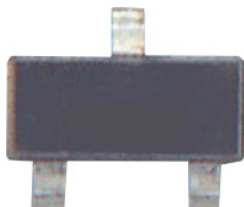
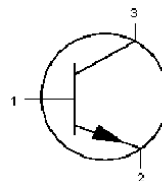


SMD NPN Transistor



Features:

- Silicon planar epitaxial transistors
- General purpose NPN transistors



Pin Configuration:

1. Base
2. Emitter
3. Collector

Absolute Maximum Ratings:

Description	Symbol		BC847C	Units
Collector-Emitter Voltage ($V_{BE} = 0$)	V_{CES}	Max.	50	V
Collector-Emitter Voltage (Open Base)	V_{CEO}		45	
Collector Current (Peak Value)	I_{CM}		200	mA
Total Power Dissipation up to $T_a = 25^\circ\text{C}$	P_{tot}		250	mW
Junction Temperature	T_j		150	$^\circ\text{C}$
Small-Signal Current Gain $I_C = 2\text{mA}$; $V_{CE} = 5\text{V}$; $f = 1\text{kHz}$	h_{fe}	Min.	125	-
Transition Frequency at $f = 100\text{MHz}$ $I_C = 10\text{mA}$; $V_{CE} = 5\text{V}$	f_T		>100	MHz
Noise Figure at $R_S = 2\text{k}\Omega$ $I_C = 200\text{mA}$; $V_{CE} = 5\text{V}$ $f = 1\text{kHz}$; $B = 200\text{Hz}$	F	Typ.	2	dB

Ratings (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Description	Symbol		BC847B	Units
Collector-Base Voltage (Open Emitter)	V_{CBO}	Max.	50	V
Collector-Emitter Voltage ($V_{BE} = 0$)	V_{CES}		45	
Collector-Emitter Voltage (Open Base)	V_{CEO}		6	
Emitter-Base Voltage (Open Collector)	V_{EBO}		100	
Collector Current (DC)	I_C		100	mA

SMD NPN Transistor



Ratings (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Description	Symbol		BC847B	Units
Collector Current (Peak Value)	I_{CM}	Max.	200	mA
Emitter Current (Peak Value)	$-I_{EM}$			
Base Current (Peak Value)	I_{BM}			
Total Power Dissipation upto $T_a: 25^\circ\text{C}$	P_{tot}		250	mW
Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Junction Temperature	T_j	Max.	150	

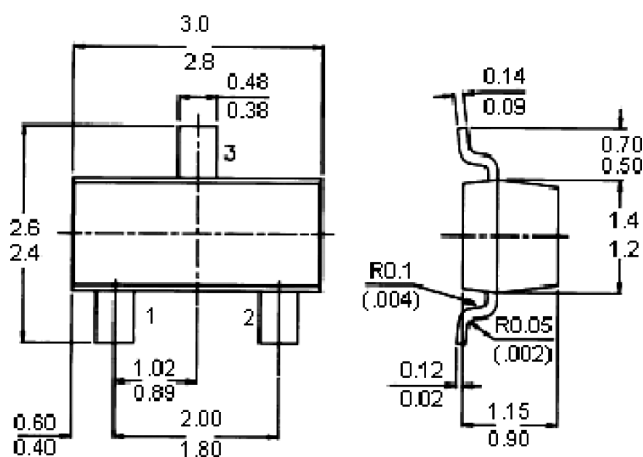
Thermal Resistance

From Junction to Ambient	$R_{th(j-a)}$	=	500	K/W
--------------------------	---------------	---	-----	-----

Characteristics ($T_j = 25^\circ\text{C}$ unless otherwise specified)

Collector Cut off Current $I_E = 0; V_{CB} = 30V$ $I_E = 0; V_{CB} = 30V; T_j = 150^\circ\text{C}$	I_{CBO}	<	15 5	nA μA
Base-Emitter Voltage $I_C = 2\text{mA}; V_{CE} = 5V$ $I_C = 10\text{mA}; V_{CE} = 5V$	V_{BE} V_{BE}	Typ. <	660 580 to 700 770	mV
Saturation Voltage $I_C = 10\text{mA}; I_B = 0.5\text{mA}$ $I_C = 100\text{mA}; I_B = 5\text{mA}$	$V_{CE(sat)}$ $V_{BE(sat)}$ $V_{CE(sat)}$ $V_{BE(sat)}$	Typ. < Typ. Typ. < Typ.	90 250 700 200 600 900	
Collector Capacitance at $f = 1\text{MHz}$ $I_E = I_e = 0; V_{CB} = 10V$	C_C	Typ.	2.5	pF
Transition Frequency at $f = 100\text{MHz}$ $I_C = 10\text{mA}; V_{CE} = 5V$	f_T	>	100	MHz
Noise Figure at $R_s = 2\text{KW}$ $I_C = 200\mu\text{A}; V_{CE} = 5V;$ $f = 1\text{kHz}; B = 200\text{Hz}$	F	Typ. Max.	2 10	dB
DC Current Gain $I_C = 10\text{mA}; V_{CE} = 5V$ $I_C = 2\text{mA}; V_{CE} = 5V$	h_{FE}	Typ. > Typ. <	270 420 520 800	-
Small Signal Current Gain at $f = 1\text{kHz}$ $I_C = 2\text{mA}; V_{CE} = 5V$	h_{fe}	Min. Max.	125 900	-

SMD NPN Transistor



Pin Configuration:

1. Base
2. Emitter
3. Collector

Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, NPN, SOT-23	BC847C

Important Notice : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2012.