

Rack Mountable System Amplifier

Product Name : RCA2030U50, Code Name : U3Y6TA2EN50

Doc. Name : Preliminary Short Spec.

<p>Preliminary Short Specification for RCA2030U50</p>

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Created	Printed	Document Number	Revision	Manufacturer
2012/3/27	2012/3/27		A	<i>RFcore co.,Ltd</i>
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The Specifications is subject to change before finalization

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ELECTRICAL SPECIFICATIONS	@ 50 Ω load, Ta = 25°C, 24VDC	
Parameter	Specification	Remark
Frequency Range	2000 ~ 3000MHz	
Saturated Output Power	100 Watts min. (CW)	@ VSWR < 2:1
Gain	50 dB min.	Input level = 0 dBm
Gain Flatness	Peak to peak 4 dB	At constant input between -20 dBm and 0dBm
Input Power for Rated Output Power	0 dBm max.	
Gain Adjustment Range	30 dB with 0, 0.5, 1, 2, 3, 30	Available both manual and remote control
Harmonics	Less than -15 dBc	@ 100 Watts
Spurious	Less than -50 dBc	In band
Input VSWR	2:1 max.	
Maximum Load VSWR for amplifier survival	Infinite	In case over 3.5 : 1, amplifier back off gain by about 15 dB.
Input / Output Impedance	50 ohms nominal	
Input Power for Rated Output Power	0 dBm typ.	
Maximum Input Power for no damage	10 dBm	
Internal Dummy Load	System computer will control the switch to dummy load state. The internal loads will be housed within the PA. Power measurements accuracy reports will comply with -0.5 ~ +1 dB accuracy.	
Switching Speed	50 usec max.	LVDS commands possible
Switching Rate	2 kHz max.	
Receive Pass Loss	2 dB max.	
Receive Output Isolation in Tx mode	50 dB min.	
Noise Power Output in Tx mode without RF input	-90 dBm/Hz max.	
Noise Power Output in Rx mode(NQ mode)	-166 dBm/Hz max.	
Primary Supply Voltage Range	24 VDC, +11/-6 VDC	
Power Consumption	700W typ. @ Tx mode 200W typ. @ Rx mode	

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ENVIRONMENTAL SPECIFICATIONS

Parameter	Specification	Remark
Operating Ambient Temperature	-10 ~ 50 °C	
Storage Temperature	-40 ~ 85 °C	
Relative Humidity w/o Condensing	MIL – STD – 810F 507.4	
Altitude	Up to 3000 m above sea level	
Vibration	MIL – STD – 810F 514.5	
Shock	MIL – STD – 810F 516.5	
MTBF	10,000 hours for ground mobile environment	
Electromagnetic compatibility	MIL-STD-461E	CE102, CS101, CS114, CS115, CS116, RE102 and RS103

MECHANICAL SPECIFICATIONS

Parameter	Specification	Remark
Physical Dimension	19"(W) x 5.25"(H) x 24.8"(D)	
Weight	Less than 50 lb (23 kg)	
Handles	Two handles	On rear panel
RF Input Connector	N – Female	On rear panel
RF Output Connector	N – Female	On rear panel
Receiver Connector	N – Female	On rear panel
DC Input Connector	CA3102E20-23P-B-F80-05(ITT CANNON)	On rear panel
LVDS Interface	6 pin connector(T/R, Enable, N.C)	On rear panel
Remote Control Connector	Ethernet(Military RJ45)	On rear panel
Cooling	Forced air from front to back Fans to be activated above a defined temp. threshold only(switch fans between full or minimum current when under threshold)	Fans should be in rear panel
Main Switch	Supply voltage on/off	On rear panel
Standby button	RF input signal on/off	On front panel

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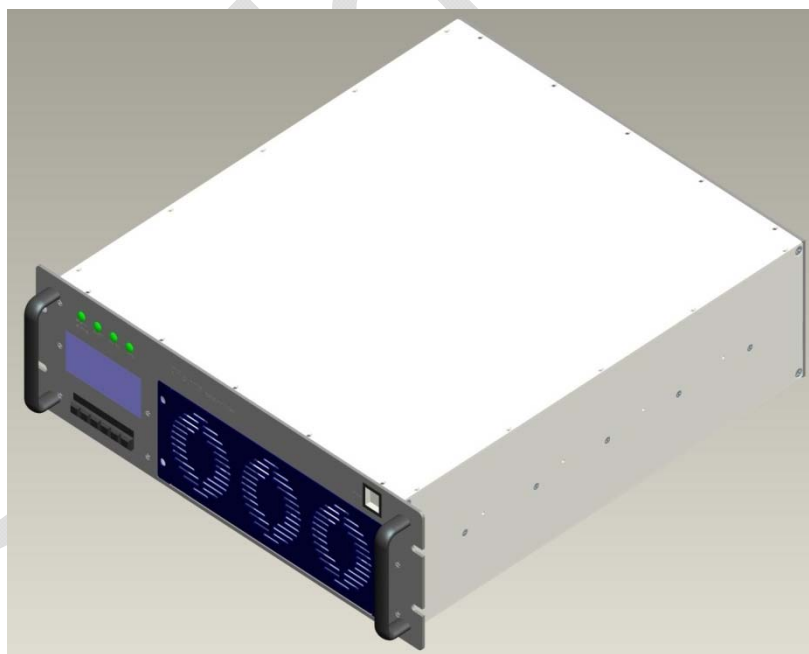
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SELF PROTECTIONS

Parameter	Specification	Remark
Input Overdrive Protection	Pin_max = H dBm, H = (Gain adjustment attenuation value) dBm, H cannot exceed 10 Ex) 0 dBm @ 0 dB attenuation 5 dBm @ 5 dB attenuation 10 dBm @ 10 dB attenuation 10 dBm @ 15 dB attenuation	In case exceeding this limit amplifier back off gain automatically by about 15dB, Factory Reset
Over Power Protection and Alarm	52 dBm ± 0.5 dB shutdown	Factory Reset
Over Temp Protection and Alarm	Shutdown @ 85 °C ± 5 °C Auto Recovery @ 65 °C ± 5 °C	Factory Reset
Under or over DC voltage inputs	Under Voltage turn-on : 17.5V Over Voltage turn-off : 36V	
VSWR Alarm	Load VSWR over 6 : 1 within 50 usec	Factory Reset

MECHANICAL DRAWING

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