

OKI electronic components

KGF2512

Midium Power Amplifier for L-band

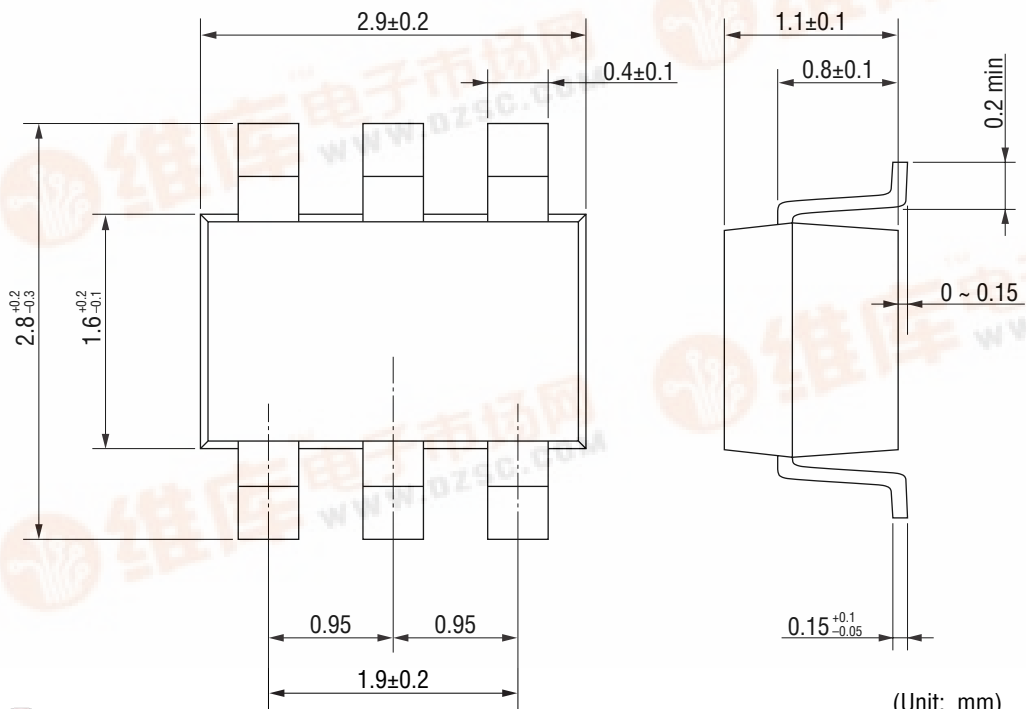
GENERAL DESCRIPTION

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

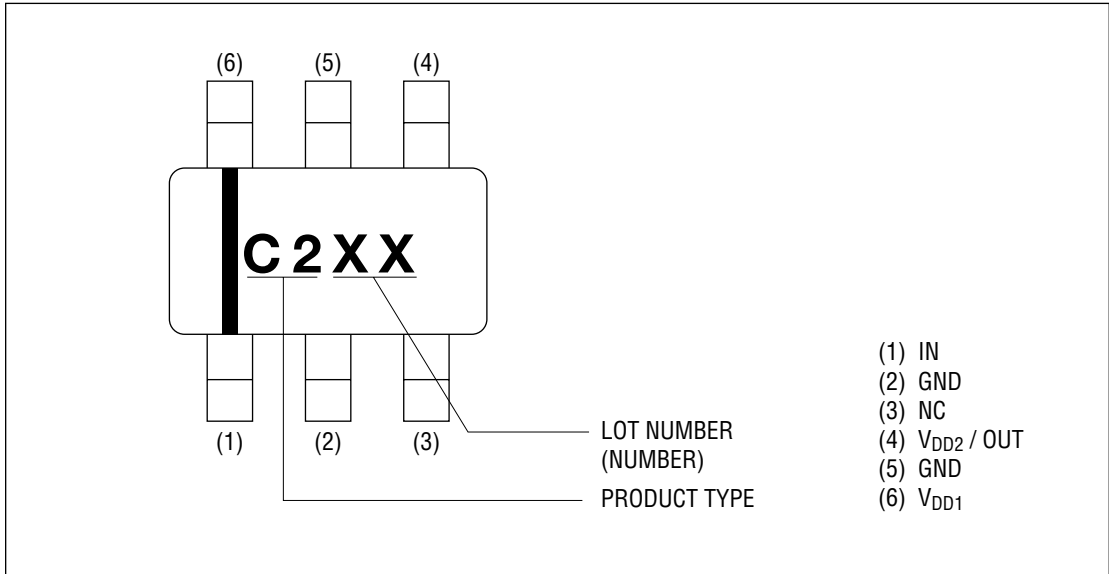
- High output power: 10dBm (min)
- High linear gain: 27dB (min)
- Low distortion (ACP): -55dBc (max) @ $P_O=10\text{dBm}$, $\pi/4\text{DQPSK}$, $\pm 50\text{kHz}$
- Low voltage and Low current operation: 2.8V, 32mA (max)
- Self-bias circuit configuration with built-in source capacitor
- Surface mount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

OUTLINE DIMENSIONS

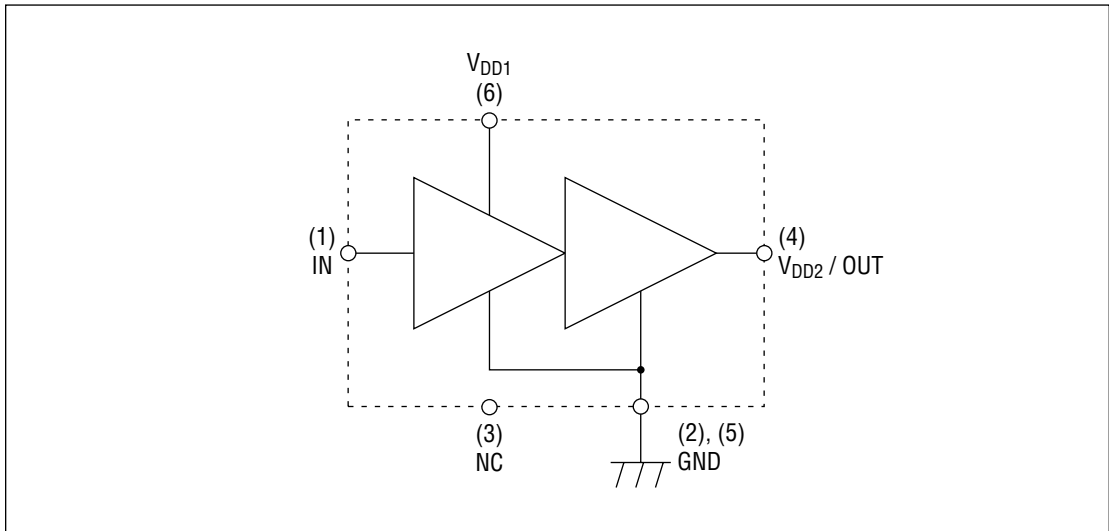


(Unit: mm)

MARKING



CIRCUIT



ABSOLUTE MAXIMUM RATINGS

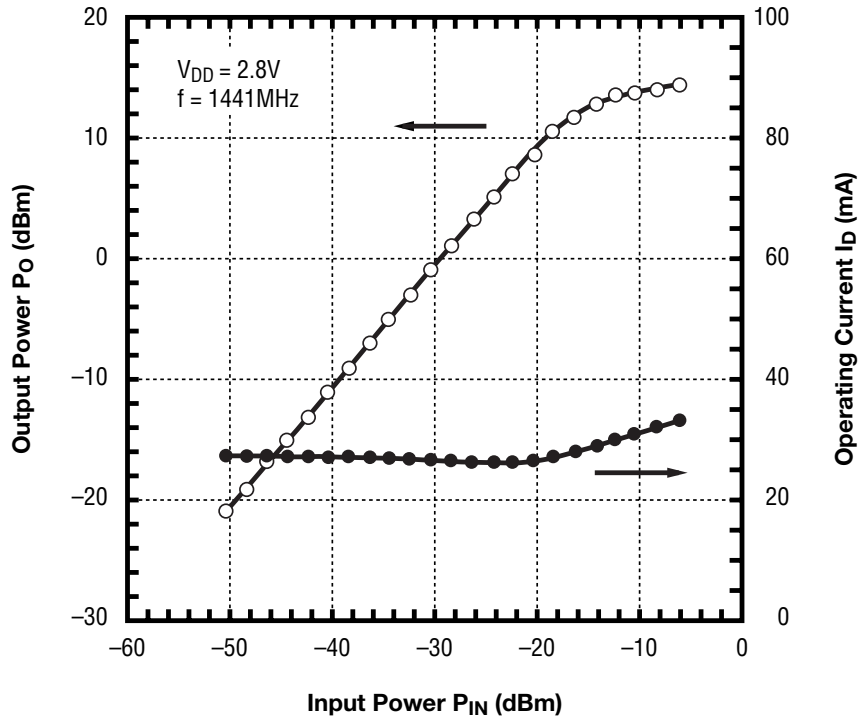
Item	Symbol	Conditions	Unit	Min.	Max.
Supply Voltage	V_{DD}	$T_a = 25^\circ\text{C}$	V	—	7
Total power dissipation	P_{TOT}	$T_a = 25^\circ\text{C}$	mW	—	300
Operating temperature	T_{OPE}	—	$^\circ\text{C}$	-35	+85
Storage temperature	T_{STG}	—	$^\circ\text{C}$	-45	+125

ELECTRICAL CHARACTERISTICS $(T_a = 25^\circ\text{C})$

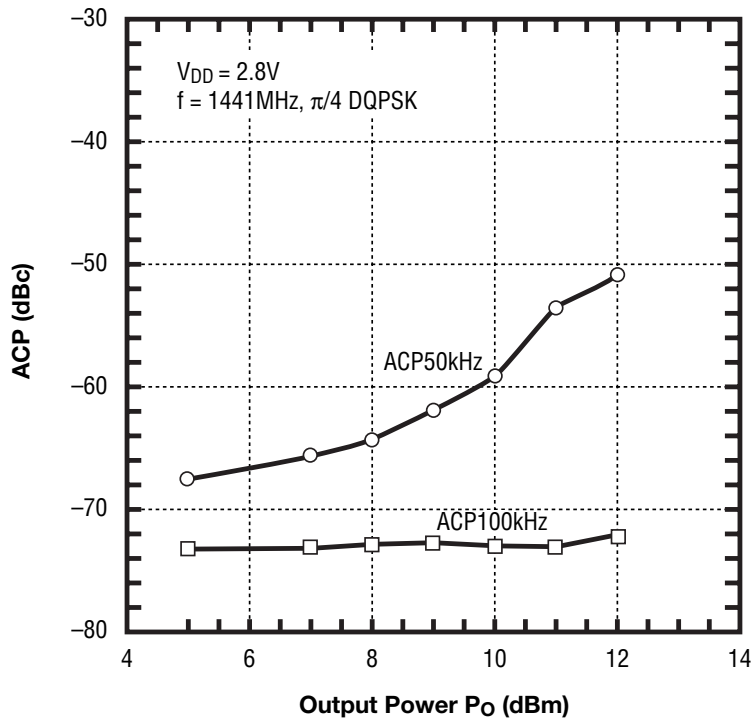
Item	Symbol	Conditions	Unit	Min.	Typ.	Max.
Frequency	f	—	MHz	1429	—	1453
Operating current	I_{DD}	(*1), $P_{IN} = -15\text{ dBm}$	mA	—	26	32
Linear Gain	G_{LIN}	(*1), $P_{IN} = -30\text{ dBm}$	dB	27	29	—
Output Power	P_O	(*1), $P_{IN} = -15\text{ dBm}$	dBm	10	12	—
Adjacent channel power 1	ACP1	(*1),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

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

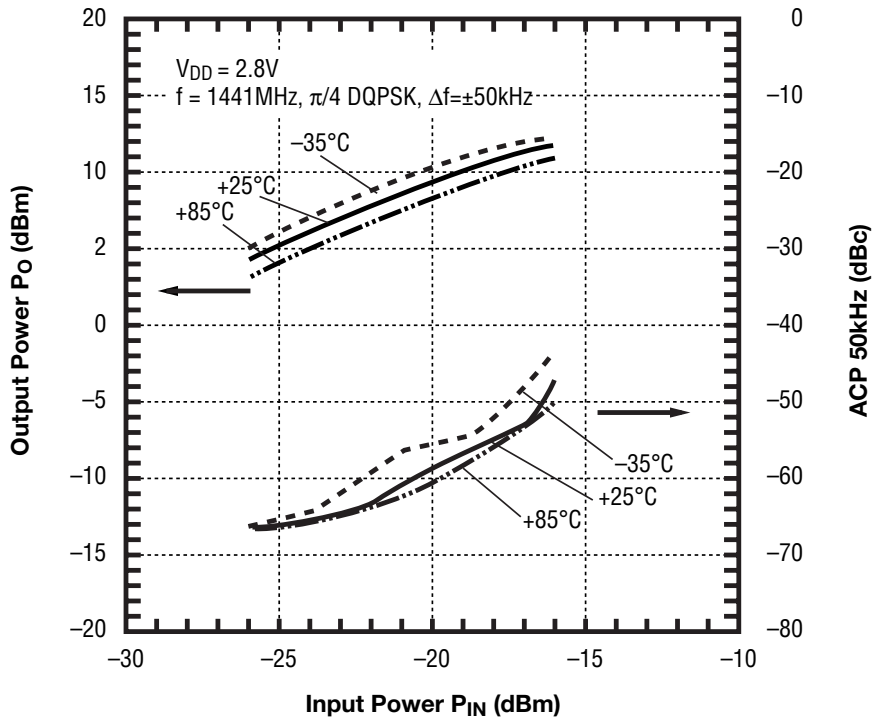
KGF2512
P_O and I_D vs. P_{IN}

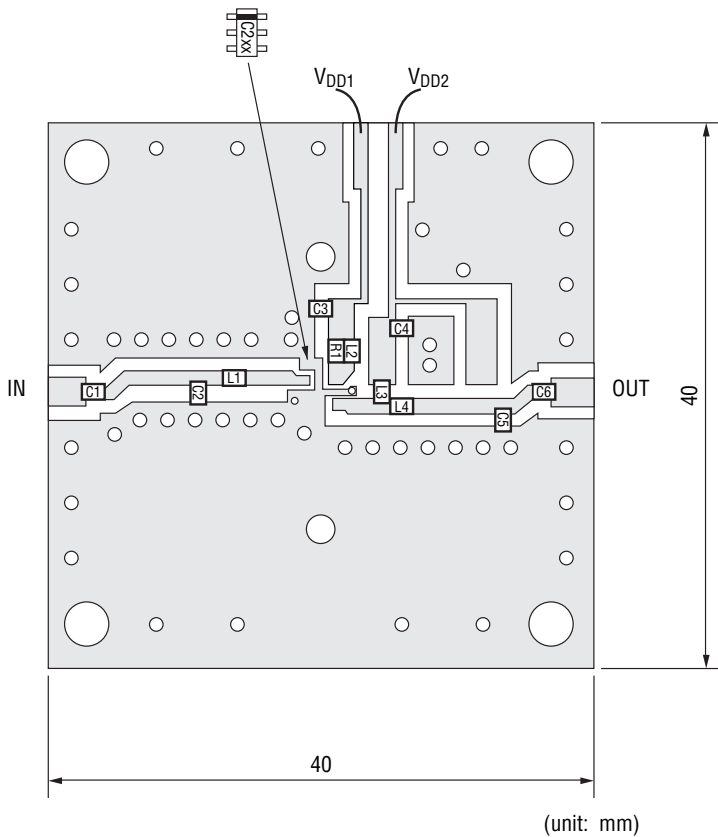
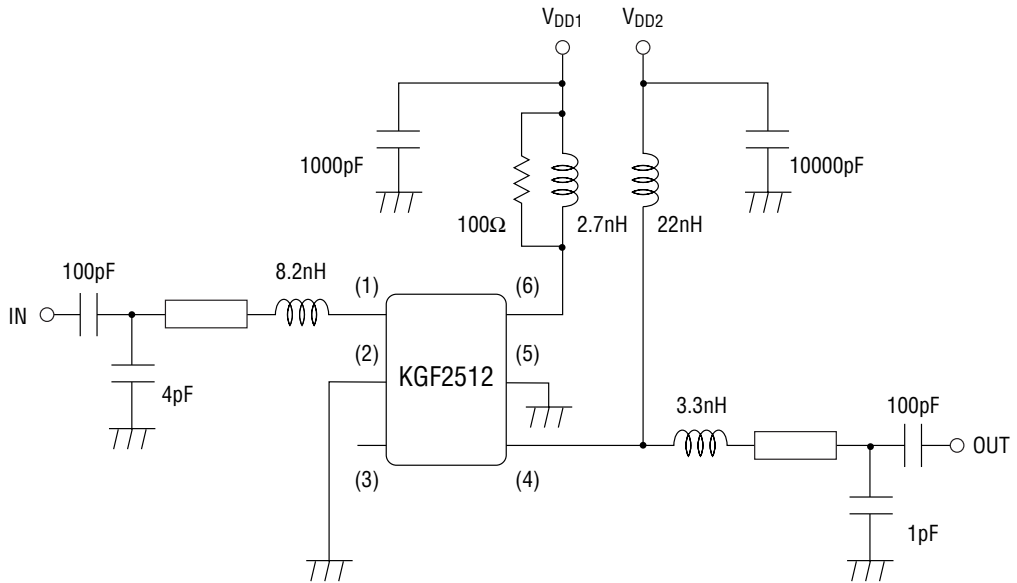


KGF2512
ACP vs. P_O



KGF2512
P_O and ACP vs. P_{IN} at three temperatures





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

Substrate: Teflon-fiberglass
 (0.8mm^t, 18μm^t Cu plated both side, ε_r = 2.6)