

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

FEATURES

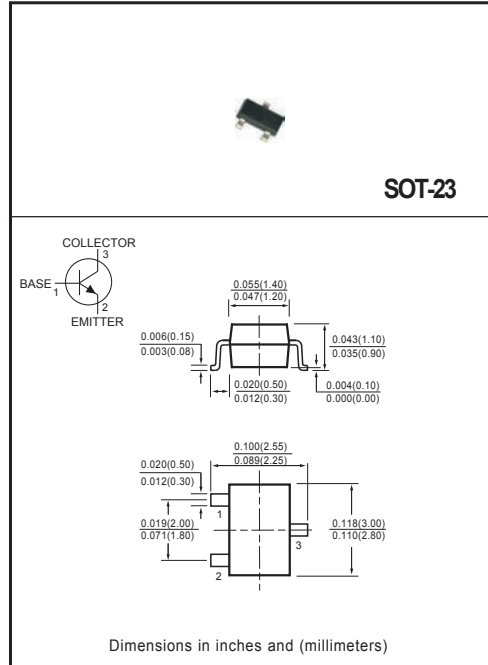
- * For general AF applications
- * High collector current
- * High current gain
- * Low collector-emitter saturation voltage

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	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 capacitance (V _{CB} =10V, f = 1MHz)	C _{ob}	10												pF	
Transition frequency (V _{CE} = 5V, I _C = 10mA, f= 100MHz)	f _{tr}	100						-						MHz	

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

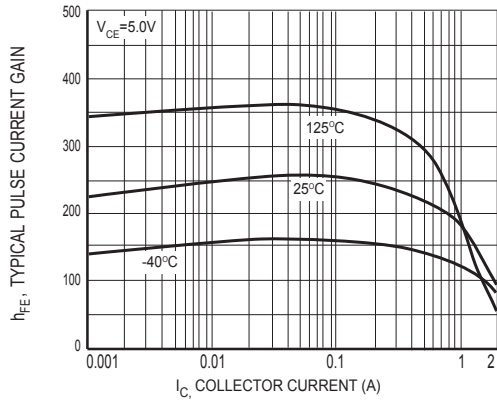


Figure1. TYPICAL PULSE CURRENT GAIN vs. COLLECTOR CURRENT

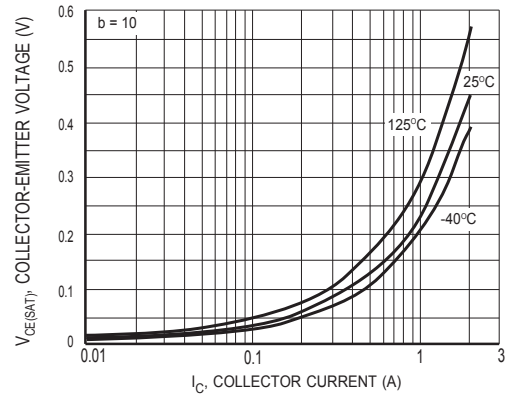


Figure2. COLLECTOR-EMITTER SATURATION VOLTAGE vs.COLLECTOR CURRENT

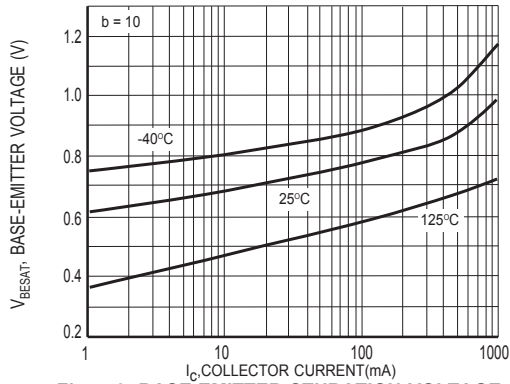


Figure3. BASE-EMITTER STURATION VOLTAGE vs. COLLECTOR CURRENT

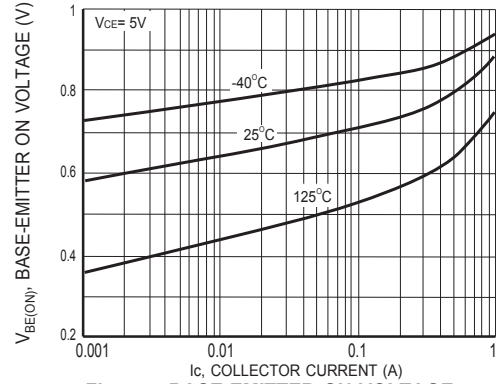


Figure4. BASE-EMITTER ON VOLTAGE vs. COLLECTOR CURRENT

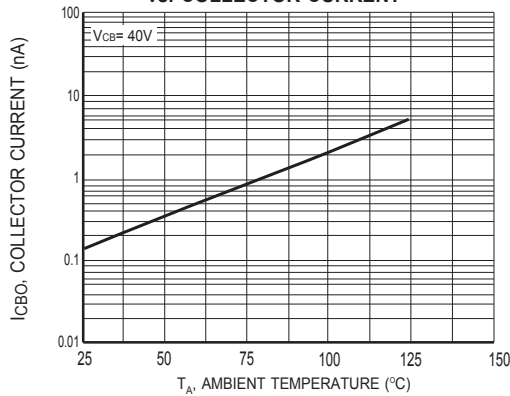


Figure5. COLLECTOR-CUT OFF CURRENT vs. COLLECTOR CURRENT

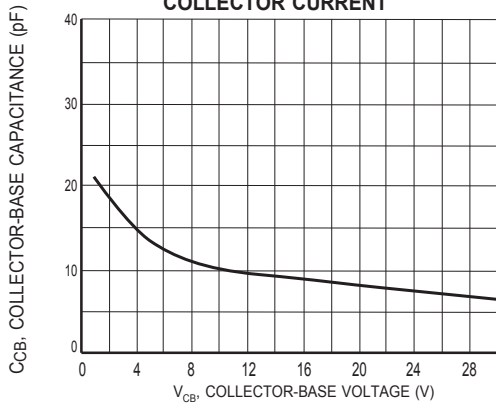
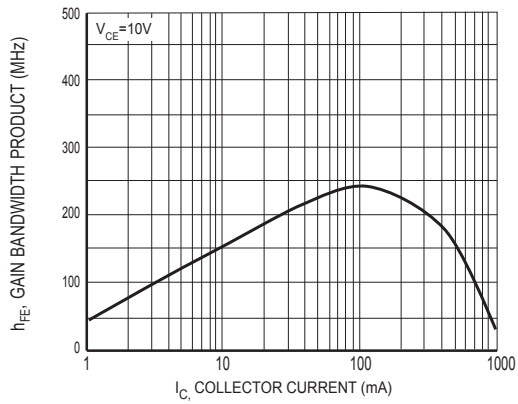
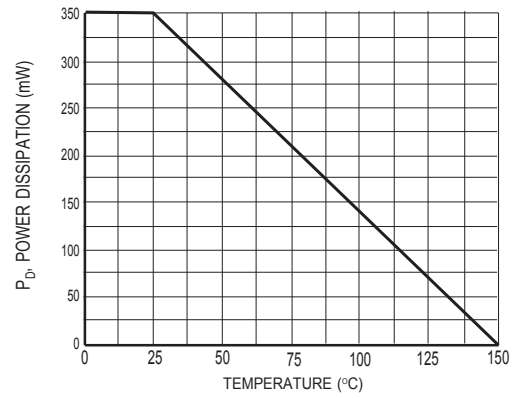


Figure6. COLLECTOR-BASE CAPACITANCE vs. COLLECTOR-BASE VOLTAGE

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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