BC847B, BC847C

General Purpose SMD NPN Transistors

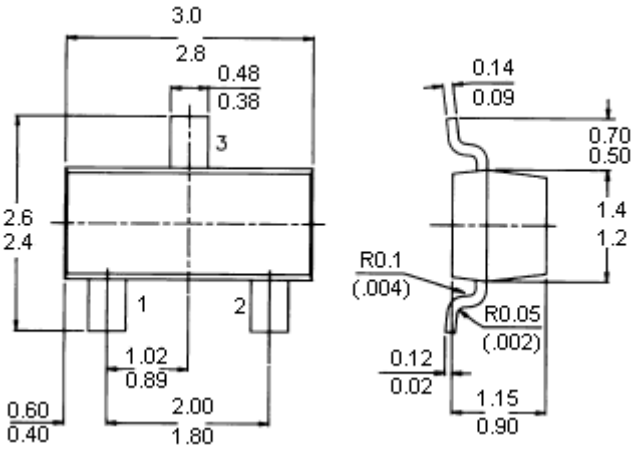
multicomp

SOT-23

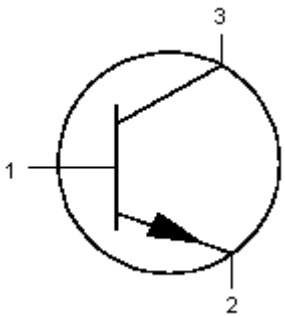
Features:

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

Package Outline Details



Pin Configuration
1. Base
2. Emitter
3. Collector



Absolute Maximum Ratings

	Symbol		BC847B	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		BC847B	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	Minimum	>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		BC847B	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		BC847B	BC847C	Units
Collector capacitance at f = 1MHz $I_E = I_e = 0$; 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 <	150 200 290 450	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 maximum (dB)	P_{tot} (mW)	Device Marking	Part Number
45	100	10	250	IF	BC847B
				IG	BC847C

Notes:

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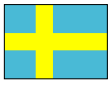

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