

# Broadband High Power Amplifier

Product Name : RCA1030H50E

Doc. Name : Preliminary Short Spec.

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<p style="text-align: center;"><b>Preliminary Short Specification</b> for <b>RCA1030H50E</b></p>
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Created	Printed	Document Number	Revision	Manufacturer
2016/3/11	2016/3/11		A	<b>RFcore co.,Ltd</b>
File : RCA1030H50E Short Spec.docx				

*The Specifications is subject to change before finalization*

Customer Service: Tel. 82-31-708-7575

Email: sales@rfcore.com

<http://www.rfcore.com>

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ELECTRICAL SPECIFICATIONS		@ 50 Ohms load, 28 Vdc, Tc = 35 °C
Parameter	Specification	Remark
Frequency Range	1000 ~ 3000 MHz	B1: 1000 ~ 2800 MHz B2: 2800 ~ 3000 MHz
Saturated Output Power in B1	50 dBm typ. 49.5 dBm min.	@ CW, 50 ohms load
Saturated Output Power in B2	47 dBm min.	@ CW, 50 ohms load
Small Signal Gain	50 dB min.	Input = -15 dBm
Gain Flatness in B1	Peak to Peak 5.0 dB	Input = 0 dBm
Gain Flatness over whole frequency	Peak to Peak 7.0 dB	Input = 0 dBm
Maximum Input Power for no damage	7 dBm	
Input VSWR	Less than 2 : 1	
Maximum load VSWR for amplifier working	3.5 : 1	Works with degraded performance.
Maximum load VSWR for amplifier for survival	Infinite, all phase	Take a look video <a href="http://www.youtube.com/watch?v=1kLBxPf4--M">http://www.youtube.com/watch?v=1kLBxPf4--M</a> You can look for this video in youtube.com with keyword 'RFcore' or 'VSWR protection'
On/Off Switching Time	1 usec typ. 2 usec max.	
DC Input Voltage	28 ± 1.0 Vdc	
Current Consumption in B1	14 A max. 10 A typ.	@ Pout = 50 dBm, 50 ohms load
Current Consumption in B2	7.5 A max.	@ Pout = 47 dBm, 50 ohms load

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## Interface Pin Description

Connector	Description	Specification
I/O Interface(7W2)	1. Enable (Active low)	Pulled-up @ 5V with 10kohm
	2. Forward Power Monitor	Logarithmic Detector(0.05V/dB)
	3. VSWR Fail Alarm	TTL HIGH(5V) @ high VSWR VSWR alarm will be activated at a certain ratio between 3.5 and infinite VSWR. The alarm is not latched signal.
	4. Reflected Power Monitor	Logarithmic Detector(0.05V/dB)
	5. Temperature Monitor	$VT = 10(mV) * Tc(^{\circ}C) + 500(mV)$ , Tc = Case Temperature $\pm 5^{\circ}C$
	A1. VCC	
	A2. GND	

## ENVIRONMENTAL SPECIFICATIONS

Parameter	Specification	Remark
Operating Case Temperature	-40 ~ +75 $^{\circ}C$	@ Baseplate
Storage Temperature	-40 ~ +85 $^{\circ}C$	

## MECHANICAL SPECIFICATIONS

Parameter	Specification	Remark
Dimension	235 * 87 * 27 mm	
Weight	Less than 1100 g	
RF Input Connector	SMA Female	
RF Output Connector	SMA Female	
DC & I/O Interface Connector	7W2P	
Cooling	Adequate Heat-sink required	

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