

### APPLICATIONS

- Low Noise Audio Amplifier Applications.

### FEATURES

KTA970 is a PNP low-frequency, low-noise transistor that is designed for low noise figure at the impedance of a low signal source. Further, this transistor is low in pulse noise, so that it provides easy realization of high S/N ratio characteristics for amplification of low noise at the initial step of an equalizer amplifier of a stereo set, a tape deck, or the like.

#### ● LOW NOISE

:NF=3dB (Typ.)  $R_g=100\Omega$ ,  $V_{CE}=-6V$ ,  $I_C=-100\mu A$ ,  $f=1KHz$

:NF=0.5dB (Typ.)  $R_g=1k\Omega$ ,  $V_{CE}=-6V$ ,  $I_C=-100\mu A$ ,  $f=1KHz$

- High DC Current Gain:  $h_{FE}=200\sim 700$
- High Breakdown Voltage:  $V_{CEO}=-120V$
- Low Pulse Noise. Low 1/f Noise

#### ■ MAXIMUM RATINGS ( $T_a=25^\circ C$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT	CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	-120	V	Emitter Current	$I_E$	100	mA
Collector-Emitter Voltage	$V_{CEO}$	-120	V	Collector Power Dissipation	$P_C$	300	mW
Emitter-Base Voltage	$V_{EBO}$	-5	V	Junction Temperature	$T_j$	125	$^\circ C$
Collector Current	$I_C$	-100	mA	Storage Temperature Range	$T_{stg}$	-55~125	$^\circ C$

#### ■ ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=-120V$ , $I_E=0$	-	-	-100	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=-5V$ , $I_C=0$	-	-	-100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA$ , $I_B=0$	-120	-	-	V
DC Current Gain	$h_{FE}$ (Note)	$V_{CE}=-6V$ , $I_C=-2mA$	200	-	700	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-10mA$ , $I_B=-1mA$	-	-	-0.3	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE}=-6V$ , $I_C=-2mA$	-	0.65	-	V
Transition Frequency	$f_T$	$V_{CE}=-6V$ , $I_C=-1mA$	-	100	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=-10V$ , $I_E=0$ , $f=1MHz$	-	4.0	-	pF
Noise Figure	NF	$V_{CE}=-6V$ , $I_C=-100\mu A$ $f=10Hz$ , $R_g=10k\Omega$	-	-	6	dB
		$V_{CE}=-6V$ , $I_C=-100\mu A$ $f=1kHz$ , $R_g=10k\Omega$	-	-	2	
		$V_{CE}=-6V$ , $I_C=-100\mu A$ $f=1kHz$ , $R_g=100\Omega$	-	3	-	

■ NOTE: According to  $h_{FE}$ , Classified as follows.

GR	200-400	BL	350-700
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Unit in mm

