

**SONY®****CXA1115BP**

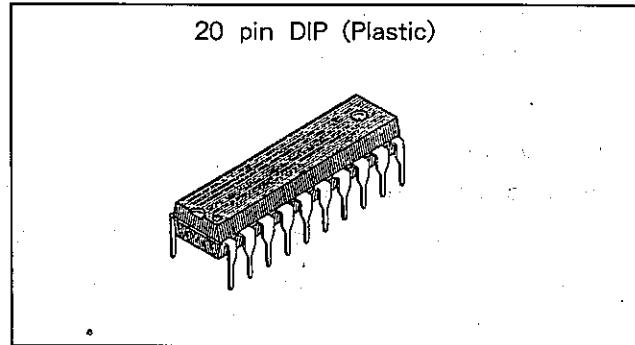
## Radio Cassette Playback Pre-amplifier

### Description

CXA1115BP is a pre-amplifier for radio cassette PB. Built-in head select circuit, metal/norma tape bias select circuit, bias select circuit at high speed and others, easily compose a double radio cassette.

### Functions

- Pre-amplifier × 2, mixing amplifier × 1 and electronic switch × 6



### Applications

- Stereo compact cassette player for PB
- Stereo cassette deck player

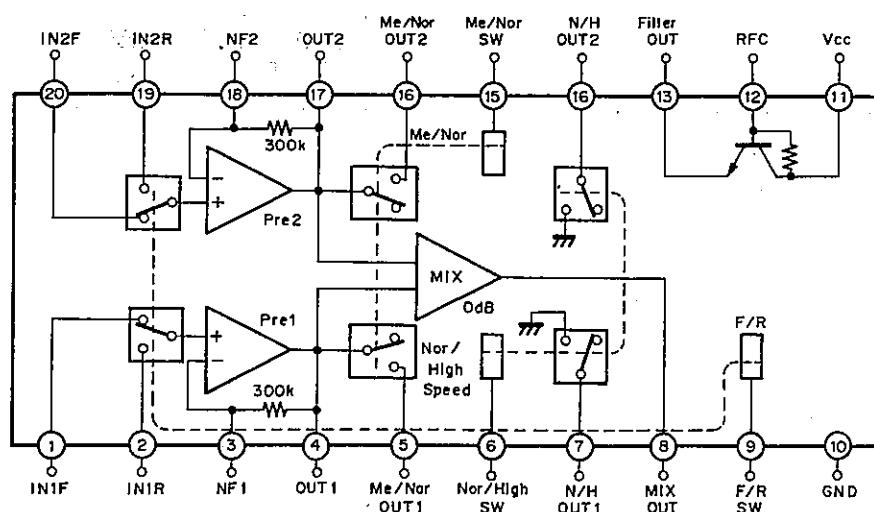
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

• Supply voltage	V <sub>cc</sub>	16	V
• Operating temperature	T <sub>opr</sub>	-20 to +75	°C
• Storage temperature	T <sub>stg</sub>	-40 to +125	°C
• Allowable power dissipation	P <sub>d</sub>	500	mW

### Operating Conditions

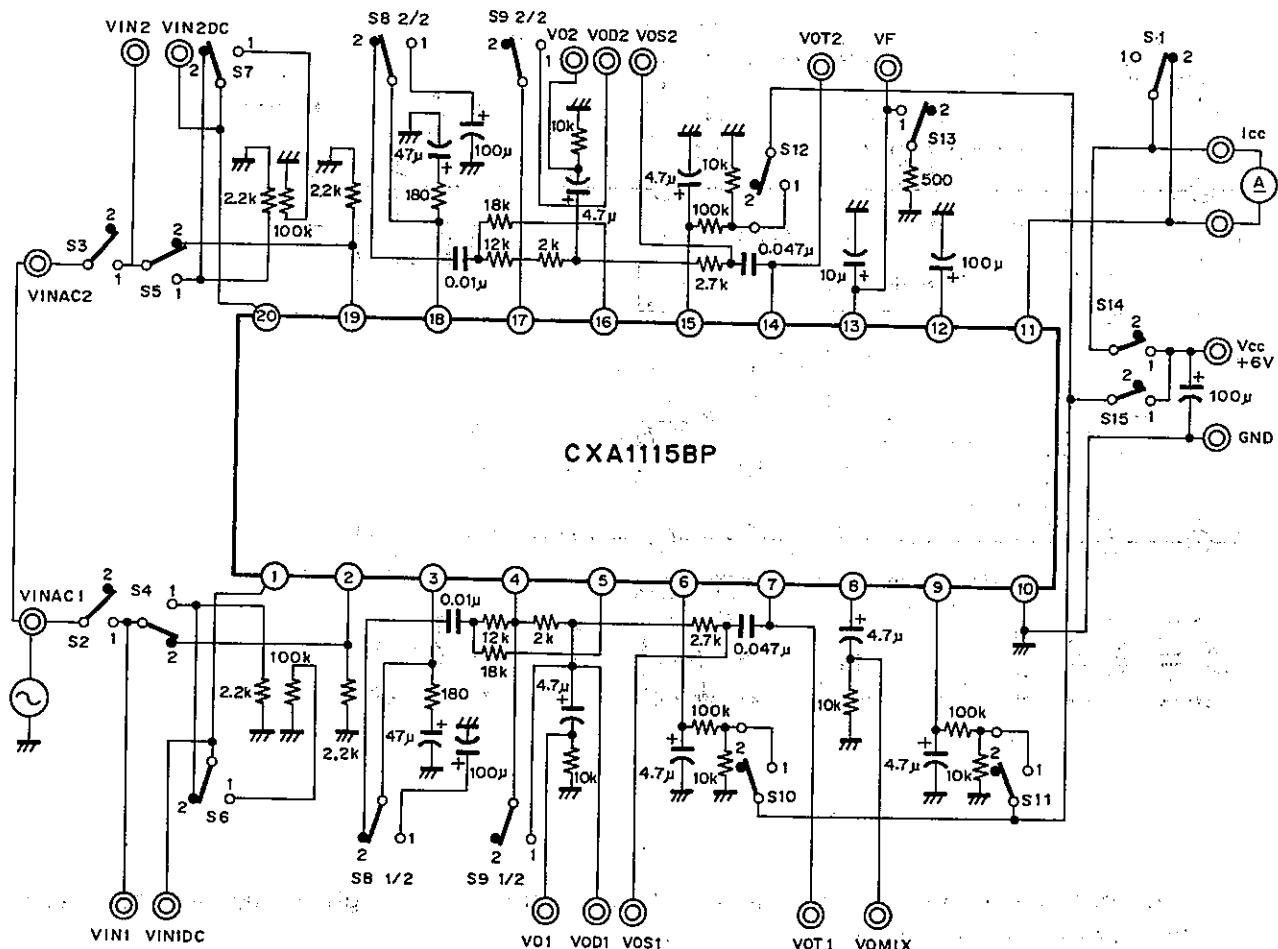
• Supply voltage	V <sub>cc</sub>	6	V
• Operating voltage	V <sub>cc</sub> (op)	3.5 to 14	V

### Equivalent Circuit Block Diagram



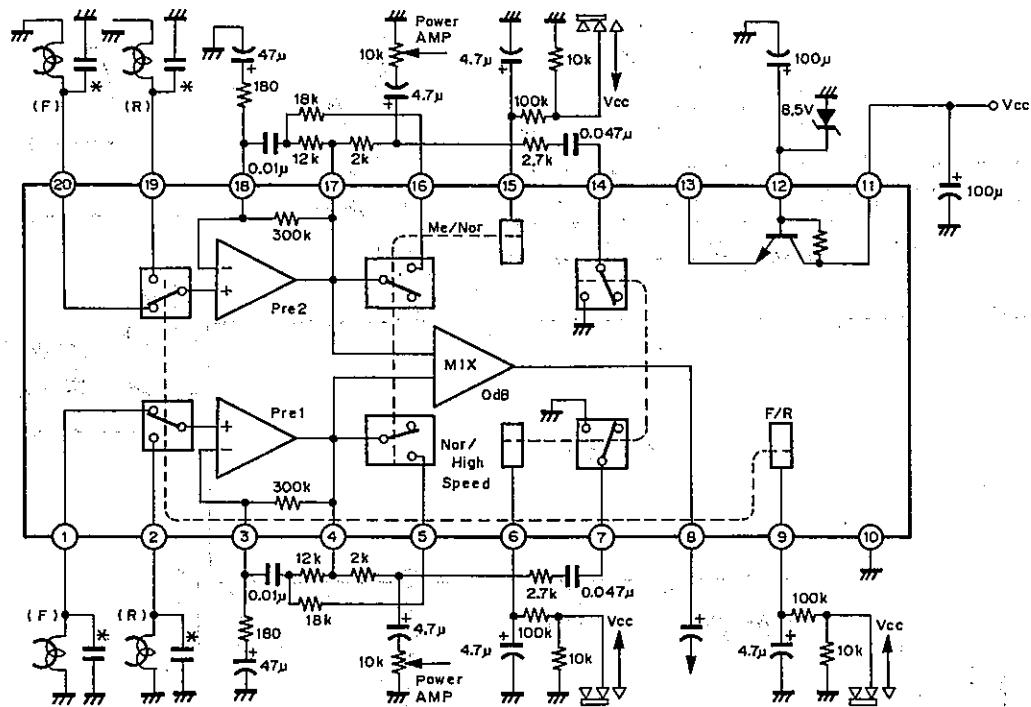
**Operation Characteristics** (Ta = 25 °C, Vcc = 6.0V, RL = 10kΩ, f = 1kHz, 0dB = 0.775V)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Current at no signal	Icco	Nor/Nor Speed Forward	5	7	12	mA
Current at no signal	Iccs	Metal/High Speed Forward	7	10	17	mA
Voltage gain (open)	VGo		75	85		dB
Voltage gain (close)	VG	Nor/Nor Speed, NAB	39.5	40.5	41.5	dB
Total harmonic distortion	THD	Vo = 0.65V, Nor/Nor Speed		0.03	0.2	%
Maximum output voltage	Vo MAX	THD = 1%, Nor/Nor Speed	0.7	1.2		V
Cross talk (between channels)	CT1	Vo = -5 dBm, Rg = 2.2 kΩ Nor/Nor Speed	50	65		dB
Cross talk (between F/R)	CT2	Vo = -5 dBm, Rg = 2.2 kΩ Nor/Nor Speed	50	65		dB
Channel balance	VBL	Vi = -50 dBm		0	2	dB
Input conversion noise voltage	VNI	Rg = 2.2 kΩ, B.P.F. 20 to 20 kHz Nor/Nor Speed		0.9	1.7	µV
MIX output voltage	Vo MIX	Vo1, Vo2 = 0 dBm	-3	0	3	dB
Ripple filter output current	IfOUT			10	15	mA
Electronic SW ON resistance	RON	Between each of Pins 1 to 4 and Pin 5. Between Pins 16 and 17. Between each of Pins 1 to 7 and Pin 10. Between Pins 10 and 14.		100	250	Ω
DC feed back resistance	Rf		240	300	360	kΩ
Input bias current	If			0.5	3.0	µA

**Test Circuit**

**Note)** ○ mark indicates mode 1.

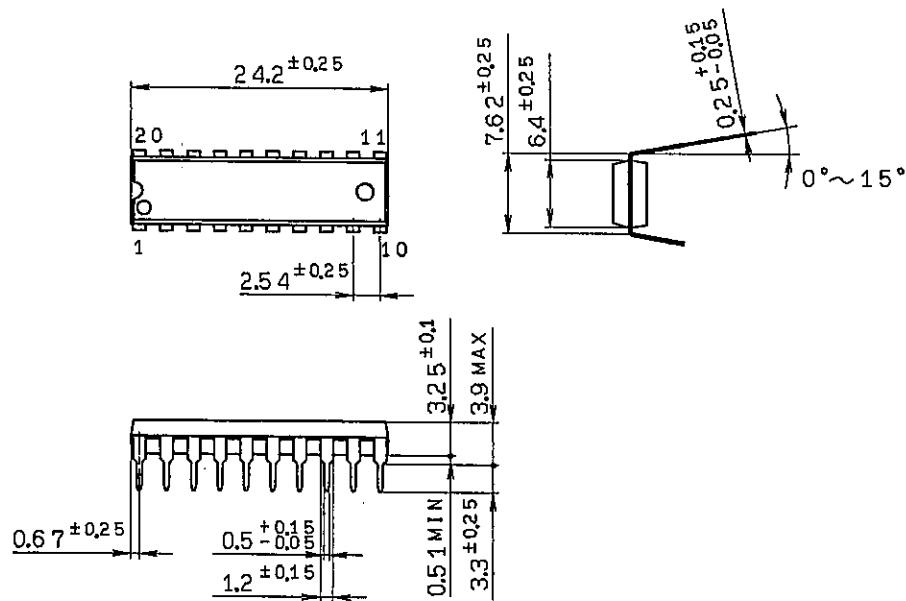
● mark indicates mode 2.

**Application Circuit**

- Note)** 1. The output characteristics for the amplifiers of Nor Tape/High Speed and Me Tape/Nor Speed are set uniformly.
2. A capacitor is adapted to absorb surging at input.
  3. As input bias current flows out from pins 1, 2, 19 and 20, upon the execution capacitor coupling, install a resistor between each pin and GND (PNP input).
  4. The electronic switch select level is about  $1/2 \times (V_{CC} - 0.9)$ .
  5. There is no need to install a capacitor to pin 13.
  6. Through the capacitor of pin 12, the starting time :  $t_s$  with  $V_{CC}$  ON, is adjusted. ( $C = 100 \mu F$ ,  $t_s = 0.4$  sec). However, if the bypass capacitor value should be below  $47 \mu F$ , the ripple elimination rate is bound to be adversely affected.
  7. When  $V_{CC} =$  over 10V, install a  $V_Z = 8.50$  zener diode between pin 12 and GND. This will prevent the increase of output noise voltage.

**Package Outline      Unit : mm**

CXA1115BP    20 pin DIP (Plastic) 300mil 1.2g



D I P - 2 0 P - 0 6 1