



BC261 BC262 BC263

PNP HIGH GAIN, LOW NOISE
SILICON PLANAR EPITAXIAL TRANSISTOR

MICRO ELECTRONICS

GENERAL DESCRIPTION :

The BC261, BC262 and BC263 are PNP silicon planar epitaxial transistors.

The BC261 is intended for audio amplifier driver stage.

The BC262 is intended for general purpose applications.

The BC263 is intended for low noise, high gain pre-amplifier stage.

MECHANICAL OUTLINE

TO-18



CBE

ABSOLUTE MAXIMUM RATINGS :

	BC261	BC262	BC263
Continuous Power Dissipation @ $T_A=25^{\circ}\text{C}$, P_{max}	360mW	360mW	360mW
Continuous Collector Current, $I_{\text{C max}}$	-200mA	-200mA	-200mA
Maximum Collector Junction Temperature, T_j	200 $^{\circ}\text{C}$	200 $^{\circ}\text{C}$	200 $^{\circ}\text{C}$
Storage Temperature Range, T_{stg}	-65 to +200 $^{\circ}\text{C}$	-65 to +200 $^{\circ}\text{C}$	-65 to +200 $^{\circ}\text{C}$
Collector-Base Voltage, V_{CBO}	-45V	-20V	-20V
Collector-Emitter Voltage, V_{CEO}	-45V	-20V	-20V
Emitter-Base Voltage, V_{EBO}	-5V	-5V	-5V

ELECTRICAL CHARACTERISTICS @ $T_A=25^{\circ}\text{C}$ (unless otherwise stated) :

PARAMETER	SYMBOL	BC261 MIN MAX	BC262 MIN MAX	BC263 MIN MAX	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}	-50			nA	$V_{\text{CB}}=-45\text{V}$
Collector Cutoff Current	I_{CBO}	-50			uA	$V_{\text{CB}}=-45\text{V}$ $T_A=150^{\circ}\text{C}$
Collector Cutoff Current	I_{CBO}		-50	-50	nA	$V_{\text{CB}}=-20\text{V}$
Collector Cutoff Current	I_{CBO}		-50	-50	uA	$V_{\text{CB}}=-20\text{V}$ $T_A=150^{\circ}\text{C}$
Emitter Cutoff Current	I_{EBO}	-100	-100	-100	nA	$V_{\text{EB}}=-4\text{V}$
Collector-Emitter Saturation Voltage	$V_{\text{CE(sat)}}$	-250	-250	-250	mV	$I_{\text{C}}=-10\text{mA}$ $I_{\text{B}}=-0.5\text{mA}$
Collector-Emitter Saturation Voltage	$V_{\text{CE(sat)}}$	-600	-600	-600	mV	$I_{\text{C}}=-100\text{mA}$ $I_{\text{B}}=-5\text{mA}$
Base-Emitter Saturation Voltage	$V_{\text{BE(sat)}}$	-900	-900	-900	mV	$I_{\text{C}}=-10\text{mA}$ $I_{\text{B}}=-0.5\text{mA}$
D.C. Current Gain	h_{FE}			40		$V_{\text{CE}}=-5\text{V}$ $I_{\text{C}}=-10\text{mA}$
Small Signal Current Gain	h_{fe}	125 500*	125 500*	125 500*		$V_{\text{CE}}=-5\text{V}$ $I_{\text{C}}=-2\text{mA}$
Transition Frequency	f_{T}	150	150	150	MHz	$f=1\text{KHz}$ $V_{\text{CE}}=-5\text{V}$ $I_{\text{C}}=-10\text{mA}$
Collector-Base Capacitance	C_{ob}	6	6	6	pF	$f=100\text{MHz}$ $V_{\text{CB}}=-10\text{V}$ $f=1\text{MHz}$
Noise Figure	N.F.	6	6		dB	$V_{\text{CE}}=-2\text{V}$ $I_{\text{C}}=-0.2\text{mA}$ $R_{\text{S}}=2\text{Kohm}$ $f=1\text{KHz}$
Noise Figure	N.F..			2.5	dB	$V_{\text{CE}}=-5\text{V}$ $I_{\text{C}}=-0.2\text{mA}$ $R_{\text{S}}=2\text{Kohm}$ $f=30\text{Hz to } 15\text{KHz}$

* When Group C is required, this gain limit becomes 900.

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P.T.O.

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* CURRENT GAIN GROUPINGS :

PARAMETER	GROUP	BC261A		BC261B		BC261C		TEST CONDITIONS
		BC262A		BC262B		BC262C		
		BC263A		BC263B		BC263C		
		MIN	MAX	MIN	MAX	MIN	MAX	
h_{fe}		125	260	240	500	450	900	$V_{CE}=-5V$ $I_C=-2mA$ $f=1KHz$