

OKI electronic components

KGF2512

Midium Power Amplifier for L-band

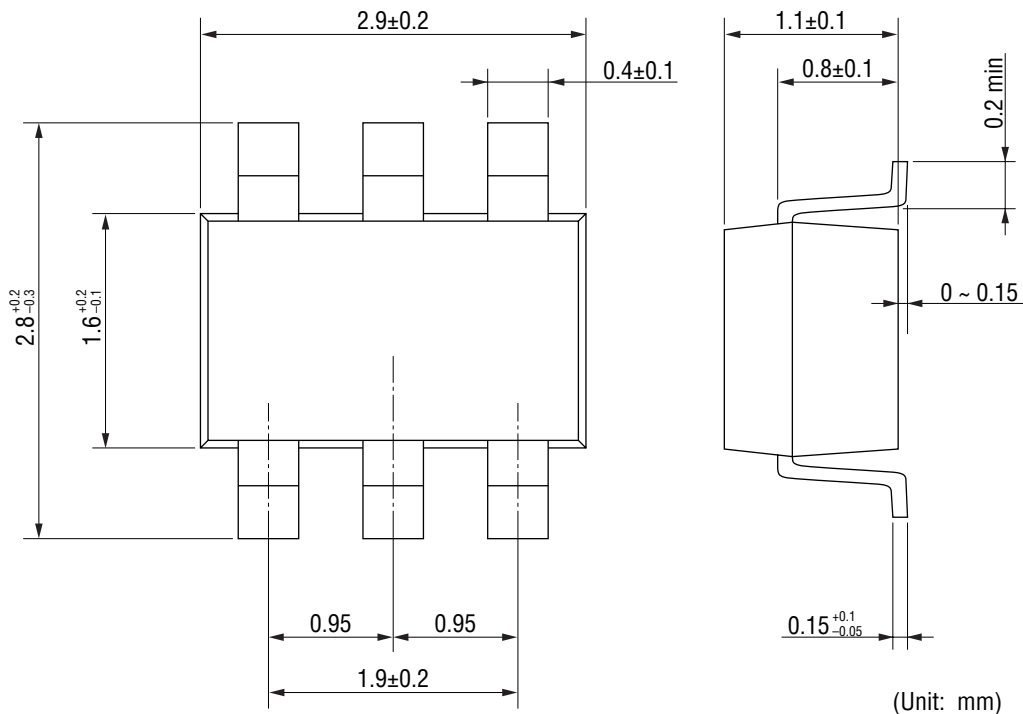
GENERAL DESCRIPTION

The KGF2512 is a midium power amplifier for L-band that features high output power, high linear gain, low distortion and low-current dissipation. The KGF2512 has specifications guaranteed by fixed matching circuit of 2.8V and 1500MHz band, although external impedance matching circuits are required. Because of the high output power and low distortion at the low operating current, the KGF2512 is ideal as a transmitter driver stage amplifire for portable phones such as PDC.

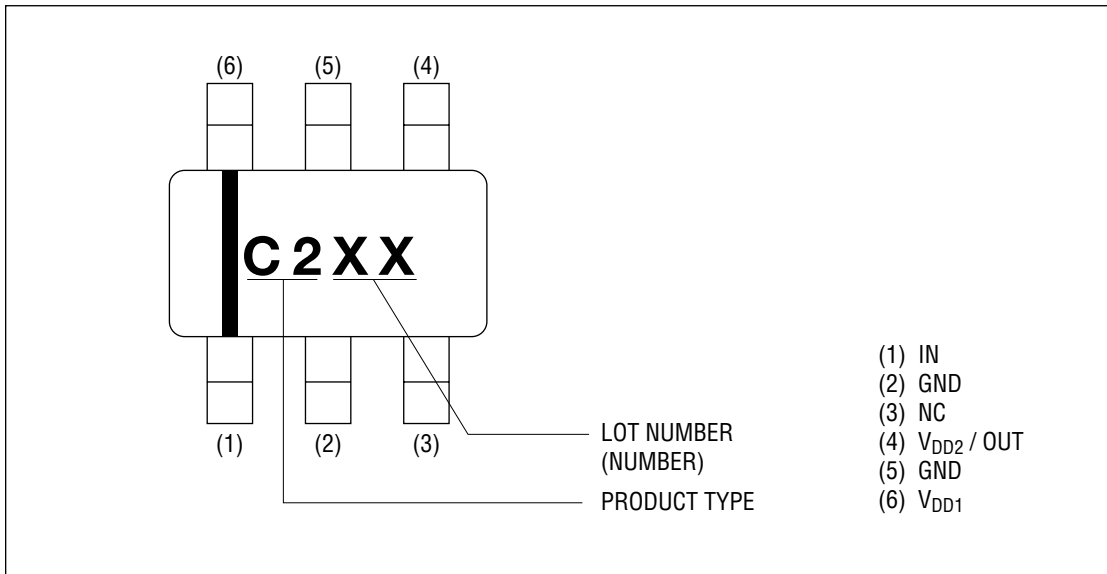
FEATURES

- High output power: 10dBm (min)
- High linear gain: 27dB (min)
- Low distortion (ACP): -55dBc (max) @ $P_O=10\text{dBm}$, $\pi/4\text{DQPSK}$, $\pm 50\text{kHz}$
- Low voltage and Low current operation: 2.8V, 32mA (max)
- Self-bias circuit configuration with built-in source capacitor
- Surface mount 6-pin SOP plastic package

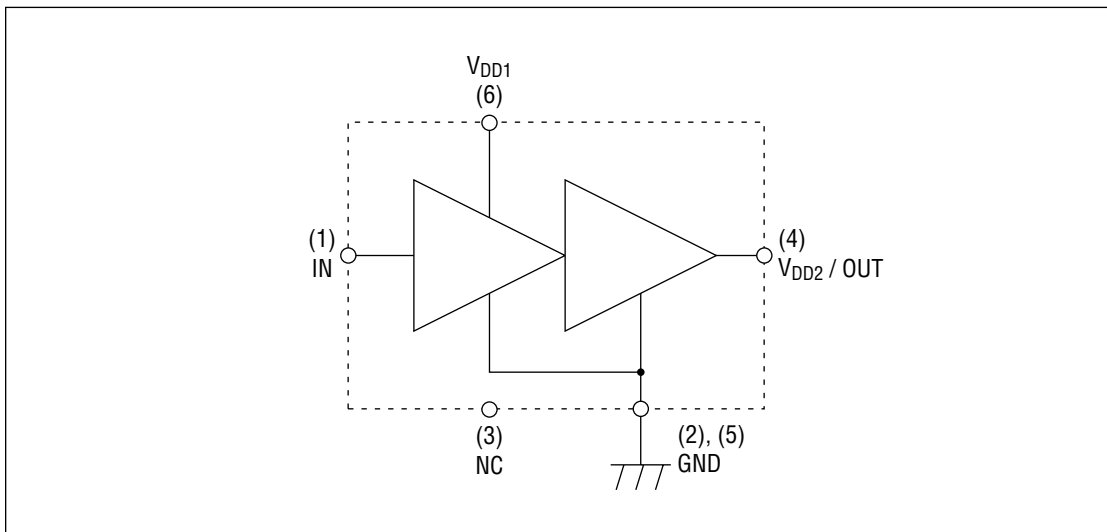
OUTLINE DIMENSIONS



MARKING



CIRCUIT



ABSOLUTE MAXIMUM RATINGS

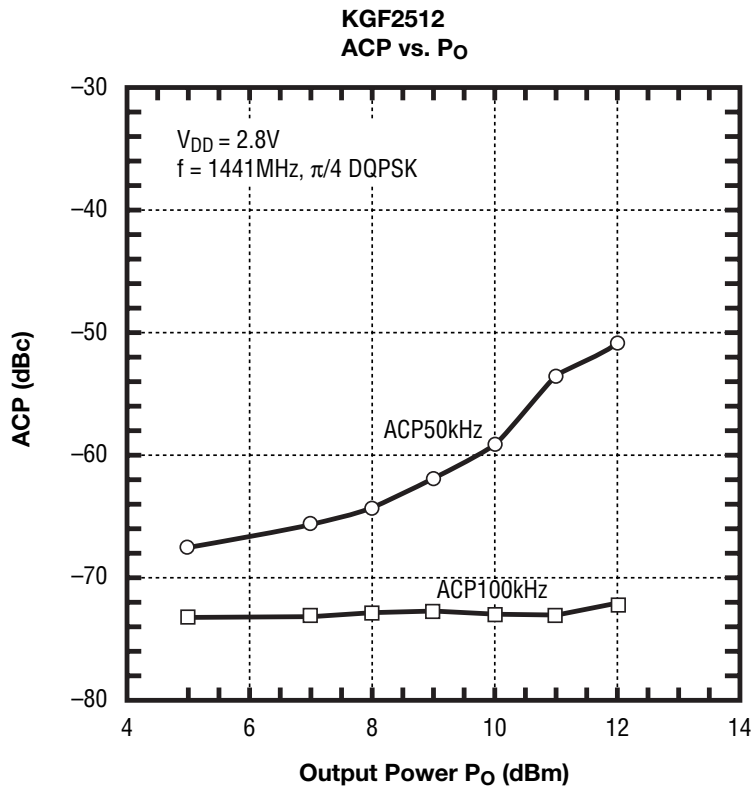
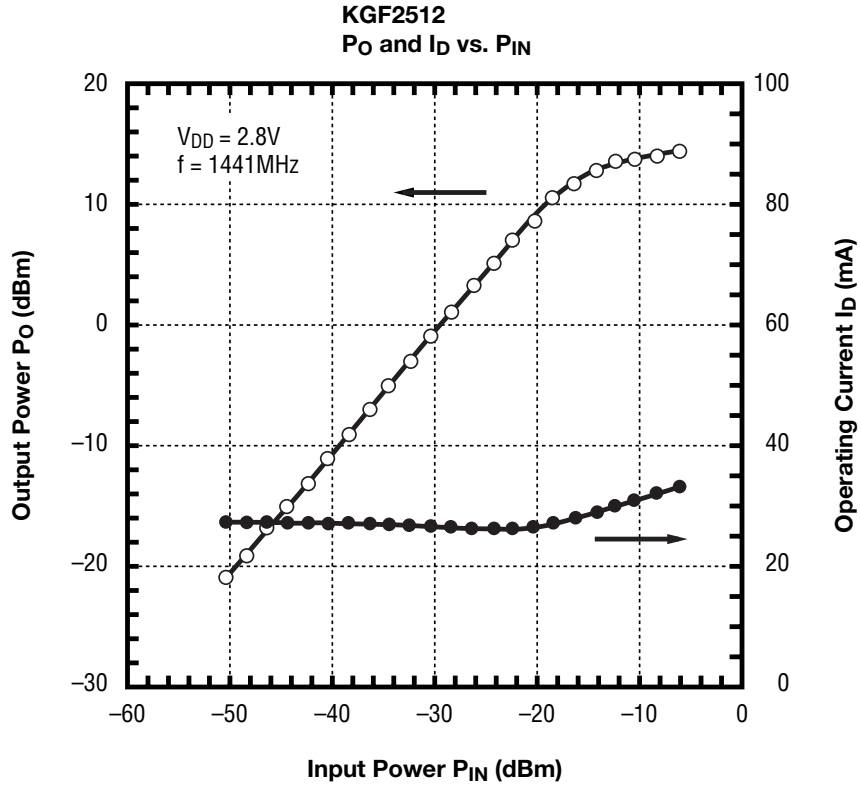
Item	Symbol	Conditions	Unit	Min.	Max.
Supply Voltage	V_{DD}	$T_a = 25^\circ\text{C}$	V	—	7
Total power dissipation	P_{TOT}	$T_a = 25^\circ\text{C}$	mW	—	300
Operating temperature	T_{OPE}	—	$^\circ\text{C}$	-35	+85
Storage temperature	T_{STG}	—	$^\circ\text{C}$	-45	+125

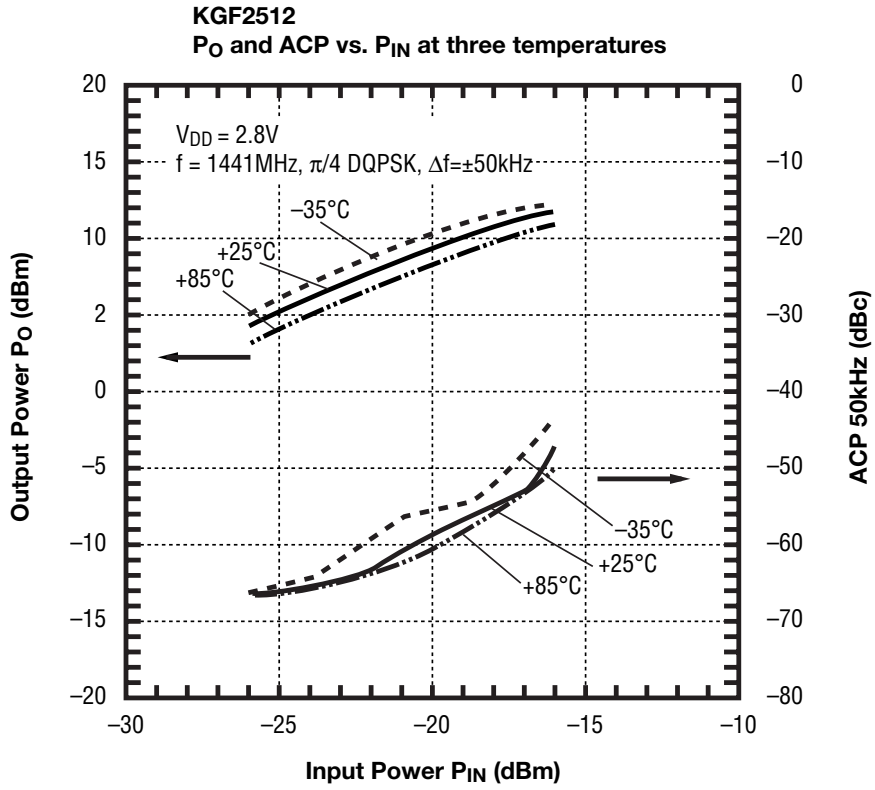
ELECTRICAL CHARACTERISTICS

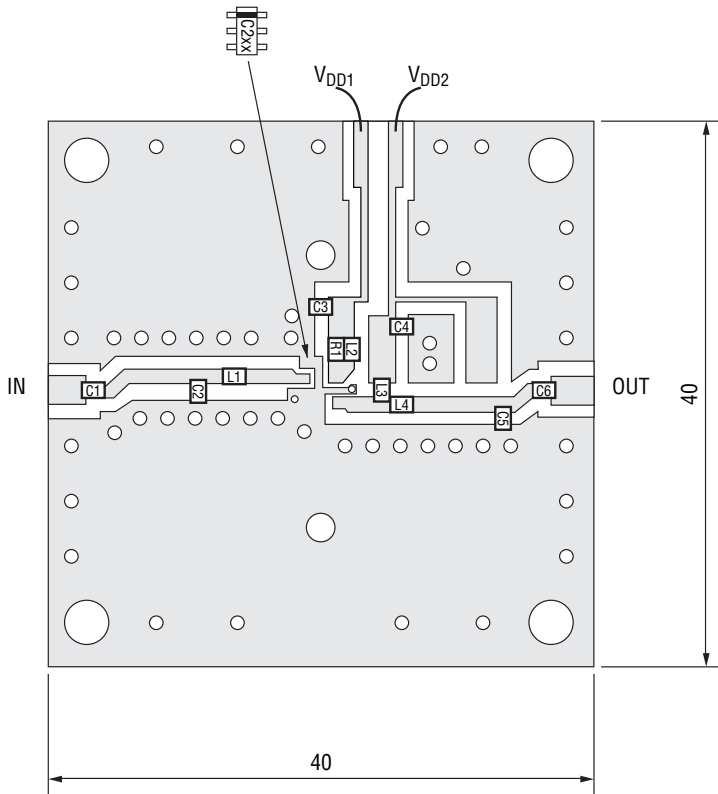
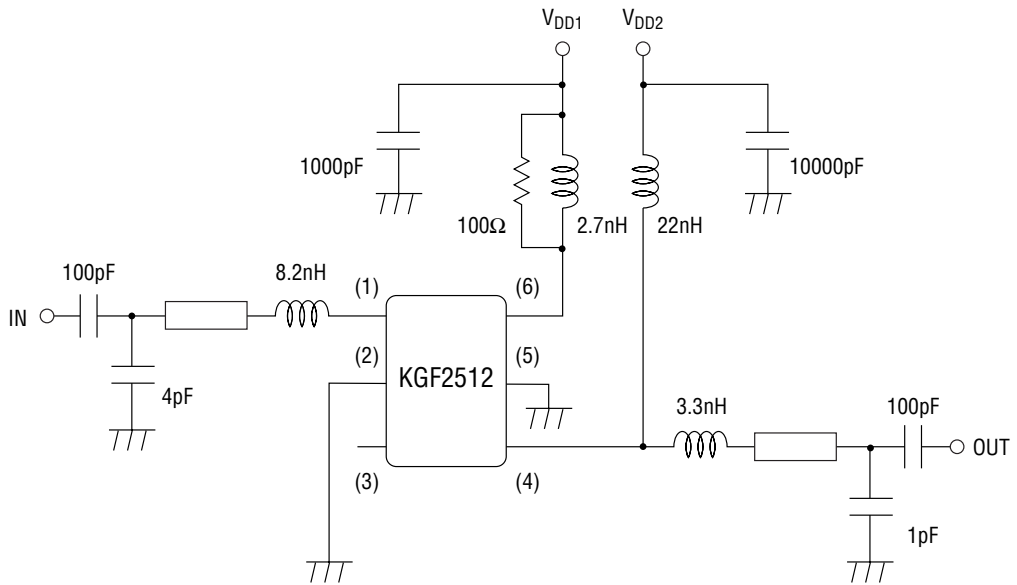
(Ta = 25°C)

Item	Symbol	Conditions	Unit	Min.	Typ.	Max.
Frequency	f	—	MHz	1429	—	1453
Operating current	I_{DD}	(*1), $P_{IN} = -15$ dBm	mA	—	26	32
Linear Gain	G_{LIN}	(*1), $P_{IN} = -30$ dBm	dB	27	29	—
Output Power	P_O	(*1), $P_{IN} = -15$ dBm	dBm	10	12	—
Adjacent channel power 1	ACP1	(*1), $P_O = 10$ dBm ± 50 kHz offset	dBc	—	-60	-55
Adjacent channel power 2	ACP2	(*1), $P_O = 10$ dBm ± 100 kHz offset	dBc	—	-70	-65

*1 Self-bias condition: $V_{DD} = 2.8$ V, $\pi/4$ DQPSK







- C1: 100 pF
- C2: 4 pF
- C3: 1000 pF
- C4: 10000 pF
- C5: 1 pF
- C6: 100 pF
- L1: 8.2 nH
- L2: 2.7 nH
- L3: 22 nH
- L4: 3.3 nH
- R1: 100 Ω

(unit: mm)

Substrate: Teflon-fiberglass
 (0.8mm², 18μm² Cu plated both side, ε_r = 2.6)