

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

FEATURES

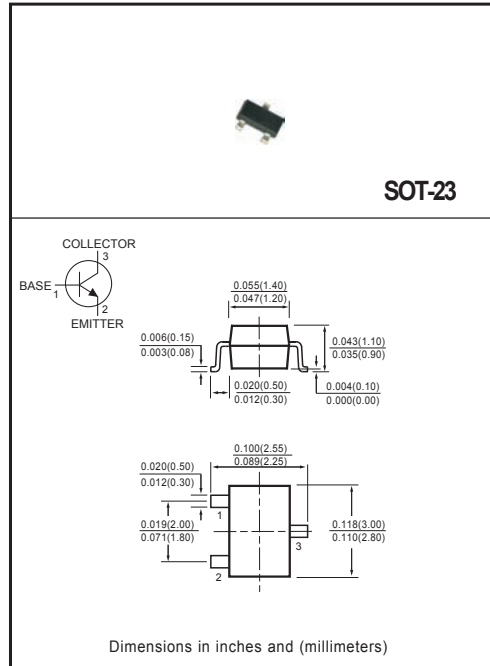
- * Power dissipation
 $P_{CM} : \square \quad 0.225 \square \quad W$ ($T_{amb}=25^{\circ}C$) Note1
- * Collector current
 $I_{CM} : \square \quad 0.1 \square \quad A$
- * Collector-base voltage
 $V_{CBO} : \square \quad 50 \square \quad V$
- * Operating and storage junction temperature range
 $T_{J}, T_{stg} : -55^{\circ}C$ to $+150^{\circ}C$

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 $25^{\circ}C$ ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.



ELECTRICAL CHARACTERISTICS (@ $T_A = 25^{\circ}C$ unless otherwise noted)

CHARACTERISTICS	SYMBOL	MIN	MAX	UNITS
Collector-base breakdown voltage ($I_C = 10\mu A, I_E = 0$)	V_{CBO}	50	-	V
Collector-emitter breakdown voltage ($I_C = 10mA, I_B = 0$)	V_{CEO}	45	-	V
Emitter-base breakdown voltage ($I_E = 10\mu A, I_C = 0$)	V_{EBO}	6	-	V
Collector cut-off current ($V_{CB} = 50V, I_E = 0$)	I_{CBO}	-	0.1	μA
Collector cut-off current ($V_{CE} = 45V, I_B = 0$)	I_{CEO}	-	0.1	μA
Emitter cut-off current ($V_{EB} = 5V, I_C = 0$)	I_{EBO}	-	0.1	μA
DC current gain ($V_{CE} = 5V, I_C = 2mA$)	$h_{FE(1)}$	110	220	-
Collector-emitter saturation voltage ($I_C = 100mA, I_B = 5mA$)	$V_{CE(sat)}$	-	0.5	V
Base-emitter saturation voltage ($I_C = 100mA, I_B = 5mA$)	$V_{BE(sat)}$	-	1.1	V
Transition frequency ($V_{CE} = 5V, I_C = 10mA, f = 100MHz$)	f_T	100	-	MHz

DEVICE MARKING

BC847A	1E
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Notes: 1. Transistor mounted on an FR4 Printed-circuit board.
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

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