

AN6141S, AN6141SB

Cordless Telephone Compander IC

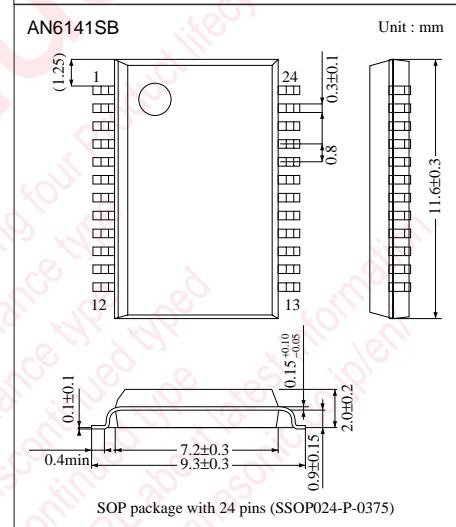
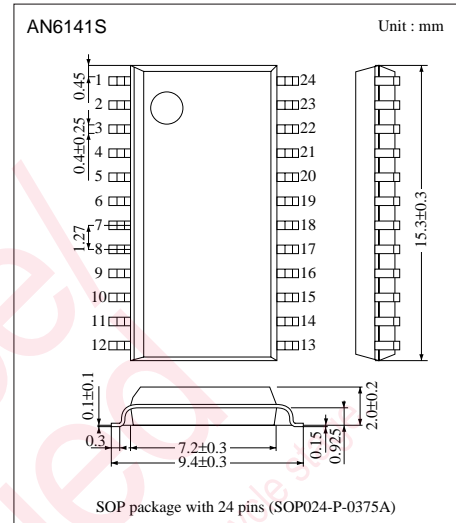
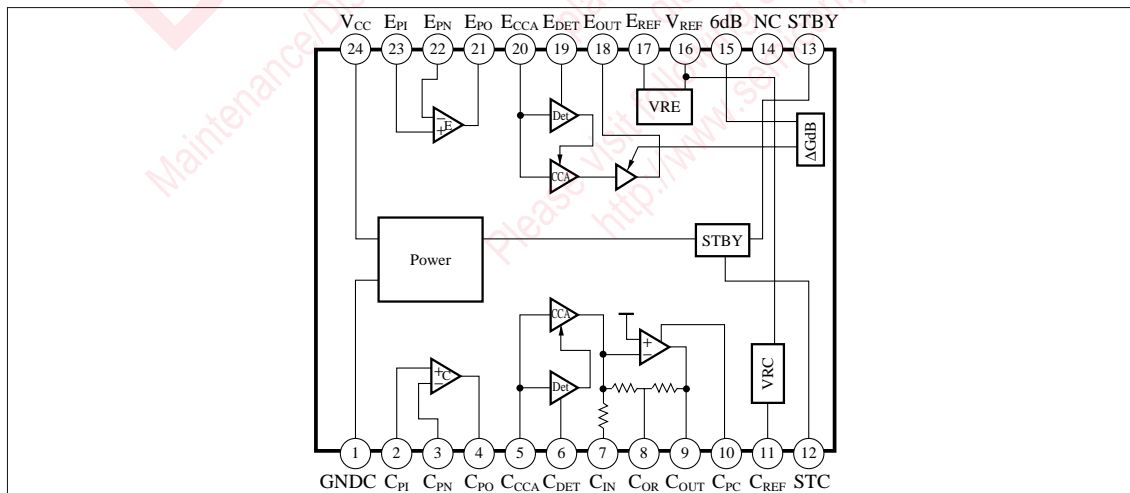
Overview

The AN6141S and AN6141SB are compander ICs for cordless telephones incorporating standby and received-signal amplifying functions. Their noise compressor circuit has such an improved linearity as to remarkably reduce radio transmission noise. These ICs provide a cordless telephone with a high-quality transmission performance.

Features

- Compander IC designed for cordless telephones
- The noise compressor circuit has an improved linearity of 10 dB.
- The compressor/expander circuitry incorporates preamplifiers to make level and frequency adjustments easier.
- The standby circuit provides for a low-power consumption cordless telephone.
- The expander has a 6-dB amplifier to allow received-signal amplification.
- SOP package with 1.27 or 0.8mm pitch pins

Block Diagram



■ Pin Descriptions

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	GNDC	Compander CND	13	STBY	Standby
2	CPI	COMP preamp. input (+)	14	N.C	————
3	CPN	COMP preamp. input (-)	15	ΔG	EXP 6-dB amplification
4	CPO	COMP preamp. output	16	VREF	VREF for compander
5	CCCA	COMP-CCA input	17	EREF	EXP-VREF
6	CDET	COMP detection	18	EOUT	EXP output
7	CIN	COMP signal input	19	EDET	EXP detection
8	COR	COMP output VREF	20	ECCA	EXP-CCA input
9	COUT	COMP signal output	21	EPO	EXP preamp. output
10	CPC	COMP phase adjustment	22	EPN	EXP preamp. input (+)
11	CREF	COMP-VREF	23	EPI	EXP preamp. input (-)
12	STC	Standby adjustment	24	V _{CC}	Power supply

■ Absolute Maximum Ratings (T_a=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	7.5	V
Supply current	P _D	280 ^{Note.1)}	mW
Operating ambient temperature	T _{opr}	-20 to +75	°C
Storage temperature	T _{stg}	-55 to +125	°C

Note.1) T_a=75°C

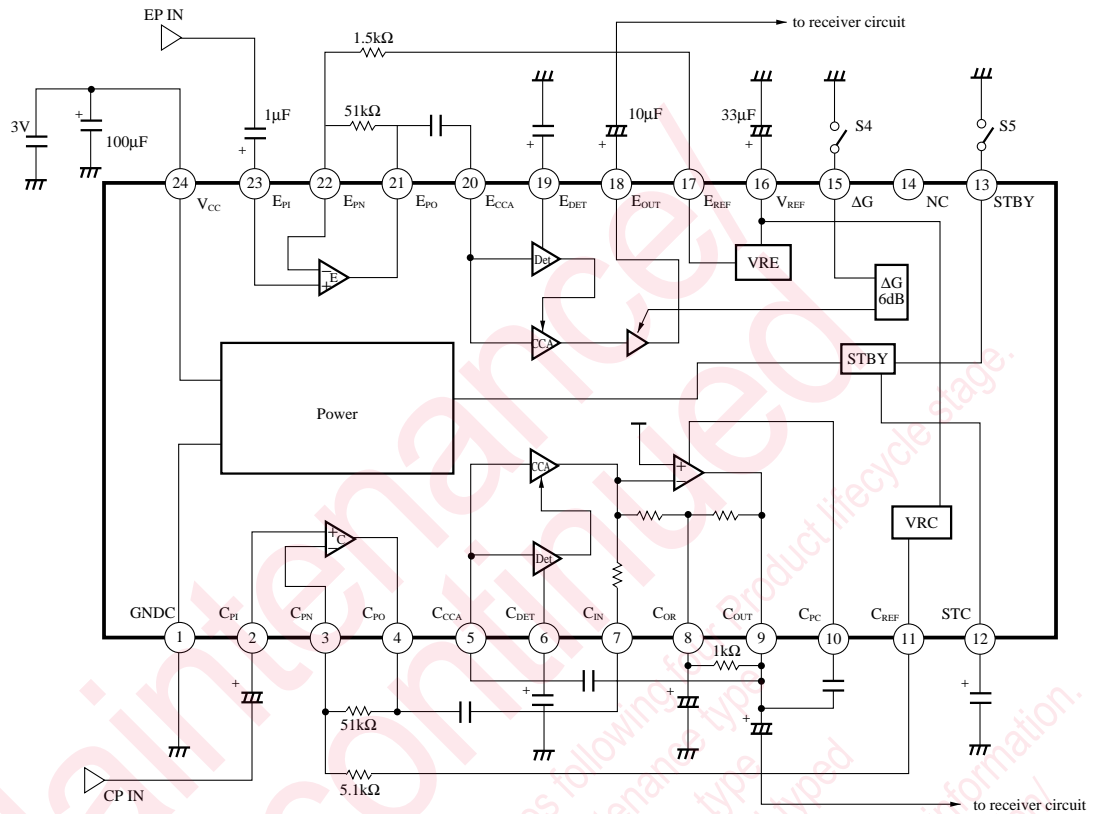
■ Recommended Operating Range

Parameter	Symbol	Range
Operating supply voltage range	V _{CC}	2V to 5V

■ Electrical Characteristics (T_a=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Current consumption	I _{CC}	V _{CC} =3V, no signal	1.5	—	6	mA
Standby current	I _{CS}	Standby pin (H)	—	—	10	μA
COMP ref. output	V _{ORC}	V _{IRC} (ref. input) = -20dBV	-13	-11	-9	dBV
Δ Gain (1)	$\Delta C1$	V _{IN} =V _{IRC} -20dB, $\Delta C1$ =V _{ORC} -V _{OC1}	-11	-10	-9	dB
Δ Gain (2)	$\Delta C2$	V _{IN} =V _{IRC} -40dB, $\Delta C2$ =V _{ORC} -V _{OC2}	-22	-20	-19	dB
EXP ref. output	V _{ORE}	V _{IRE} (ref. input) = -20dBV	-32	-29	-26	dBV
Δ Gain(1)	$\Delta E1$	V _{IN} =V _{IRE} -10dB, $\Delta E1$ =V _{ORE} -V _{OE1}	-21	-20	-19	dB
Δ Gain (2)	$\Delta E2$	V _{IN} =V _{IRE} -20dB, $\Delta E2$ =V _{ORE} -V _{OE2}	-41.5	-40	-38.5	dB
Received signal amplification	ΔGE	Received signal amp. pin (L)	4	6	8	dB

■ Application circuit



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