Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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BC857B

SMALL SIGNAL PNP TRANSISTOR

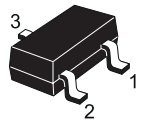
PRELIMINARY DATA

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

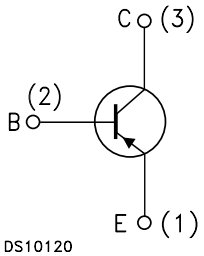
APPLICATIONS

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



SOT-23

INTERNAL SCHEMATIC DIAGRAM



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 °C	250	mW
T_{stg}	Storage Temperature	-65 to 150	°C
T_j	Max. Operating Junction Temperature	150	°C

THERMAL DATA

$R_{thj\text{-}amb}$ •	Thermal Resistance Junction-Ambient	Max	500	°C/W

• Device mounted on a PCB area of 1 cm^2.

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		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