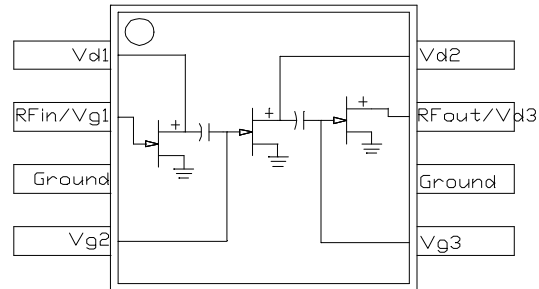


5.0V 1.0W RF Power Amplifier IC for 2.4 GHz ISM ITT3301GJ

ADVANCED INFORMATION

FEATURES

- Single Positive Supply
- 45% Power Added Efficiency
- 100% Duty Cycle
- 2000 to 2900 MHz Operation
- 8 Pin MSOP Full Downset Plastic Package
- Operates Over Wide Ranges of Supply Voltage
- Self-Aligned MSAG®-Lite MESFET Process



Description

The ITT3301GJ is an RF power amplifier based on GaAsTek's Self-Aligned MSAG® MESFET Process. This product is designed for use in 2.4 GHz ISM products.

Maximum Ratings (T_A = 25 °C unless otherwise noted)

Rating	Symbol	Value	Unit
DC Supply Voltage	V _{DD}	6.5	Vdc
RF Input Power	P _{IN}	10	mW
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{STG}	-40 to +150	°C

ELECTRICAL CHARACTERISTICS V_{DD}= 5.0 V, P_{IN}= +5 dBm, Duty Cycle = 100 %, T_A=25 °C, Output externally matched to 50 Ω

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	<i>f</i>	2400		2500	MHz
Output Power, <i>f</i> = 2450 MHz	P _{OUT}		29.5		dBm
Power Added Efficiency, <i>f</i> = 2450 MHz	η		45		%
Harmonics	2 <i>f</i> , 3 <i>f</i> , 4 <i>f</i>		—	-30	dBc
Input VSWR	—		—	2.0:1	—
Off Isolation (V _{DD} =0 V)	—		40		dB
Thermal Resistance, Junction to Case	R _{th}		25		°C/W
Load Mismatch (V _{DD} = 5.5 V, VSWR = 8:1, P _{IN} = 0 dBm)	—	No Degradation in Power Output			
Stability (P _{IN} = 0 to +10 dBm, V _{DD} = 0-5.5 V, Load VSWR = 5:1, fixed phases)	—	All non-harmonically related outputs more than 60 dB below desired signal			

