RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

BC817-16
BC817-25
BC817-40

SOT-23 BIPOLAR TRANSISTORS
TRANSISTOR (NPN)

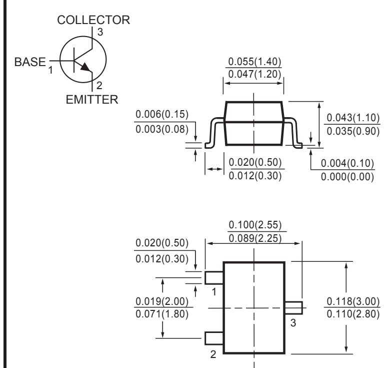
FEATURES

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

MECHANICAL DATA

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

SOT-23



Dimensions in inches and (millimeters)

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 (@ T_A = 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 (@ T_A = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	BC817-16	BC817-25	BC817-40	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 capactiance (V_{CB}=10V, f = 1MHz)	Cob	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

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

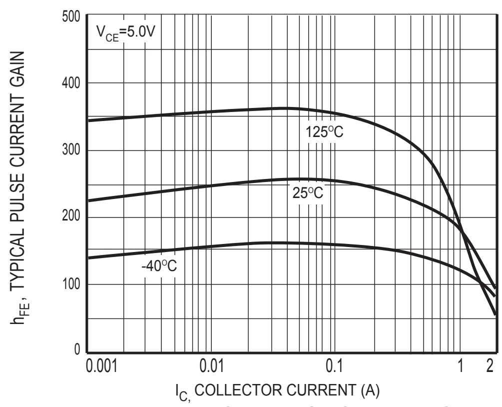


Figure1. TYPICAL PULSE CURRENT GAIN vs. COLLECTOR CURRENT

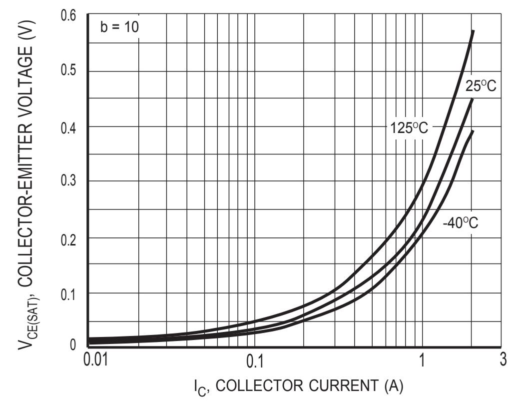


Figure2. COLLECTOR-EMITTER SATURATION VOLTAGE vs.COLLECTOR CURRENT

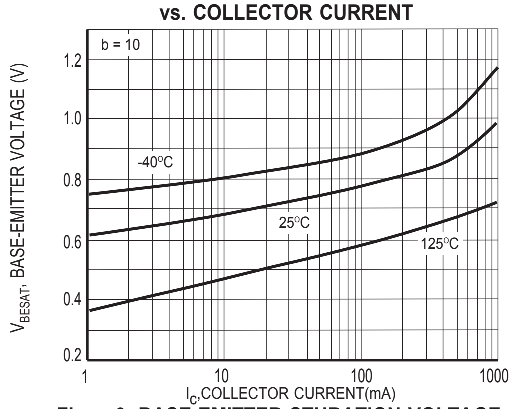


Figure3. BASE-EMITTER STURATION VOLTAGE vs. COLLECTOR CURRENT

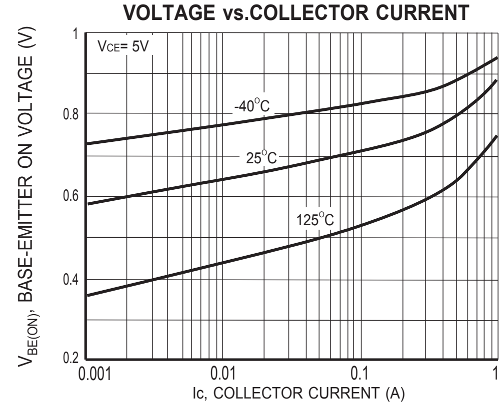


Figure4. BASE-EMITTER ON VOLTAGE vs. COLLECTOR CURRENT

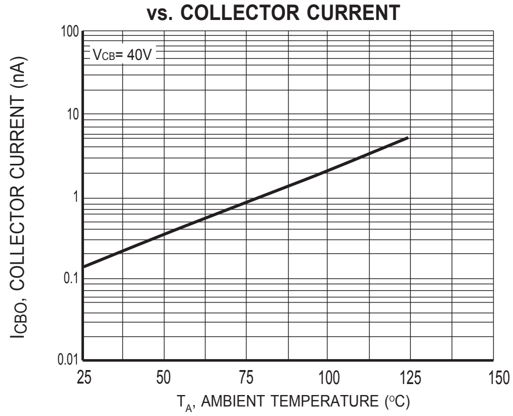


Figure5. COLLECTOR-CUT OFF CURRENT vs. COLLECTOR CURRENT

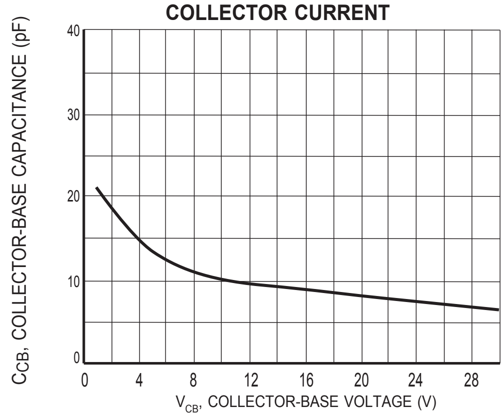


Figure6. COLLECTOR-BASE CAPACITANCE vs. COLLECTOR-BASE VOLTAGE

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

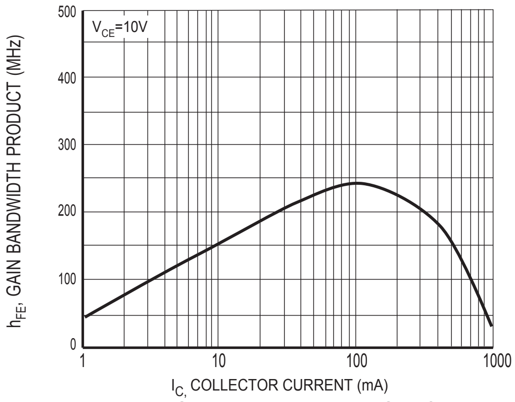


Figure7. GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT

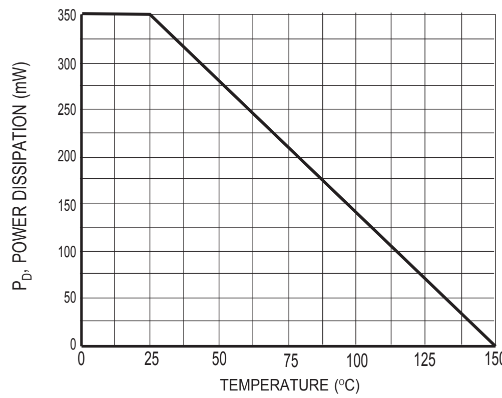


Figure8. POWER DISSIPATION vs. AMBIENT TEMPERATURE

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