 Harmonic	$\leq -60\text{dBc}$ (Option: filter)
输入驻波 Input VSWR	$\leq 1.3:1$
输出驻波 Output VSWR	$\leq 1.3:1$
三阶互调 Third Order IMD	$\leq -25\text{dBc}$ @3dB back-off from Psat, 2 equal carriers 5MHz apart
调幅调相变换 AM/PM Conversion	$2^\circ/\text{dB}$ max. (@Plinear)
群时延 Group Delay (40MHz)	0.02ns/MHz Linear; $\leq 1\text{ns}/0.75\text{GHz}$
噪声功率密度 Noise Power Density	$\leq -150\text{dBW}/4\text{kHz}$ @Receive Band; $\leq -70\text{dBW}/4\text{kHz}$ @Transmit Band
相位噪声 Phase Noise	$\leq -63\text{dBc}/\text{Hz}$ @100Hz;
	$\leq -73\text{dBc}/\text{Hz}$ @1kHz;
	$\leq -83\text{dBc}/\text{Hz}$ @10KHz;
	$\leq -93\text{dBc}/\text{Hz}$ @100KHz;
供电 Supply Power	AC 220(1+10%)V ; 50Hz $\pm$ 3Hz
功耗 Power Consumption	$\leq 1\text{KW}$

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机械特性 Mechanical Characteristics

射频输入/出接口 RF I/O Interface	K-F/WR28
射频采样接口 RF Sampling Interface	K-F
供电接口 Power Supply Interface	航空插座 Aviation Socket
M&C 接口 M&C Interface	Ethernet or RS422/RS232

环境特性 Environmental Characteristics

工作温度 Operating Temperature	-30~+55°C, -40~+55°C(Option)
贮存温度 Storage Temperature	-50~+80°C
湿度 Humidity	100%, Condensing
高度 Altitude	10,000' AMSL, de-rated 2°C/1,000 from AMSL

监控功能 Monitor & Control Functions

监控 Monitor	输出功率、反射功率、模块温度、模块电流等 Output Power、Reflect Power、Module Temperature、Module Current, etc.
控制 Control	电源开/关、射频开/关、上行功率控制、增益调节等 Power On/Off、RF On/Off、Uplink Power Control、Gain Adjustment, etc.
保护 Protection	过温保护、过流保护、过反射保护 Over Temperature Protection、Over Current Protection、Over Reflection Protection