

# OKI electronic components

## KGF2512

### Midium Power Amplifier for L-band

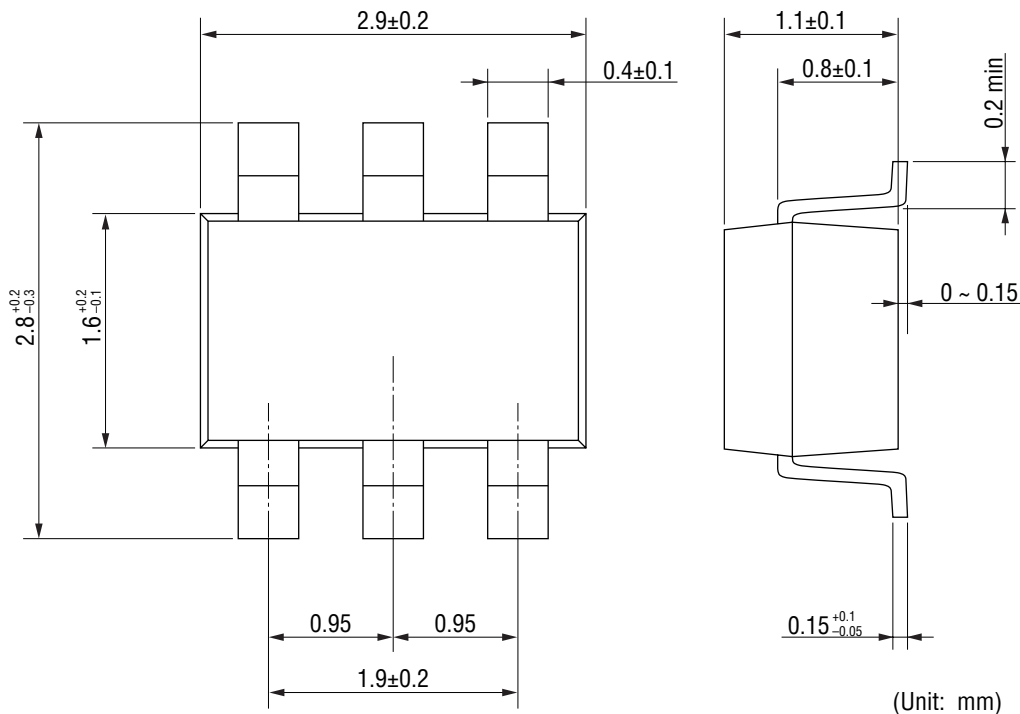
#### GENERAL DESCRIPTION

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.

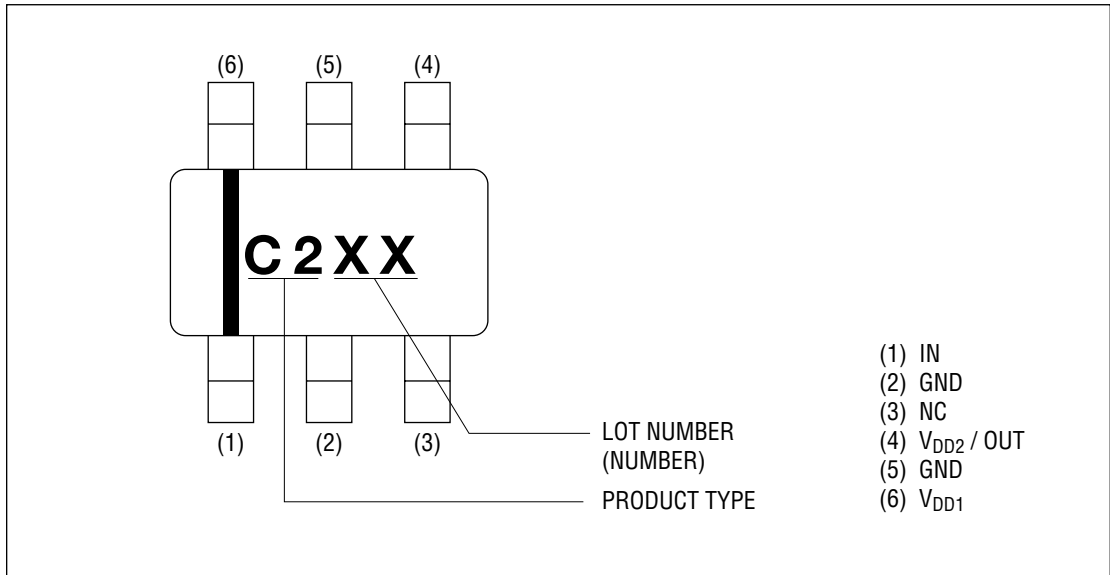
#### FEATURES

- High output power: 10dBm (min)
- High linear gain: 27dB (min)
- Low distortion (ACP):  $-55\text{dBc}$  (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

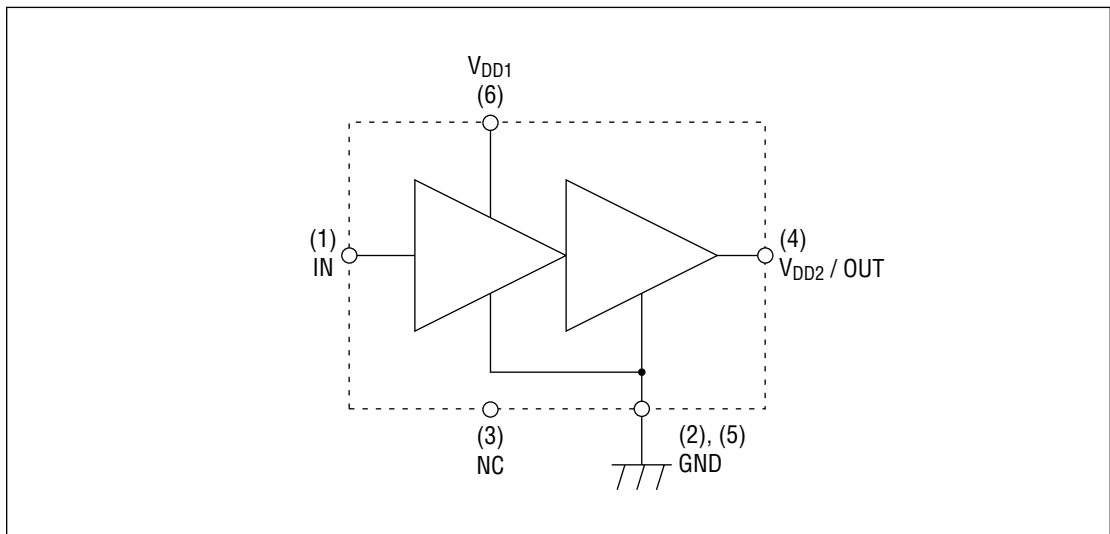
#### OUTLINE DIMENSIONS



**MARKING**



**CIRCUIT**



**ABSOLUTE MAXIMUM RATINGS**

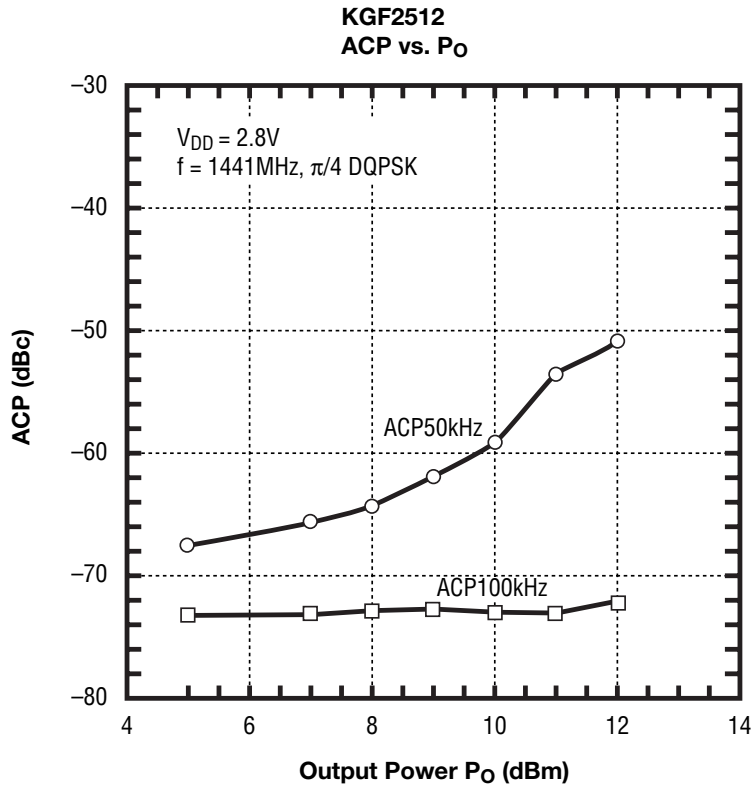
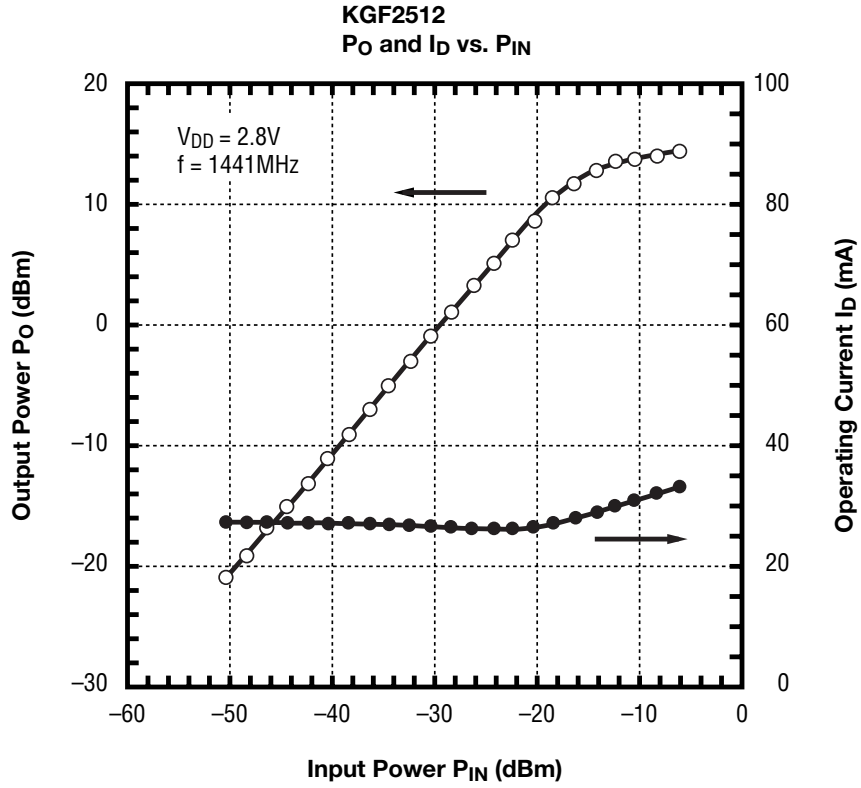
Item	Symbol	Conditions	Unit	Min.	Max.
Supply Voltage	$V_{DD}$	$T_a = 25^\circ\text{C}$	V	—	7
Total power dissipation	$P_{TOT}$	$T_a = 25^\circ\text{C}$	mW	—	300
Operating temperature	$T_{OPE}$	—	$^\circ\text{C}$	-35	+85
Storage temperature	$T_{STG}$	—	$^\circ\text{C}$	-45	+125

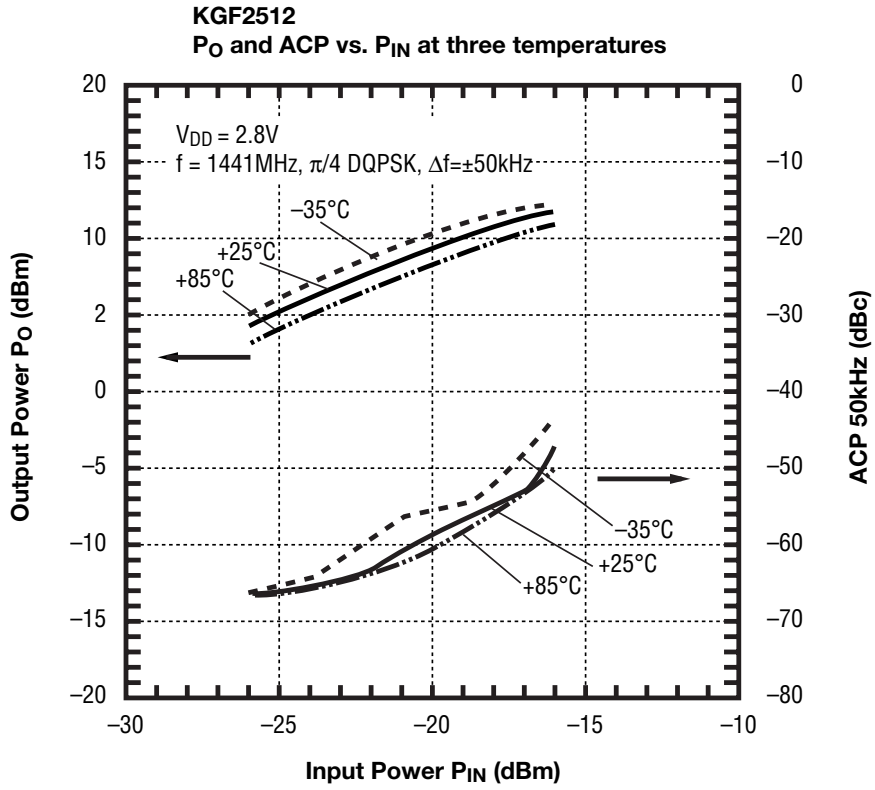
**ELECTRICAL CHARACTERISTICS**

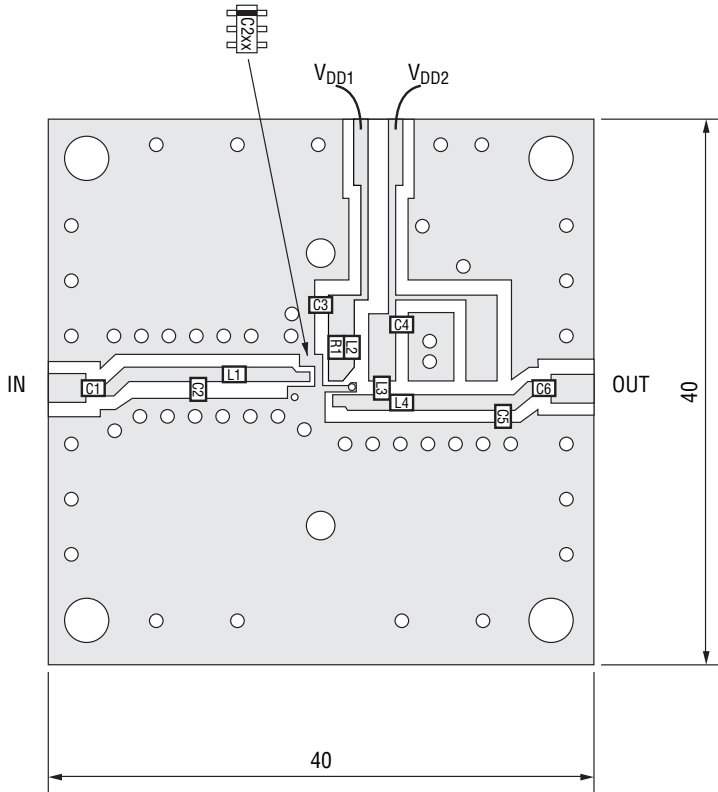
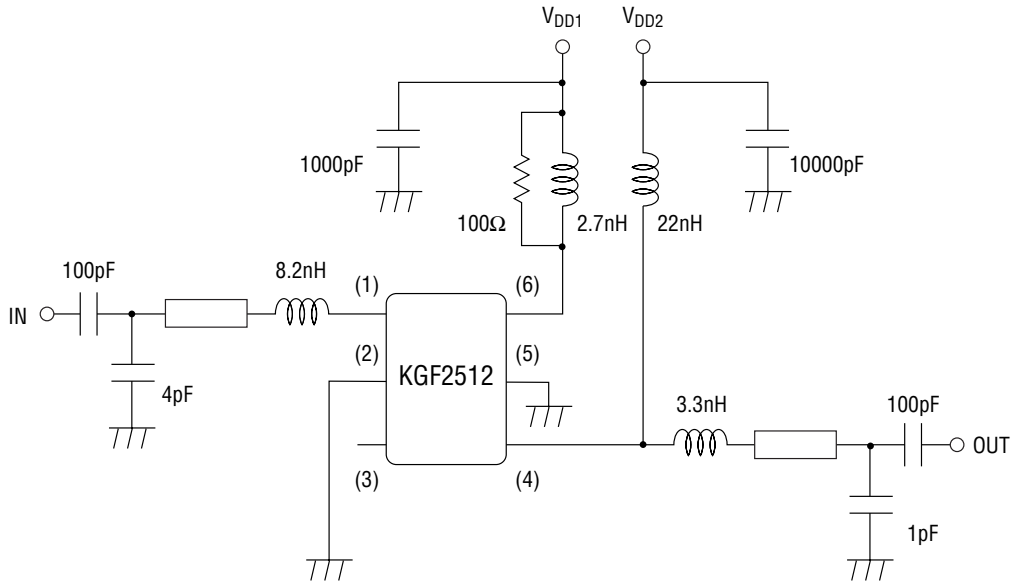
(Ta = 25°C)

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 $\pm 50$ kHz offset	dBc	—	-60	-55
Adjacent channel power 2	ACP2	(*1), $P_O = 10$ dBm $\pm 100$ 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  
(0.8mm<sup>3</sup>, 18μm<sup>3</sup> Cu plated both side, ε<sub>r</sub> = 2.6)