

Product Features

- Frequency from 9.3 ~ 9.5GHz
- GaN HEMT
- 50 Ohm Input/Output impedance
- High efficiency

Applications

- Radar system



Description

The RRM9395200-56 is designed for Radar system application frequencies from 9.3 ~ 9.5GHz.

This module uses GaN HEMT technology which performs high breakdown voltage, wide bandwidth and high efficiency.

Electrical Specifications @ $V_{DS}=50V$, $T=25^{\circ}C$, 50 Ω System

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	9300	-	9500	f_O
Operating Bandwidth	MHz	-	200	-	BW
Output Pulse Power	W	-	200	-	P_O
Input Pulse Power	dBm	-	-3	-	P_I
Power Gain	dB	-	56	-	G_P
Gain Flatness	dB	-	-	± 0.5	ΔG_P
Duty Cycle	%	-	10	-	DC
Pulse Width	us	-	100	-	PW
Efficiency	%	-	20	-	E_{ff}
Amplitude Pulse Droop	dB	-	0.5	1.0	Droop
Harmonics 1 to N	dBc	-	60	-	H_N
Spurious Level	dBc	-	60	-	Spur
Rise/Fall Time	ns	-	-	50	t_r/t_f
Off state isolation	dBc	-100	-	-	Off Iso
Input VSWR	dB	-	-	2:1	VSWR
Output VSWR	dB	-	-	2:1	VSWR
Switching Time	ns	-	250	300	t_{sw}
Phase Deviation	$^{\circ}$	-20	-	20	$\Delta\phi$

* Test Pulse conditions = 100us, 10%

* Custom design available

Absolute Maximum Ratings

PARAMETER	UNIT	RATING	SYMBOL
Operating Junction Temperature	°C	225	T _J
Operating Flange Temperature	°C	-30 ~ 75	T _C
Storage Temperature	°C	-30 ~ 125	T _{STG}

Operating Voltages

PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Drain-Source Voltage	V	50	± 5%	V _{DS1}
Drain-Source Sub Voltage	V	5.6	± 5%	V _{DS2}
On/Off Control Voltage	V	TTL Low(0V) : PA ON, TTL High(5V) : PA OFF		V _{DC1}

Power Supply

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Drain-Source Current(AVG)	A	-	2.2	2.5	I _{DS1}
Drain-Source Sub Current(AVG)	A	-	0.5	1.0	I _{DS2}

* Duty Cycle 10%, Pulse Width 100us

Mechanical Specifications

PARAMETER	UNIT	TYP
Mass	kg	2.0
Dimension	mm	140 x 140 x 25
RF Connector	-	SMA Female : RF Input
		SMA Female : RF Output
DC Connector	-	7W2 Combo Connector

Pin Description

Supply : 7W2 Combo Connector			
Pin No	Description	Pin No	Description
A1	GND	3	GND
A2	Vds1(+50V)	4	GND
1	TTL Control(On/Off)	5	GND
2	Vds2(+5.6V)		

Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
RRM9395200-56	2013.05.22	0.1	-	Preliminary

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