

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

**FEATURES**

- \* Ideally suited for automatic insertion
- \* Epitaxial planar die construction
- \* Complementary NPN type available(BC817)

**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** ( @ TA = 25°C unless otherwise noted )

CHARACTERISTICS	SYMBOL	VALUE	UNITS
Collector-base voltage	V <sub>CBO</sub>	-50	V
Collector-emitter voltage	V <sub>CEO</sub>	-45	V
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Collector current-continuous	I <sub>C</sub>	-0.5	A
Collector dissipation	P <sub>C</sub>	0.3	W
Junction and storage temperature	T <sub>J</sub> ,T <sub>stg</sub>	-55 -150	°C

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

CHARACTERISTICS	SYMBOL	MIN	MAX	UNITS
Collector-base breakdown voltage (I <sub>C</sub> = -10μA, I <sub>E</sub> =0)	V <sub>CBO</sub>	-50	-	V
Collector-emitter breakdown voltage (I <sub>C</sub> = -10mA, I <sub>B</sub> =0)	V <sub>CEO</sub>	-45	-	V
Emitter-base breakdown voltage (I <sub>E</sub> = -1μA, I <sub>C</sub> =0)	V <sub>EBO</sub>	-5	-	V
Collector cut-off current (V <sub>CB</sub> = -45V, I <sub>E</sub> =0)	I <sub>CBO</sub>	-	-0.1	μA
Collector cut-off current (V <sub>CE</sub> = -40V, I <sub>B</sub> =0)	I <sub>CEO</sub>	-	-0.2	μA
Emitter cut-off current (V <sub>EB</sub> = -4V, I <sub>C</sub> =0)	I <sub>EBO</sub>	-	-0.1	μA
DC current gain (V <sub>CE</sub> = -1V, I <sub>C</sub> = -100mA)	h <sub>FE(1)</sub>	250	600	-
Collector-emitter saturation voltage (I <sub>C</sub> = -500mA, I <sub>B</sub> = -50mA)	V <sub>CE(sat)</sub>	-	-0.7	V
Base-emitter saturation voltage (I <sub>C</sub> = -500mA, I <sub>B</sub> = -50mA)	V <sub>BE(sat)</sub>	-	-1.2	V
Transition frequency (V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA, f= 100MHz)	f <sub>T</sub>	100	-	MHz

<b>MARKING</b>	<b>5C</b>
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NOTE: "Fully ROHS compliant", "100% Sn plating (Pb-free)".

# RATING AND CHARACTERISTICS CURVES ( BC807-40 )

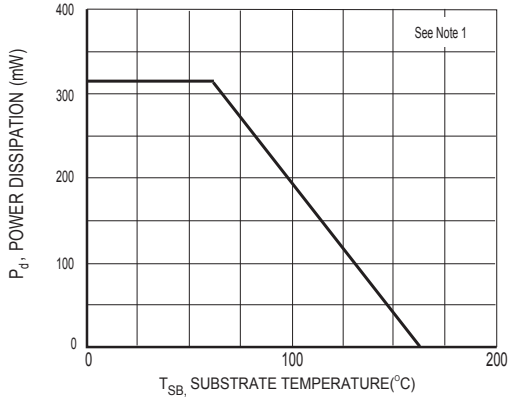


Figure.1 Power Derating Curve

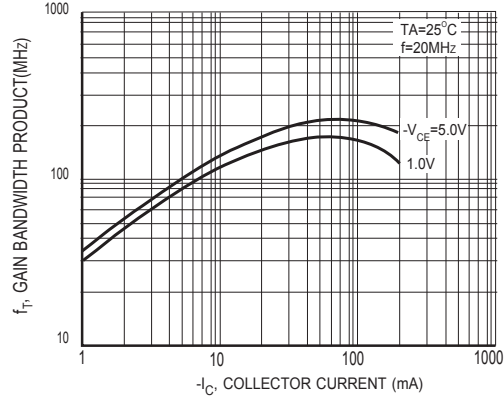


Figure.2 GAIN-BANDWIDTH PRODUCT vs COLLECTOR CURRENT

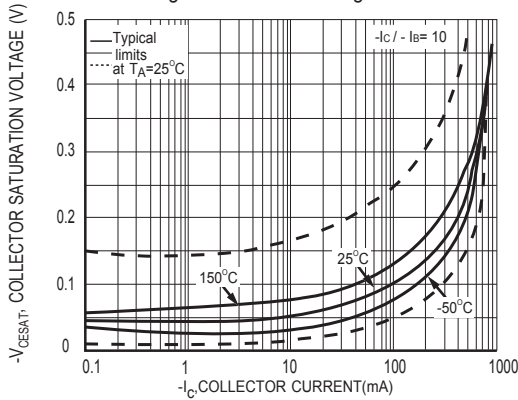


Figure.3 Collector Sat Voltage vs Collector Current

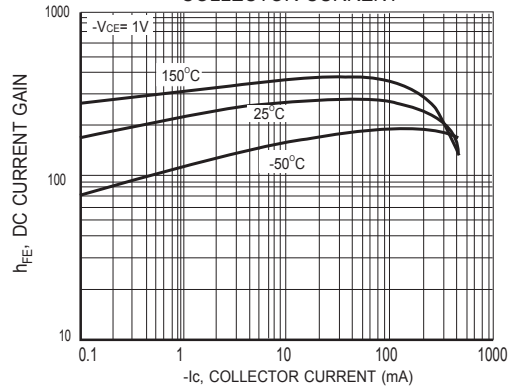


Figure.4 DC Current Gain vs Collector Current

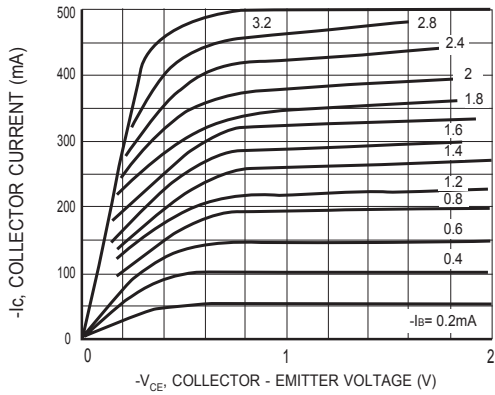


Figure.5 Typical Emitter-Collector Characteristics

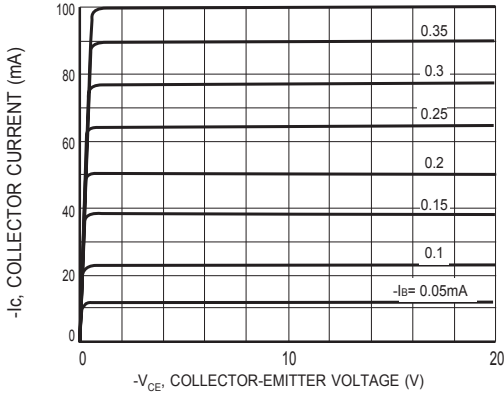


Figure.6 Typical Emitter-Collector Characteristics

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