

Features

- High-performance 3G power amplifier
 - UMTS Band II (1850 -1910 MHz)
 - W-CDMA, HSPA, and HSPA+ Compliant
- Integrated TX filtering
 - Delivers best noise in the industry
- Integrated directional coupler
- Integrated regulators and PA bias
- Single connection to the battery
 - No external switches or isolation inductors
- MIPI control interface (optional)
- High linear efficiency
- Low average current
- High capacity CMOS process
- Small 3x3 mm package

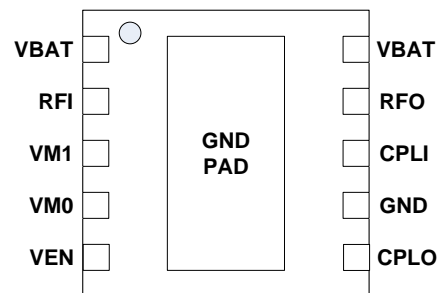
Description

The JAV5502 is a complete, high-performance power amplifier for W-CDMA and HSPA wireless communications. Based on a unique, patented architecture, the JAV5502 integrates circuitry for TX filtering, RF coupling, power regulation, input and output matching and power control. The PA is powered by a single connection to the battery and is implemented in a standard CMOS process.

Applications

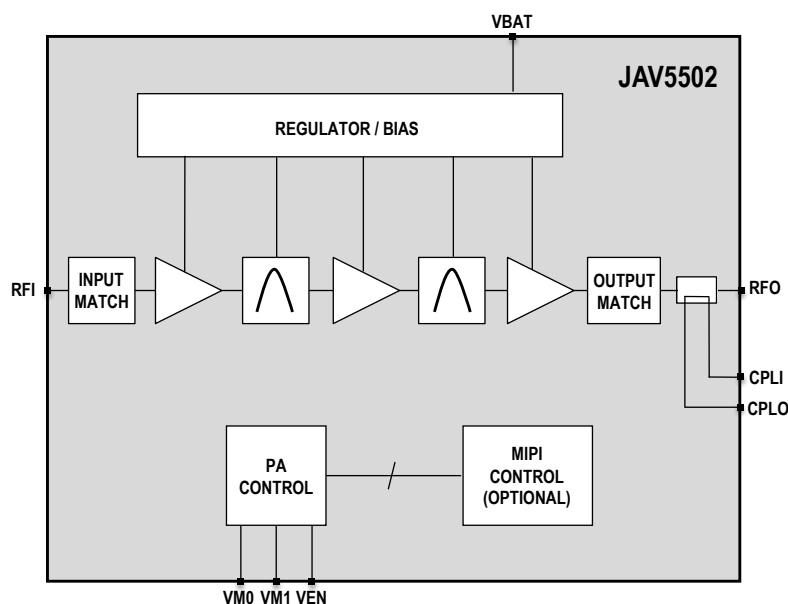
- Smartphones, WCDMA modules and modems
- Tablets, netbooks and network PCs
- E-books and wireless electronic readers

JAV5502-ACL
Pin Assignments
 Top View (x-ray)



US Patent # 7,728,661
 US Patent # 7,768,350
 US Patent # 7,872,528
 Other patents pending

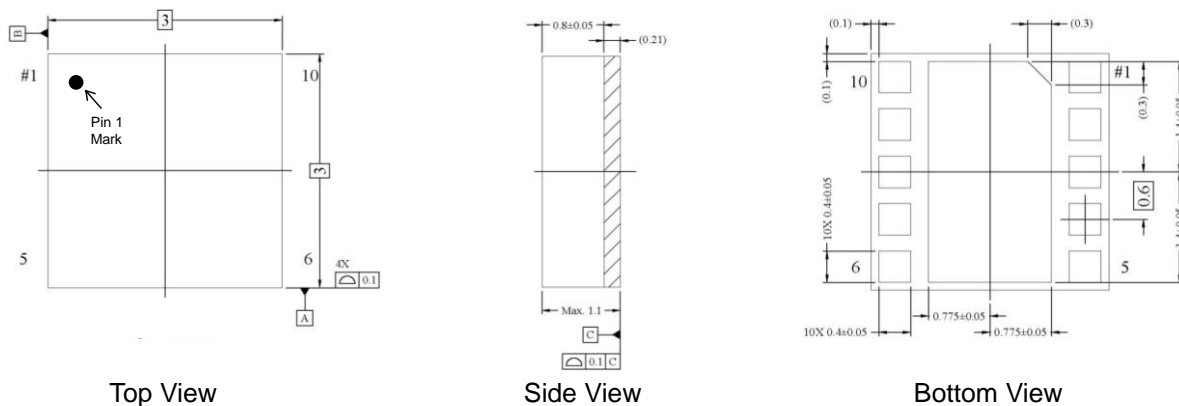
Functional Block Diagram



Selected Electrical Specifications (nominal operating conditions)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Frequency	F_{RF}		1850	-	1910	MHz
Maximum Linear Output Power	P_{MAX}	HP Mode	+26.5	+27.0	-	dBm
		MP Mode	+16.0	+16.5	-	dBm
		LP Mode	+5.5	+6.0	-	dBm
Gain	G	HP Mode	27.0	28.5	-	dB
		MP Mode	16.5	18.0	-	dB
		LP Mode	6.0	8.0	-	dB
Adjacent Channel Leakage Ratio	ACL1	+/- 5 MHz Offset	-	-42	-38	dBc
	ACL2	+/- 10 MHz Offset	-	-53	-48	dBc
Noise		RX Band, 80 MHz Offset	-	-141	-	dBm/Hz
		GPS Band, 1524-1577 MHz	-	-158	-	dBm/Hz
		ISM Band, 2400-2484 MHz	-	-158	-	dBm/Hz
Error Vector Magnitude	EVM	$P_{OUT} \leq P_{MAX}$	-	1.5	3.35	%
Power Added Efficiency	PAE	HP Mode	-	37	-	%
		MP Mode	-	23	-	%
Quiescent Idle Current	I_{CQ}	LP Mode	-	8	10	mA
Average Current	I_{AVG}	Total current from all pins	-	28	-	mA
Power Down Current	I_{PD}	$V_{EN} = V_{IL}$	-	5	10	μ A
Turn-on Time	T_{ON}		-	9	12	μ s
Turn-off Time	T_{OFF}		-	8	10	μ s
Input Impedance	Z_{IN}		-	1.4:1	2:1	VSWR
Other Spurious		Load VSWR \leq 5:1	-	-	-70	dBc
Ruggedness		No permanent damage or degradation	-	-	10:1	VSWR

Package Information



Ordering Guide

Ordering Number	Description	Package Type	Operating Temperature
JAV5502-ACL	3G Band II Power Amplifier with Coupler	3x3 LGA	-20 to 90 °C

Contact Information

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