

PNP SILICON ANNULAR[♦] TRANSISTORS

... designed for complementary driver and output stages where the following features are important.

- High Peak Current of 1 Amp
- High Gain, $h_{FE} = 40$ min at $I_C = 300$ mA
- Low Saturation Voltage, $V_{CE\ sat} = 0.7$ Volts max. at $I_C = 500$ mA
- High Power Dissipation¹, $P_D = 1.5$ Watt
- One-Piece, Injection-Molded Unibloc Package
- Complementary to NPN BC337, BC338
- Available in -16 and -25 gain groups

¹ $T_{Case} \leq 25^\circ C$.

PNP SILICON AMPLIFIER TRANSISTORS



For standard package order BC327/BC328
 For TO-18 configuration order BC327-18/328-18
 For TO-5 configuration order BC327-5/328-5

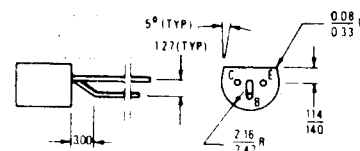
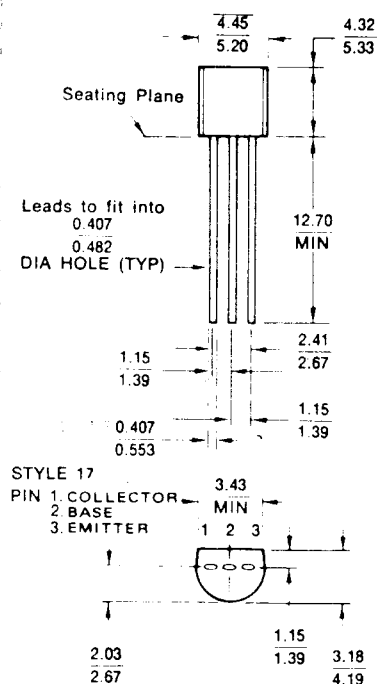
MAXIMUM RATINGS

Rating	Symbol	BC327	BC328	Unit
Collector-Emitter Voltage	V_{CEO}	45	25	Vdc
Collector-Base Voltage	V_{CB}	50	30	Vdc
Emitter-Base Voltage	V_{EB}	5.0		Vdc
Total Device Dissipation Derate above $25^\circ C$	P_D	625 5.0		mW mW/ $^\circ C$
Total Device Dissipation Derate above $25^\circ C$	P_D	1.5 12.0		Watt mW/ $^\circ C$
DC Collector Current	I_C	800		mA
Collector Current (10 μ sec pulse)	I_C	1.0		A
DC Base Current	I_B	100		mA
Base Current (10 μ sec pulse)	I_B	200		mA
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150		$^\circ C$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Thermal Resistance, Junction to Case	θ_{JC}	83.3	$^\circ C/W$
Thermal Resistance, Junction to Ambient	θ_{JA}	200	$^\circ C/W$

[♦] Annular Semiconductors patented by Motorola Inc.

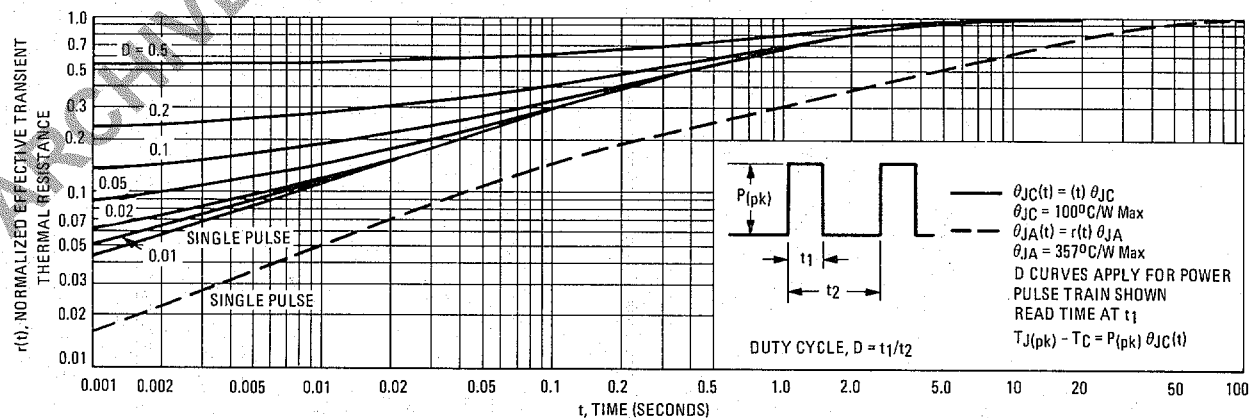


TO-18 configuration
 Dimensions in millimeters

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

Characteristics & Conditions	Symbol	Type	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage $I_C = 10\text{mA}$, $I_B = 0$	BV_{CEO}	BC327 BC328	45 25			Vdc
Collector-Base Breakdown Voltage $I_C = 10\mu\text{A}$, $I_E = 0$	BV_{CBO}	BC327 BC328	50 30			Vdc
Emitter-Base Breakdown Voltage $I_E = 10\mu\text{A}$, $I_C = 0$	BV_{EBO}		5			Vdc
Collector Cutoff Current BC327 — $V_{CB} = 30\text{V}$, $I_E = 0$ BC328 — $V_{CB} = 20\text{V}$, $I_E = 0$	I_{CBO}				100	nAdc
Emitter Cutoff Current $V_{EB} = 4\text{V}$, $I_C = 0$	I_{EBO}				100	nAdc
DC Current Gain $I_C = 100\text{mA}$, $V_{CE} = 1\text{V}$ BC327/BC328 BC327-16/BC328-16 BC327-25/BC328-25 $I_C = 300\text{mA}$, $V_{CE} = 1\text{V}$	h_{FE}		100 100 160 40		600 250 400	
Base-Emitter On Voltage $I_C = 300\text{mA}$, $V_{CE} = 1\text{V}$	$V_{BE(on)}$				1.2	Vdc
Collector-Emitter Saturation Voltage $I_C = 500\text{mA}$, $I_B = 50\text{mA}$	$V_{CE(sat)}$				0.7	Vdc
Output Capacitance $V_{CB} = 10\text{V}$, $I_E = 0$ $f = 1\text{MHz}$	C_{ob}			5		pF
Current-Gain-Bandwidth Product $I_C = 10\text{mA}$, $V_{CE} = 5\text{V}$	f_T			260		MHz

FIGURE 1 — THERMAL RESPONSE



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FIGURE 2 — ACTIVE REGION SAFE OPERATING AREA

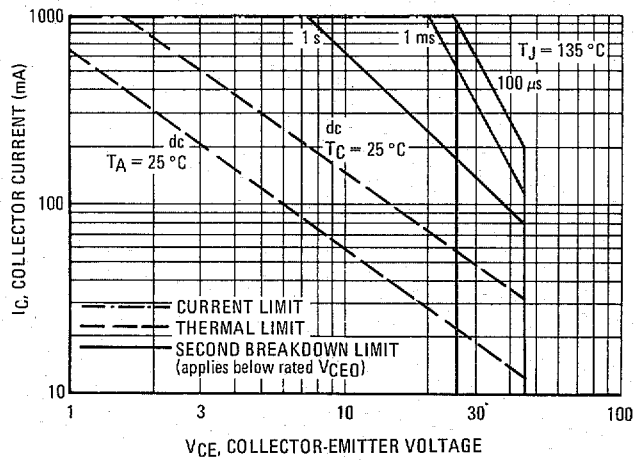


FIGURE 3 — DC CURRENT GAIN

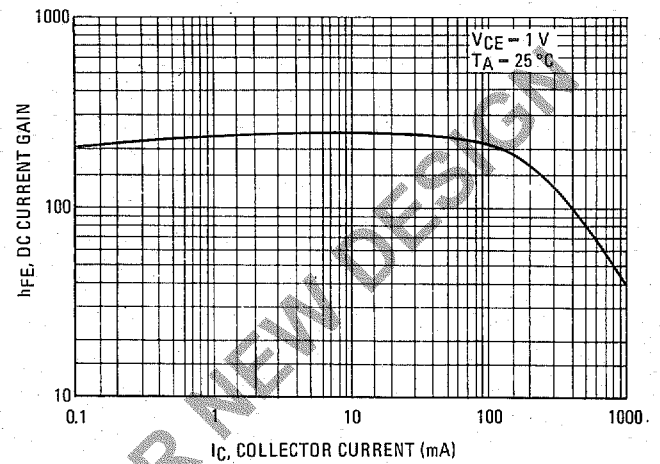


FIGURE 4 — SATURATION REGION

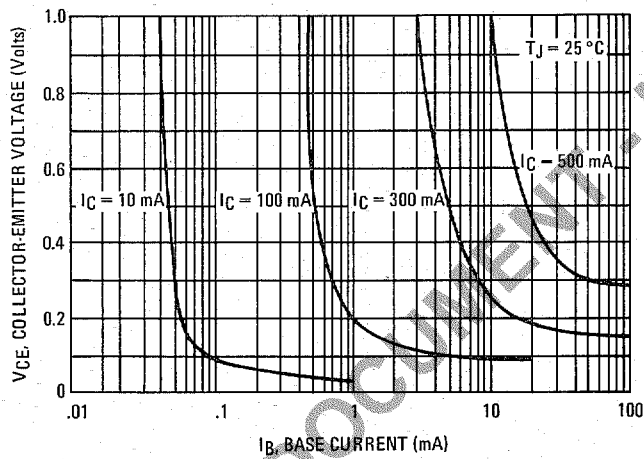


FIGURE 5 — "ON" VOLTAGES

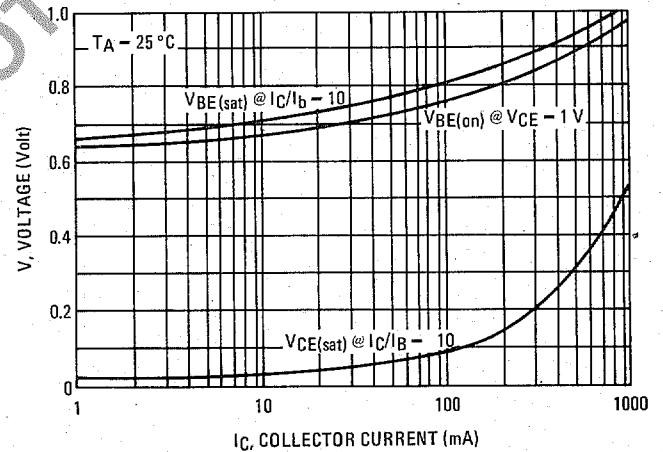


FIGURE 6 — TEMPERATURE COEFFICIENTS

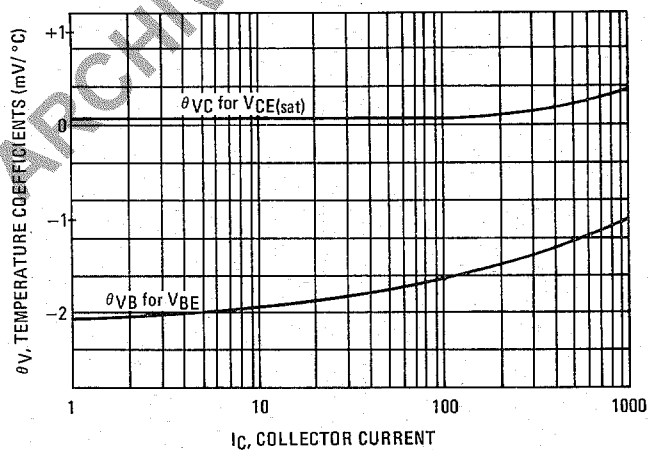
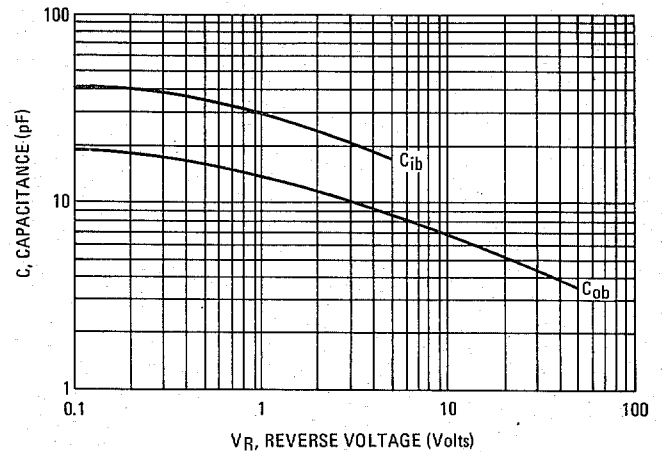


FIGURE 7 — CAPACITANCES



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