

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

FEATURES

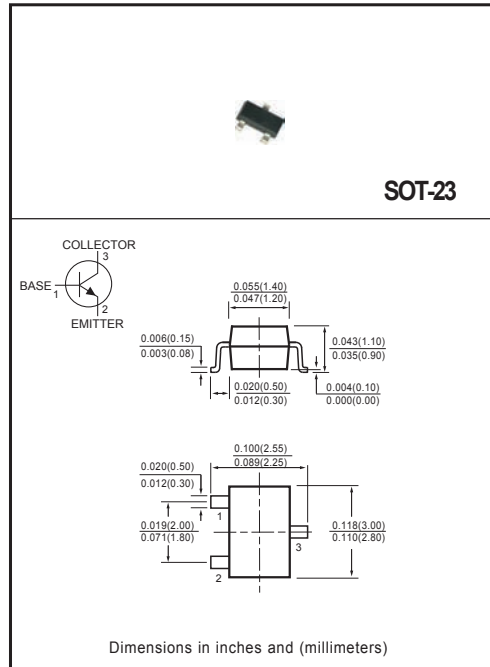
- * For general AF applications
- * High collector current
- * High current gain
- * Low collector-emitter saturation voltage

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

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	MIN. / MAX.						UNITS
		BC817-16	BC817-25	BC817-40	BC817-16	BC817-25	BC817-40	
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
----------	----------------	----------------	---------------

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

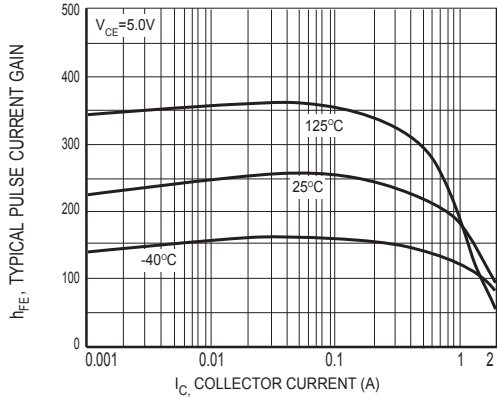


Figure1. TYPICAL PULSE CURRENT GAIN vs. COLLECTOR CURRENT

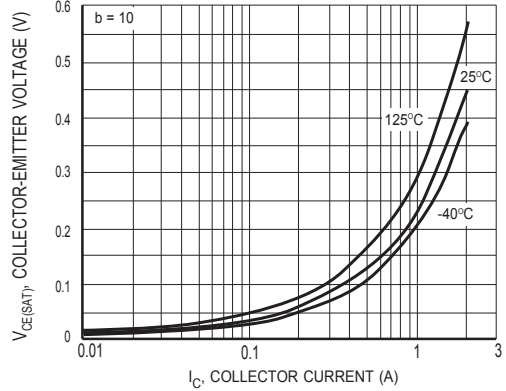


Figure2. COLLECTOR-EMITTER SATURATION VOLTAGE vs.COLLECTOR CURRENT

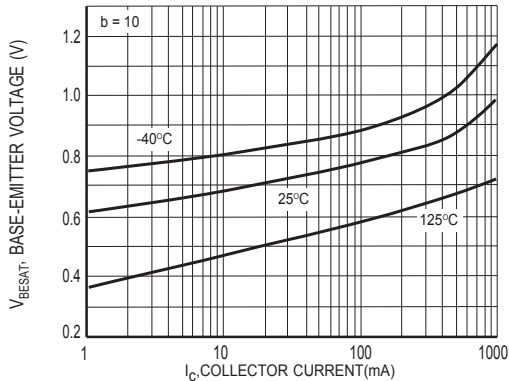


Figure3. BASE-EMITTER STURATION VOLTAGE vs. COLLECTOR CURRENT

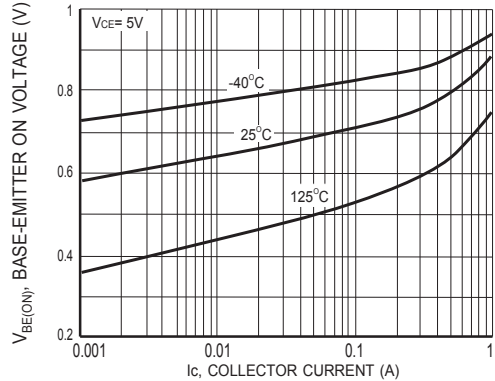


Figure4. BASE-EMITTER ON VOLTAGE vs. COLLECTOR CURRENT

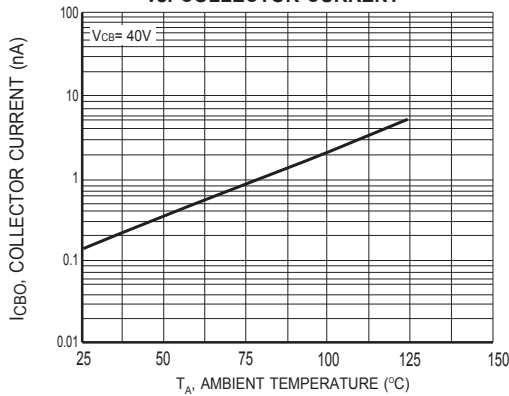


Figure5. COLLECTOR-CUT OFF CURRENT vs. COLLECTOR CURRENT

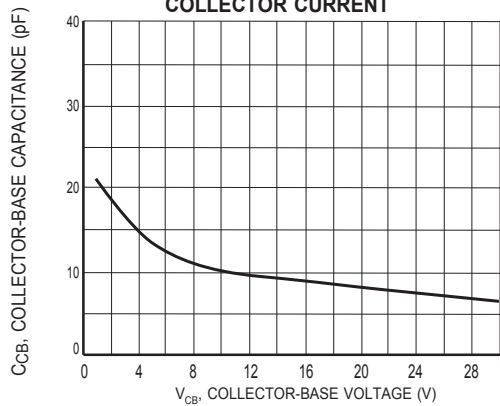


Figure6. COLLECTOR-BASE CAPACITANCE vs. COLLECTOR-BASE VOLTAGE

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

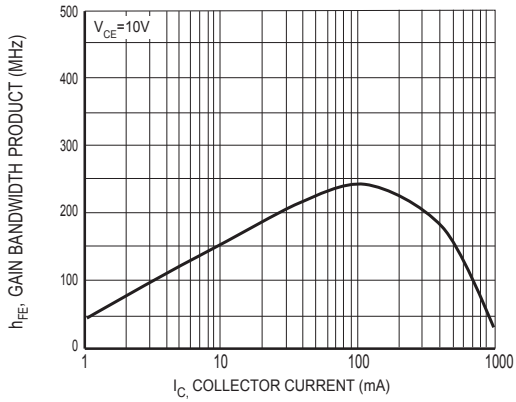


Figure7. GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT

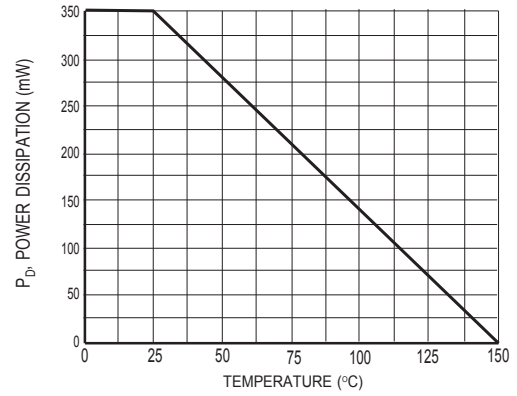


Figure8. POWER DISSIPATION vs. AMBIENT TEMPERATURE

DISCLAIMER NOTICE

Rectron Inc reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Rectron Inc or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on RECTRON data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Rectron Inc does not assume any liability arising out of the application or use of any product or circuit.

Rectron products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Rectron Inc. Customers using or selling Rectron components for use in such applications do so at their own risk and shall agree to fully indemnify Rectron Inc and its subsidiaries harmless against all claims, damages and expenditures.