CIRCUIT DESIGN, INC.

UHF Power Amplifier

PA-TR3-400M, PA-TR3-800M

The PA-TR3-400M and PA-TR3-800M are power amplifier modules operating in the UHF frequency band and designed to be connected to Circuit Design's RF modules for applications requiring higher power transmission. The amplifier can be switched between TX and RX operation (Amplifier or Through Line) for half duplex communication.
Low voltage operation is possible with only 3 V power supply while providing a gain of up to 17 dB which can be adjusted by the user.

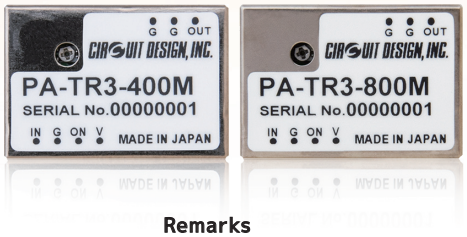
The small-thin package (5 mm high) enables installation in compact equipment.

Features

- 3 V operation
- Connectable to transceivers
- Amplifier or Through Line selectable
- 400 MHz and 800 MHz versions available
- Small, thin package

Applications

- Telemetry (Environmental monitoring - long range and tracking systems)
- Telecontrol (Industrial remote control systems)
- Security (Security alarm systems)



Absolute maximum rating
(Ta = 25 C)

Parameter	Specification		Remarks
	400 MHz	**800 MHz**	
Supply voltage	3.3 V	< -	
Supply current	650 mA	800 mA	
Total power dissipation	1.5 W	2.0 W	RF In +10 dBm, Out +27 dBm (50 ohm terminal)
Max. operating temp.	70 C	< -	At the top surface of the shield case (inc. self heating)

Normal rating
(Ta = 25 C)

Parameter	Specification		Remarks
	400 MHz	**800 MHz**	
Supply voltage	2.8 to 3.2 V	< -	
Supply current	450 mA typ.	650 mA typ.	(AMP operation)
Output impedance	50 ohm	< -	Un-balanced
Input impedance	50 ohm	< -	Un-balanced
Frequency	418 to 463 MHz	868 to 871 MHz	
Input power	10 dBm typ,	< -	
Output power	26 dBm typ.	< -	Vcc = 3 V, Pin = 10 dBm, 25 C, 50 ohm terminated
Power gain	16 dB	< -	Vcc = 3 V, Pin = 10 dBm, 25 C, 50 ohm terminated
Spurious ratio	70 dBc	60 dBc	Carrier / 2nd harmonics, 25 C, 50 ohm terminated
Insertion loss	2.0 dB typ.	< -	Power amplifier OFF
Operating temperature	-20 to +65 C	< -	At the top surface of the shield case*
Dimensions	27 x 19 x 5 mm	< -	
Weight	4.5 g	< -	

*The temperature indicated is ambient temp(Ta) + self heating temperature
Specifications are subject to change without prior notice

It is prohibited to use radio devices with output power exceeding the limits specified by radio laws and regulations in each country.
Before using this power amplifier, it is recommended to contact the regulatory authority in each country to verify conformity with the legal requirements for the intended frequency range.

CIRCUIT DESIGN, INC.
https://www.circuitdesign.jp
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