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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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BC847B
BC847C

SMALL SIGNAL NPN TRANSISTORS

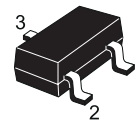
PRELIMINARY DATA

Type	Marking
BC847B	1F
BC847C	1G

- SILICON EPITAXIAL PLANAR NPN TRANSISTORS
- MINIATURE SOT-23 PLASTIC PACKAGE FOR SURFACE MOUNTING CIRCUITS
- TAPE AND REEL PACKING
- BC847B - THE PNP COMPLEMENTARY TYPE IS BC857B

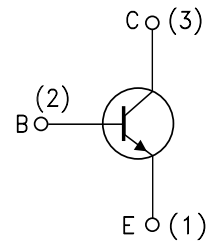
APPLICATIONS

- WELL SUITABLE FOR PORTABLE EQUIPMENT
- SMALL LOAD SWITCH TRANSISTORS WITH HIGH GAIN AND LOW SATURATION VOLTAGE



SOT-23

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	50	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	45	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	6	V
I_C	Collector Current	100	mA
I_{CM}	Collector Peak Current	200	mA
P_{tot}	Total Dissipation at $T_C = 25\text{ }^\circ\text{C}$	250	mW
T_{stg}	Storage Temperature	-65 to 150	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	150	$^\circ\text{C}$

BC847B / BC847C

THERMAL DATA

$R_{thj-amb}$	Thermal Resistance Junction-Ambient	Max	500	$^{\circ}\text{C}/\text{W}$
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• Device mounted on a PCB area of 1 cm^2 .

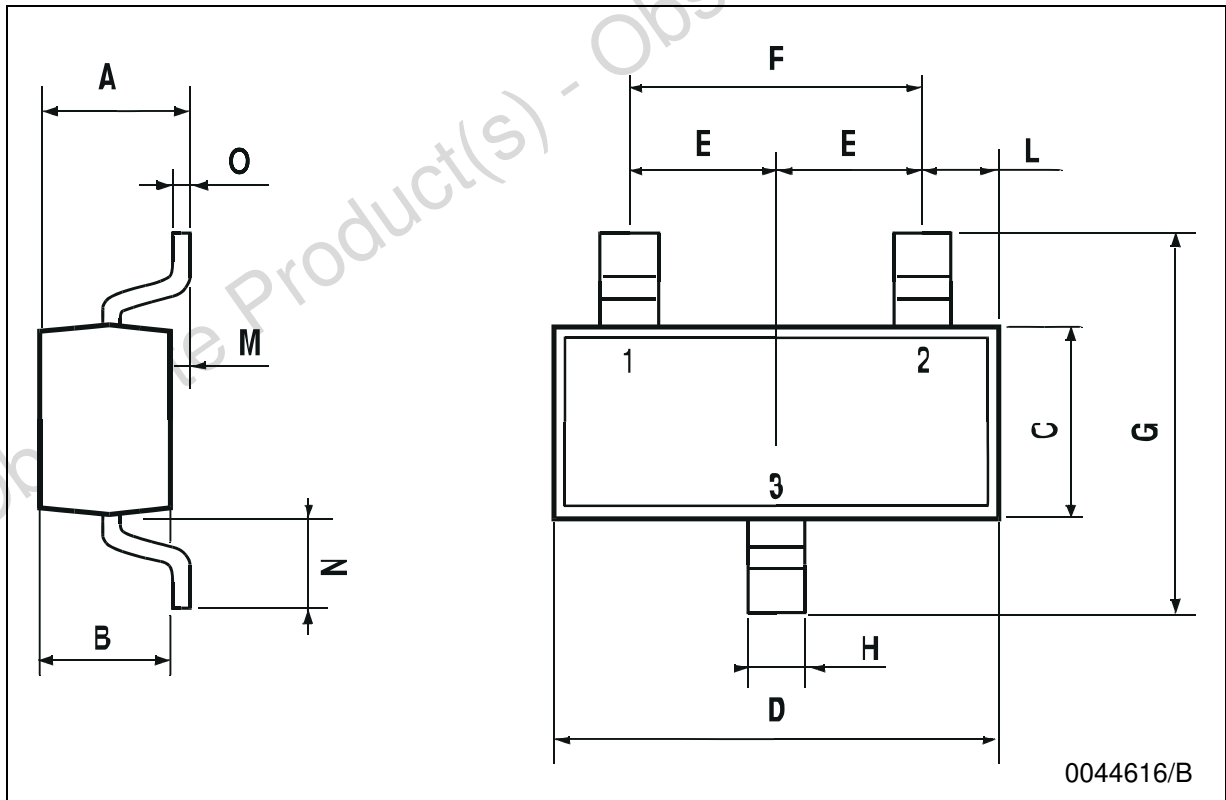
ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CB} = 30\text{ V}$ $V_{CB} = 30\text{ V}$ $T_C = 150\text{ }^{\circ}\text{C}$			15 5	nA μA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5\text{ V}$			100	nA
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_E = 0$)	$I_C = 10\text{ }\mu\text{A}$	50			V
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ($I_B = 0$)	$I_C = 2\text{ mA}$	45			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_C = 0$)	$I_E = 10\text{ }\mu\text{A}$	6			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 10\text{ mA}$ $I_B = 0.5\text{ mA}$ $I_C = 100\text{ mA}$ $I_B = 5\text{ mA}$		0.09 0.2	0.25 0.6	V V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = 10\text{ mA}$ $I_B = 0.5\text{ mA}$ $I_C = 100\text{ mA}$ $I_B = 5\text{ mA}$		0.7 0.9		V V
$V_{BE(on)}^*$	Base-Emitter On Voltage	$I_C = 2\text{ mA}$ $V_{CE} = 5\text{ V}$ $I_C = 10\text{ mA}$ $V_{CE} = 5\text{ V}$	0.58	0.66	0.7 0.77	V V
h_{FE}^*	DC Current Gain	$I_C = 10\text{ }\mu\text{A}$ $V_{CE} = 5\text{ V}$ for BC847B for BC847C $I_C = 2\text{ mA}$ $V_{CE} = 5\text{ V}$ for BC847B for BC847C		150 270 200 420	450 800	
f_T	Transition Frequency	$I_C = 10\text{ mA}$ $V_{CE} = 5\text{ V}$ $f = 100\text{ MHz}$	100			MHz
C_{CBO}	Collector-Base Capacitance	$I_E = 0$ $V_{CB} = 10\text{ V}$ $f = 1\text{ MHz}$		2.5		pF
NF	Noise Figure	$V_{CE} = 5\text{ V}$ $I_C = 0.2\text{ mA}$ $f = 1\text{ KHz}$ $\Delta f = 200\text{ Hz}$ $R_G = 2\text{ K}\Omega$		2	10	dB

* Pulsed: Pulse duration = $300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$

SOT-23 MECHANICAL DATA

DIM.	mm			mils		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	0.85		1.1	33.4		43.3
B	0.65		0.95	25.6		37.4
C	1.20		1.4	47.2		55.1
D	2.80		3	110.2		118
E	0.95		1.05	37.4		41.3
F	1.9		2.05	74.8		80.7
G	2.1		2.5	82.6		98.4
H	0.38		0.48	14.9		18.8
L	0.3		0.6	11.8		23.6
M	0		0.1	0		3.9
N	0.3		0.65	11.8		25.6
O	0.09		0.17	3.5		6.7



Obsolete Product(s) - Obsolete Product(s)

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