

**BC857B**

SMALL SIGNAL PNP TRANSISTOR

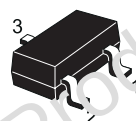
PRELIMINARY DATA

Type	Marking
BC857B	3F

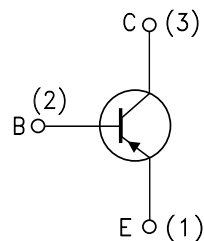
- SILICON EPITAXIAL PLANAR PNP TRANSISTOR
- MINIATURE SOT-23 PLASTIC PACKAGE FOR SURFACE MOUNTING CIRCUITS
- TAPE AND REEL PACKING
- THE NPN COMPLEMENTARY TYPE IS BC847B

APPLICATIONS

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

**SOT-23**

INTERNAL SCHEMATIC DIAGRAM



DS10120

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 ($I_C = 0$)	-5	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	$^{\circ}\text{C}$

BC857B

THERMAL DATA

$R_{thj-amb}$ •	Thermal Resistance Junction-Ambient	Max	500	°C/W
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• Device mounted on a PCB area of 1 cm².

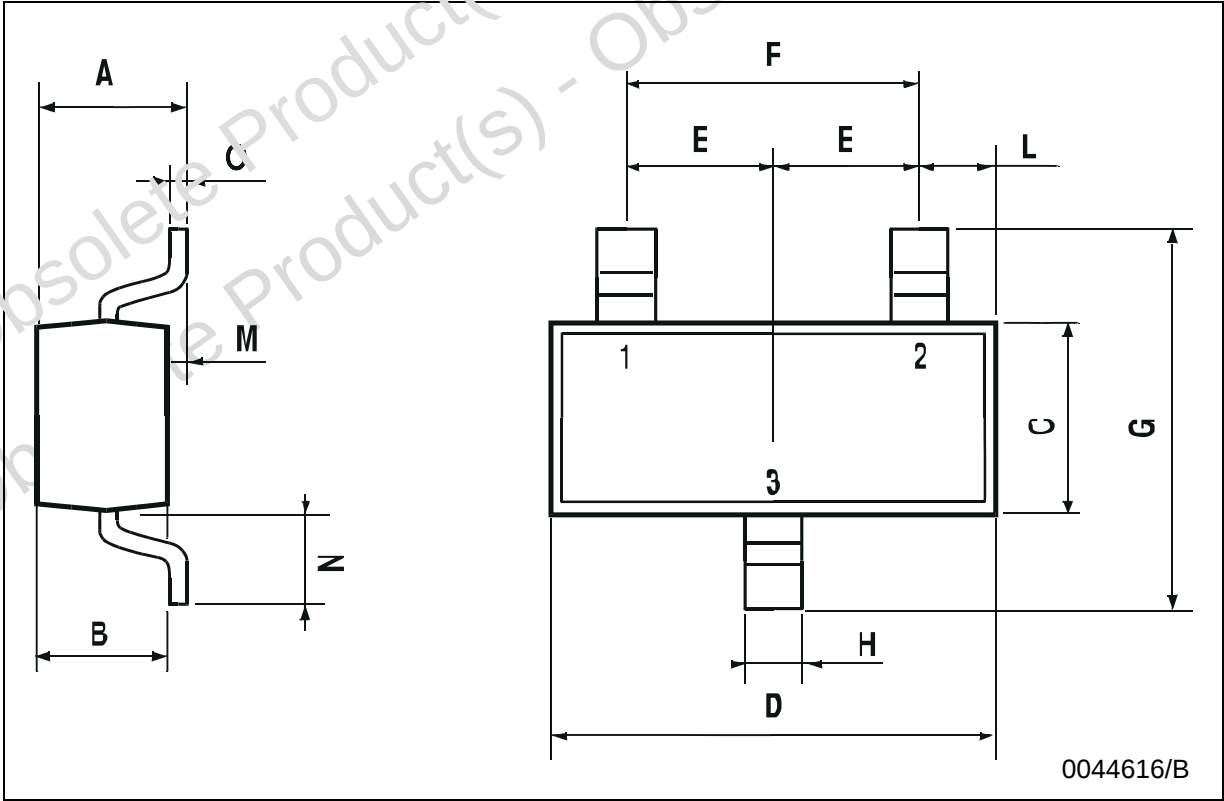
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = -30 V V _{CB} = -30 V T _C = 150 °C		-1	-15 -5	nA μA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = -5 V			-100	nA
V _{(BR)CBO}	Collector-Base Breakdown Voltage (I _E = 0)	I _C = -10 μA	-50			V
V _{(BR)CEO} *	Collector-Emitter Breakdown Voltage (I _B = 0)	I _C = -2 mA	-45			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _C = 0)	I _E = -10 μA	-5			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = -10 mA I _B = -0.5 mA I _C = -100 mA I _B = -5 mA		-0.07 -0.25	-0.3 -0.65	V V
V _{BE(sat)} *	Base-Emitter Saturation Voltage	I _C = -10 mA I _B = -0.5 mA I _C = -100 mA I _B = -5 mA		-0.7 -0.85		V V
V _{BE(on)} *	Base-Emitter On Voltage	I _C = -2 mA V _{CE} = -5 V I _C = -10 mA V _{CE} = -5 V	-0.6	-0.65	-0.75 -0.82	V V
h _{FE}	DC Current Gain	I _C = -2 mA V _{CE} = -5 V	220		475	
f _T	Transition Frequency	I _C = -10 mA V _{CE} = -5 V f = 100MHz	100			MHz
C _{CBO}	Collector-Base Capacitance	I _E = 0 V _{CB} = -10 V f = 1 MHz		4.5		pF
NF	Noise Figure	V _{CE} = -5 V I _C = -0.2 mA f = 1KHz Δf = 200 Hz R _G = 2 KΩ		2	10	dB

* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 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		119
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



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