

Power Amplifier Module for JCDMA

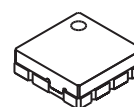
Description

The CXG1158K is the power amplifier module which operates at a single power supply. This IC is designed using the Sony's original p-Gate HFET process.

Features

- Single power supply operation:
 $V_{DD1} = V_{DD2} = 3.5V$ (High Power Mode),
 $1.3V$ (Low Power Mode 1),
 $1.0V$ (Low Power Mode 2),
 $V_{GG} = 2.7V$
- Ultrasmall package: $0.06cc$ ($6.2mm \times 6.2mm \times 1.55mm$)
- High efficiency:
 $\eta_{add} = 41\%$ @ $P_{OUT} = 27.5dBm$ (High Power Mode),
 $\eta_{add} = 23\%$ @ $P_{OUT} = 15dBm$ (Low Power Mode 1)
- Output power (high/low mode switching supported):
 $P_{OUT} = 18$ to $27.5dBm$: High Power Mode,
 $P_{OUT} = 15$ to $18dBm$: Low Power Mode 1,
 $P_{OUT} \leq 15dBm$: Low Power Mode 2
- Gain: $G_p = 29dB$ (@ $900MHz$)

10 pin LCC (Ceramic)



Applications

Power amplifier for JCDMA system cellular phones

Structure

p-Gate HFET module

Absolute Maximum Ratings

• Operating ambient temperature	T_a	-30 to $+60$	$^{\circ}C$
• Operating case temperature	T_{case}	-30 to $+90$	$^{\circ}C$
• Storage temperature	T_{stg}	-30 to $+125$	$^{\circ}C$
• Bias voltage	V_{DD1}, V_{DD2}	6	V
• Bias voltage	V_{GG}	3.3	V
(@ $V_{DD1} = V_{DD2} \leq 3.5V$)			
• Input power	P_{IN}	8	dBm

Recommended Bias Voltage Conditions

- $V_{DD1} = V_{DD2} = 1.0$ to $4.2V$
- $V_{GG} = 2.7V \pm 1\%$

GaAs module is ESD sensitive devices. Special handling precautions are required.

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