

**SOT-23 BIPOLAR TRANSISTORS
TRANSISTOR (NPN)**

FEATURES

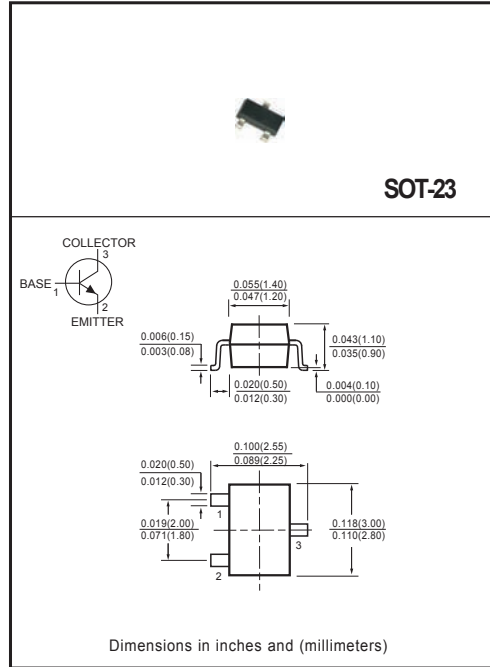
- * For general AF applications
- * High collector current
- * High current gain
- * Low collector-emitter saturation voltage

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.008 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.



MAXIMUM RATINGS (@ TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	VALUE	UNITS
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	45	V
Emitter-base voltage	V_{EBO}	5	V
Collector current-continuous	I_C	0.5	A
Collector dissipation	P_C	0.3	W
Junction and storage temperature	T_J, T_{stg}	-55 -150	°C

ELECTRICAL CHARACTERISTICS (@ TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	BC817-16			BC817-25			BC817-40			UNITS
		MIN.			MAX.						
Collector-base breakdown voltage ($I_C=10mA, I_E=0$)	V_{CBO}	50			-						V
Collector-emitter breakdown voltage ($I_C=10mA, I_B=0$)	V_{CEO}	45			-						V
Emitter-base breakdown voltage ($I_E=1mA, I_C=0$)	V_{EBO}	5			-						V
Collector cut-off current ($V_{CB}=45V, I_E=0$)	I_{CBO}	-			0.1						mA
Emitter cut-off current ($V_{EB}=4V, I_C=0$)	I_{EBO}	-			0.1						mA
DC current gain ($V_{CE}=1V, I_C=100mA$)	$h_{FE(1)}$	100	160	250	250	400	600				-
Collector-emitter saturation voltage ($I_C=500mA, I_B=50mA$)	$V_{CE(sat)}$	-			0.7						V
Base-emitter saturation voltage ($I_C=500mA, I_B=50mA$)	$V_{BE(sat)}$	-			1.2						V
Base-emitter voltage ($V_{CE}=1V, I_C=500mA$)	$V_{BE(ON)}$	-			1.2						V
Collector capacitance ($V_{CB}=10V, f=1MHz$)	C_{ob}	-			10						pF
Transition frequency ($V_{CE}=5V, I_C=10mA, f=100MHz$)	f_T	100			-						MHz

MARKING:	BC817-16---6A;	BC817-25---6B;	BC817-40---6C
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RATING AND CHARACTERISTICS CURVES (BC817-16/-25/-40)

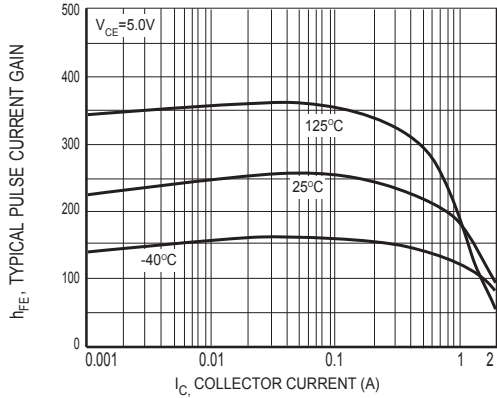


Figure1. TYPICAL PULSE CURRENT GAIN vs. COLLECTOR CURRENT

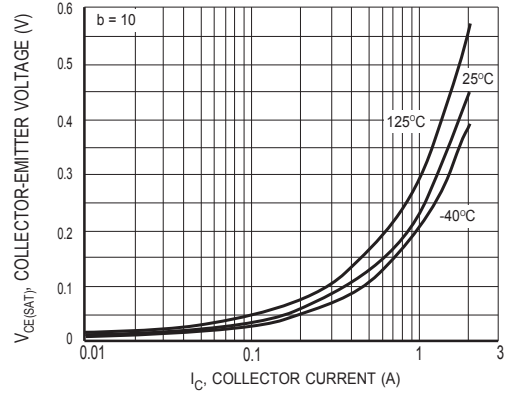


Figure2. COLLECTOR-EMITTER SATURATION VOLTAGE vs. COLLECTOR CURRENT

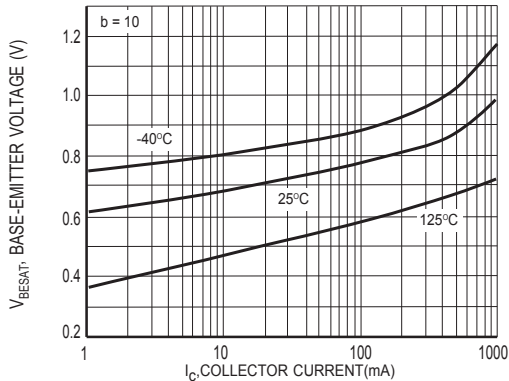


Figure3. BASE-EMITTER SATURATION VOLTAGE vs. COLLECTOR CURRENT

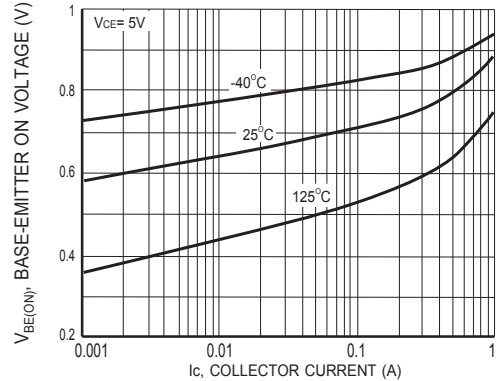


Figure4. BASE-EMITTER ON VOLTAGE vs. COLLECTOR CURRENT

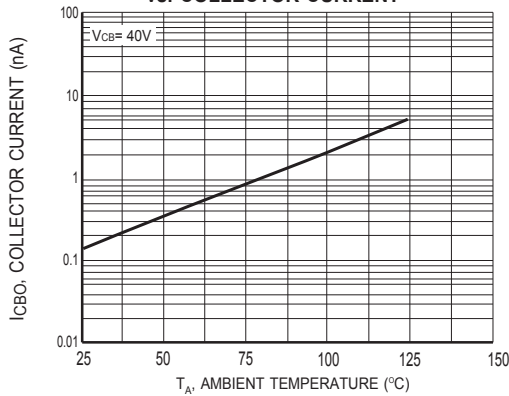


Figure5. COLLECTOR-CUT OFF CURRENT vs. AMBIENT TEMPERATURE

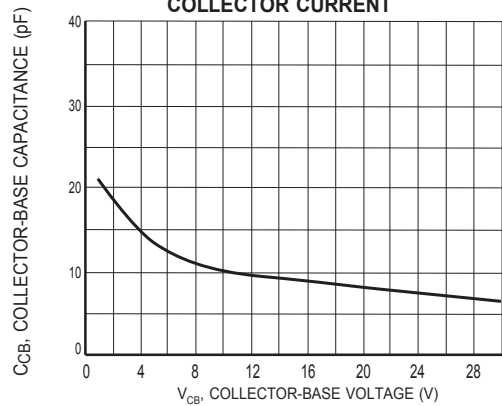


Figure6. COLLECTOR-BASE CAPACITANCE vs. COLLECTOR-BASE VOLTAGE

RATING AND CHARACTERISTICS CURVES (BC817-16/-25/-40)

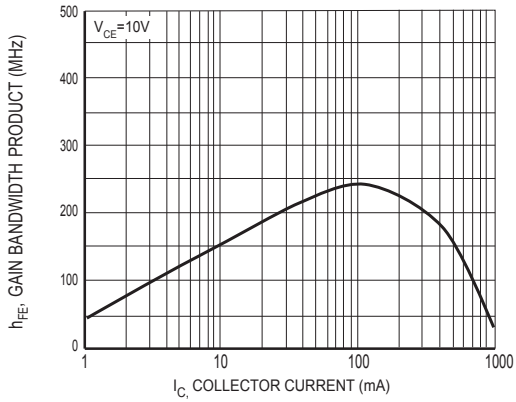


Figure7. GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT

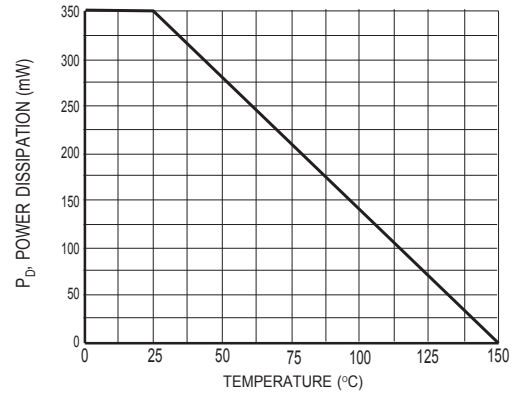


Figure8. POWER DISSIPATION vs. AMBIENT TEMPERATURE

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