

# Broadband High Power Amplifier

Product Name : RCA0525H50E1

Doc. Name : General Spec.

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<p style="text-align: center;"><b>General Specification</b> for <b>RCA0525H50E1</b></p>
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Created	Printed	Document Number	Revision	Manufacturer
2016/9/9	2017/1/12		D	<b>RFcore co.,Ltd</b>
File : RCA0525H50E1 General 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	500 ~ 2500 MHz	
Saturated Output Power	50 dBm typ. , 49.5 dBm min.	@ CW, 50 ohms load
Small Signal Gain	50 dB min	Input = -15dBm
Gain Flatness	Peak to Peak 6.0 dB	Input = 0dBm
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.	
DC Input Voltage	28 ± 1.0 Vdc	
Current Consumption	14 A max. 10 A typ.	@ Pout = 49.5 dBm, 50 ohms load
RF Input Signal Format	CW	

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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 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	$VT = 10(mV) * Tc(^{\circ}C) + 500(mV)$ , $Tc = \text{Case Temperature} \pm 5^{\circ}C$
	A1. VCC	
	A2. GND	

## ENVIRONMENTAL SPECIFICATIONS

Parameter	Specification	Remark
Operating Case Temperature	-20 ~ +70 °C	@ Baseplate
Storage Temperature	-40 ~ +85 °C	

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## 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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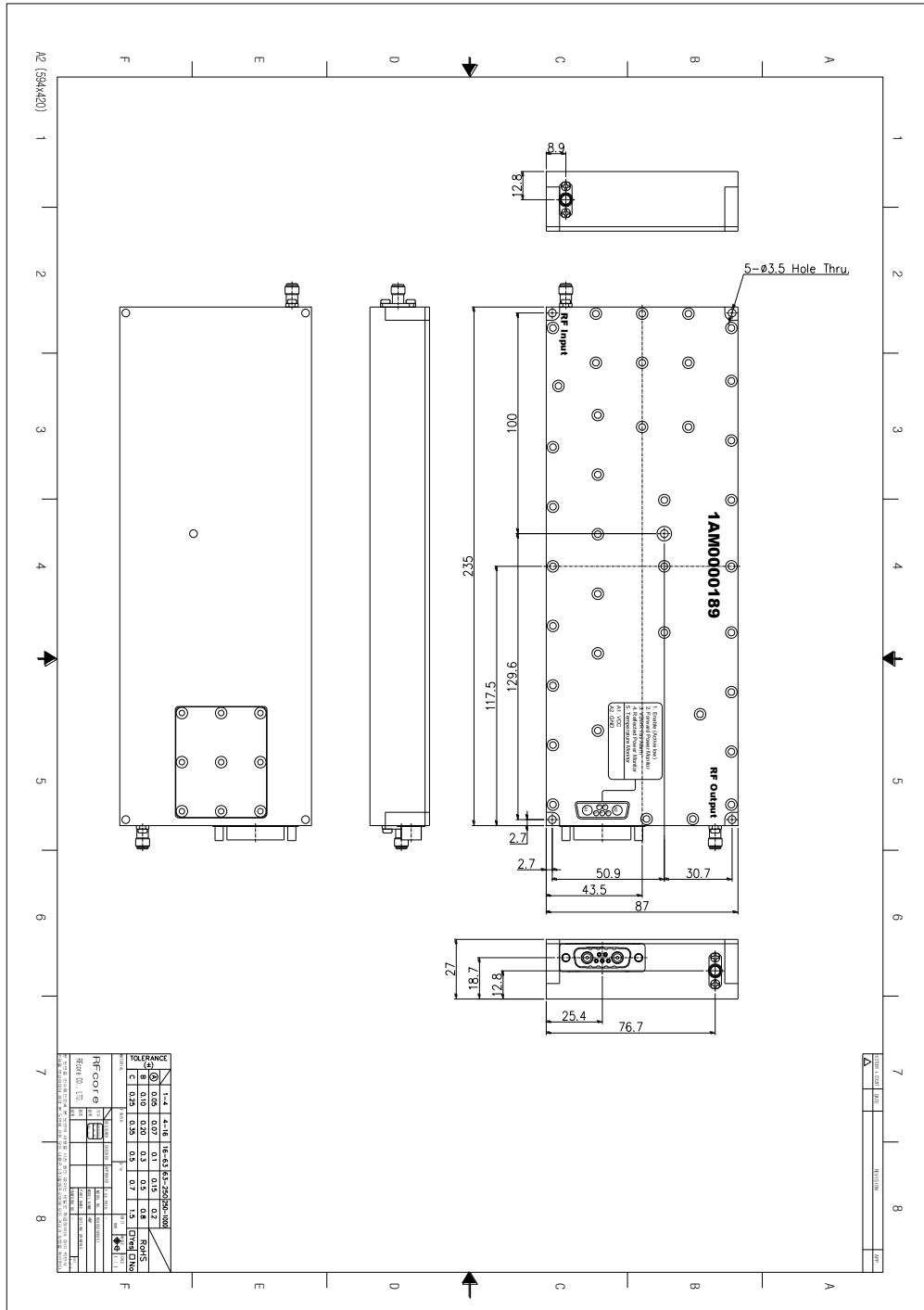
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## MECHANICAL DRAWING



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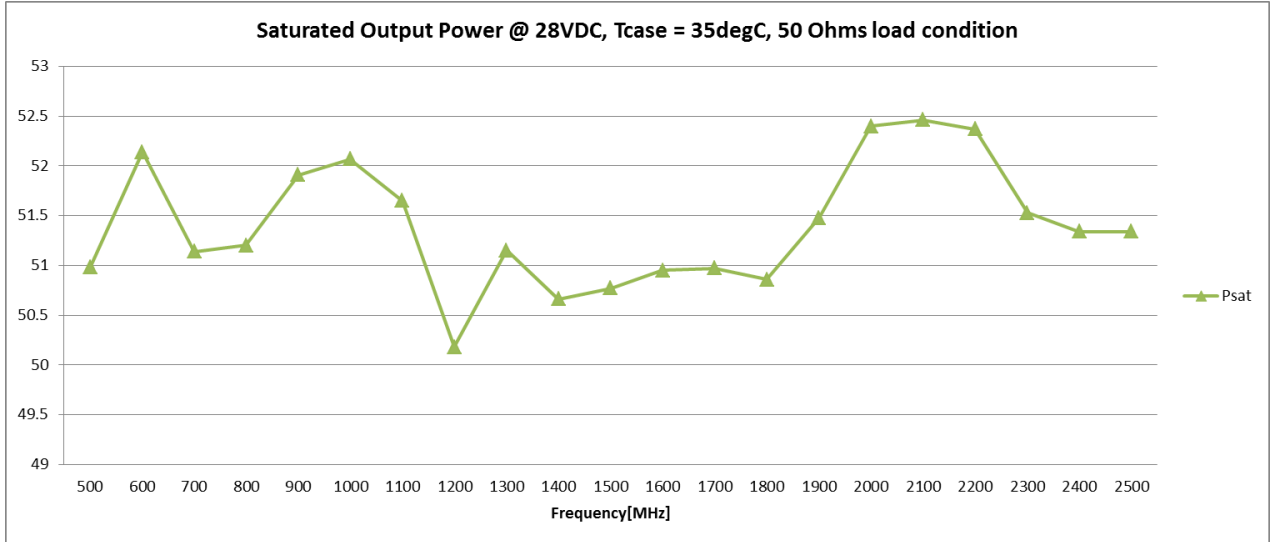
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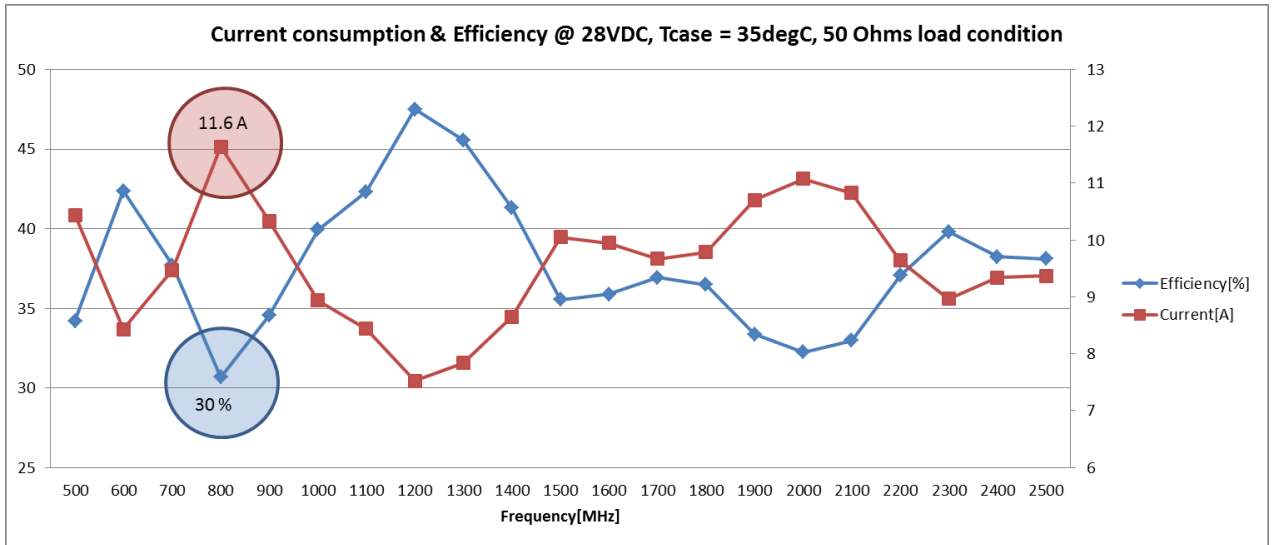
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## RF Performance

### Saturated Output Power vs Frequency



### Efficiency vs Frequency



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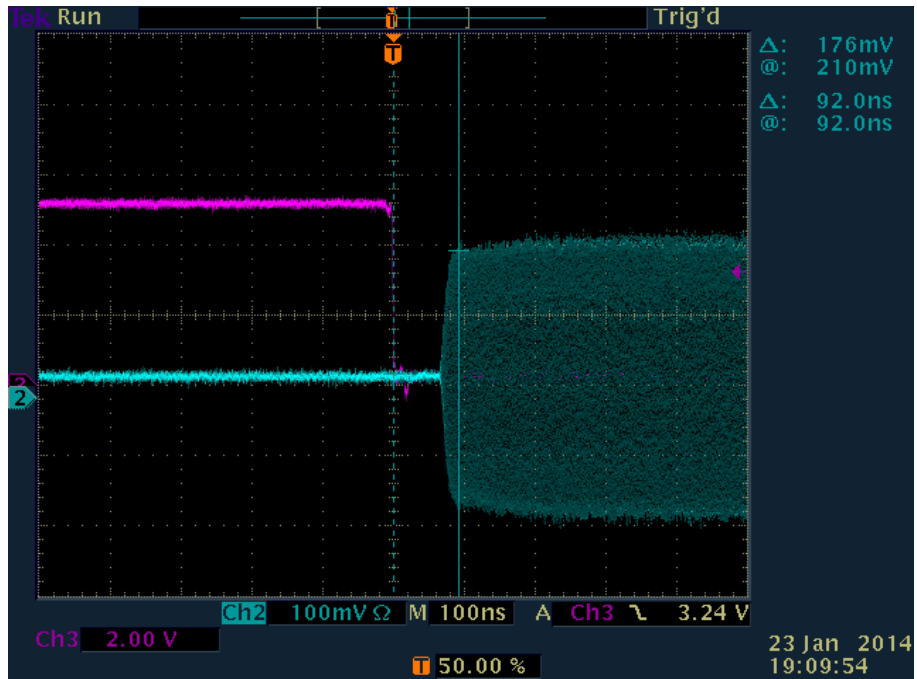
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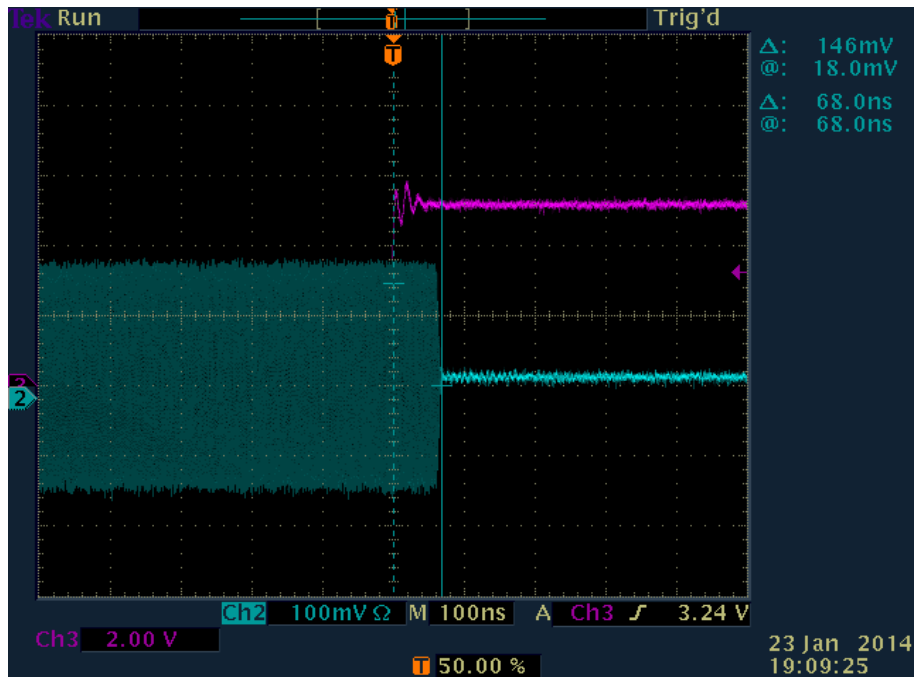
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Rising Time( $T_r$ ) : 92ns @ 100MHz, PRF 1KHz



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Falling Time( $T_f$ ) : 68ns @ 500MHz, PRF 1KHz



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