MICRO ELECTRONICS

BCY70,1,2

PNP
SILICON
TRANSISTORS

The BCY70, BCY71 and BCY72 are PNP silicon planar epitaxial transistors designed for general purpose amplifier and switching applications.

TO-18

CBE

ABSOLUTE MAXIMUM RATINGS		BCY70	BCY71	BCY72
Collector-Base Voltage	V_{CBO}	50V	45V	25V
Collector-Emitter Voltage	V_{CEO}	50V	45V	25V
Emitter-Base Voltage	V_{EBO}		5V	
Collector Current	I_C		200mA	
Total Power Dissipation	P_{tot}		350mW	
Operating Junction & Storage Temperature	T_j,Tstg		-65 to +200°C	

ELECTRICAL CHARACTERISTICS (T_A=25°C)

PARAMETER		SYMBOL	MIN	MAX	UNIT	TEST CONDITIONS
Collector Cutoff Current	BCY70	ICBO		10	nA	V_{CB}=40V I_E=0
				500	nA	V_{CB}=50V I_E=0
	BCY71			50	nA	V_{CB}=40V I_E=0
				500	nA	V_{CB}=45V I_E=0
	BCY72			50	nA	V_{CB}=20V I_E=0
				500	nA	V_{CB}=25V I_E=0
Collector Cutoff Current		ICEX		20	nA	V_{CE}=50V V_{EB}=3V
Emitter Cutoff Current		IEBO		500	nA	V_{EB}=5V I_C=0
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$		0.25	V	I_C=10mA I_B=1mA
				0.5	V	I_C=50mA IB=5mA*
Base-Emitter Saturation	BCY70,BCY71	$V_{BE(sat)}$	0.6	0.9	V	I_C=10mA I_B=1mA
				1.2	V	I_C=50mA I_B=5mA*

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ELECTRICAL CHARACTERISTICS (T_A=25°C)

PARAMETER		SYMBOL	MIN	MAX	UNIT	TEST CONDITIONS
D.C. Current Gain	BCY70	HFE	40			I_C=0.1mA V_{CE}=1V
			45			I_C=1mA V_{CE}=1V
			50			I_C=10mA V_{CE}=1V
			15			I_C=50mA V_{CE}=1V*
	BCY71		40			I_C=0.01mA V_{CE}=1V
			80			I_C=0.1mA V_{CE}=1V
			90			I_C=1mA V_{CE}=1V
			100	600		I_C=10mA V_{CE}=1V
	BCY72		40			I_C=1mA V_{CE}=1V
			50			I_C=10mA V_{CE}=1V
Small Signal Current Gain	BCY71	h_{fe}	100	400		I_C=1mA V_{CE}=10V f=1KHz
Current Gain Bandwidth Product	BCY71	f_T	15		MHz	I_C=0.1mA V_{CE}=10V f=10.7MHz
	BCY70		250		MHz	I_C=10mA V_{CE}=20V
	BCY71,BCY72		200		MHz	f=100MHz
Output Capacitance		Cob		6	pF	V_{CB}=10V I_E=0 f=1MHz
Input Capacitance		Cib		8	pF	V_{EB}=1V I_C=0 f=1MHz
Noise Figure	BCY70,BCY72	NF		6	dB	I_C=0.1mA V_{CE}=5V
	BCY71			2	dB	R_G=2KΩ f=10Hz to 10KHz

* Pulse Test : Pulse Width =300μS, Duty Cycle = 1%.