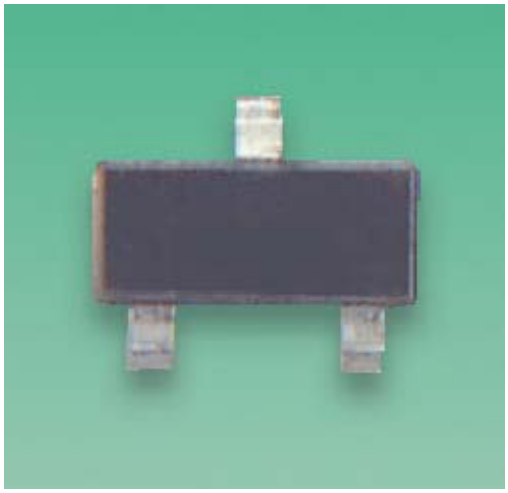
BC847C

General Purpose SMD NPN Transistors

SOT-23

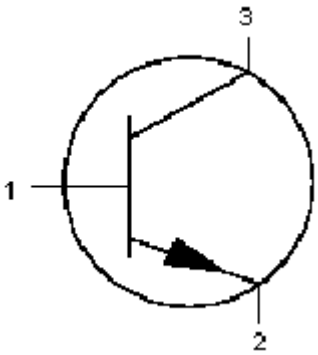


Features:

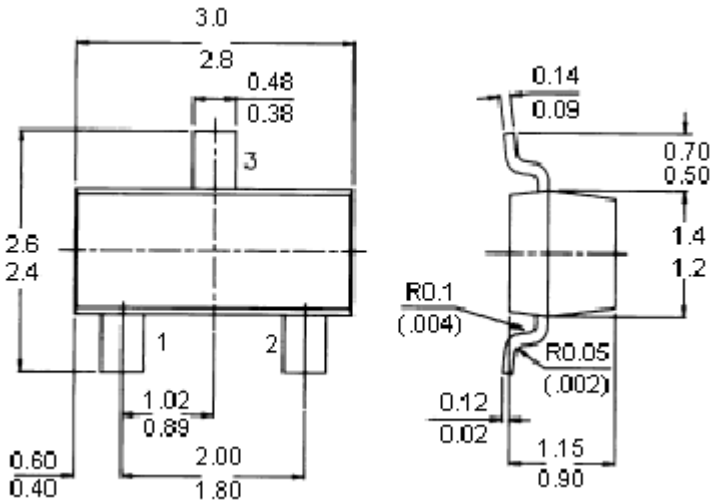
- Silicon planar epitaxial transistors.
- General purpose NPN transistors.

Pin Configuration:

1. Base
2. Emitter
3. Collector



Package Outline Details



Dimensions : Millimetres

Absolute Maximum Ratings

	Symbol		BC847C	Units
Collector-Emitter Voltage (V_{BE} = 0)	V_{CES}	Maximum	50	V
Collector-Emitter Voltage (Open Base)	V_{CEO}		45	
Collector Current (Peak Value)	I_{CM}		200	mA
Total Power Dissipation up to T_{amb} = 25°C	P_{tot}		250	mW
Junction Temperature	T_j		150	°C

Absolute Maximum Ratings

	Symbol		BC847C	Units
Small-Signal Current Gain I_C = 2mA; V_{CE} = 5V; f = 1kHz	h_{fe}	Minimum	125	-
Transition Frequency at f = 100MHz I_C = 10mA; V_{CE} = 5V	f_T		>100	MHz
Noise Figure at R_S = 2kW I_C = 200mA; V_{CE} = 5V f = 1kHz; B = 200Hz	F	Typical	2	dB

Ratings (at T_A = 25°C unless otherwise specified)

	Symbol		BC847C	Units
Collector-Base Voltage (Open Emitter)	V_{CBO}	Maximum	50	V
Collector-Emitter Voltage (V_{BE} = 0)	V_{CES}			
Collector-Emitter Voltage (Open Base)	V_{CEO}		45	
Emitter-Base Voltage (Open Collector)	V_{EBO}		6	
Collector Current (DC)	I_C		100	mA
Collector Current (Peak Value)	I_{CM}		200	
Emitter Current (Peak Value)	$-I_{EM}$			
Base Current (Peak Value)	I_{BM}			
Total Power Dissipation upto T_{amb}: 25°C	P_{tot}		250	mW
Storage Temperature	T_{stg}	-	-55 to +150	°C
Junction Temperature	T_j	Maximum	150	
Thermal Resistance				
From junction to ambient	$R_{th\ (j-a)}$	=	500	K/W
Characteristics (T_j = 25°C unless otherwise specified)				
Collector Cut off Current I_E = 0; V_{CB} = 30V I_E = 0; V_{CB} = 30V; T_j = 150°C	I_{CBO}	< 	15 5	nA µA
Base-Emitter Voltage I_C = 2mA; V_{CE} = 5V I_C = 10mA; V_{CE} = 5V	V_{BE} V_{BE}	Typical <	660 580 to 700 770	mV
Saturation Voltage I_C = 10mA; I_B = 0.5mA I_C = 100mA; I_B = 5mA	$V_{CE\ (sat)}$ $V_{BE\ (sat)}$ $V_{CE\ (sat)}$ $V_{BE\ (sat)}$	Typical < Typical Typical < Typical	90 250 700 200 600 900	

Ratings (at T_A = 25°C unless otherwise specified)

	Symbol		BC847C	Unit
Collector Capacitance at f = 1MHz I_E = Ie = 0; V_{CB} = 10V	C_C	Typical	2.5	pF
Transition Frequency at f = 100MHz I_C = 10mA; V_{CE} = 5V	f_T	>	100	MHz
Noise Figure at R_S = 2KW I_C = 200µA; V_{CE} = 5V; f = 1kHz; B = 200Hz	F	Typical Maximum	2 10	dB
DC Current Gain I_C = 10mA; V_{CE} = 5V I_C = 2mA; V_{CE} = 5V	h_{FE}	Typical > Typical <	270 420 520 800	-
Small Signal Current Gain at f = 1 kHz I_C = 2mA; V_{CE} = 5V	h_{fe}	Minimum Maximum	125 900	-

Specifications

V_{CEO} (V)	I_C (mA) Maximum	F (dB) Maximum	P_{tot} (mW)	Device Marking	Part Number
45	100	10	250	IG	BC847C

Notes:

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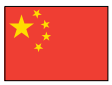

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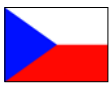

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