



# 2SB817C

## Bipolar Transistor -140V, -12A, Low $V_{CE(sat)}$ PNP TO-3P-3L

ON Semiconductor®

<http://onsemi.com>

### Features

- Large current capacitance
- Wide SOA and high durability against breakdown
- Adoption of MBIT process

### Specifications

**Absolute Maximum Ratings** at  $T_a=25^\circ\text{C}$

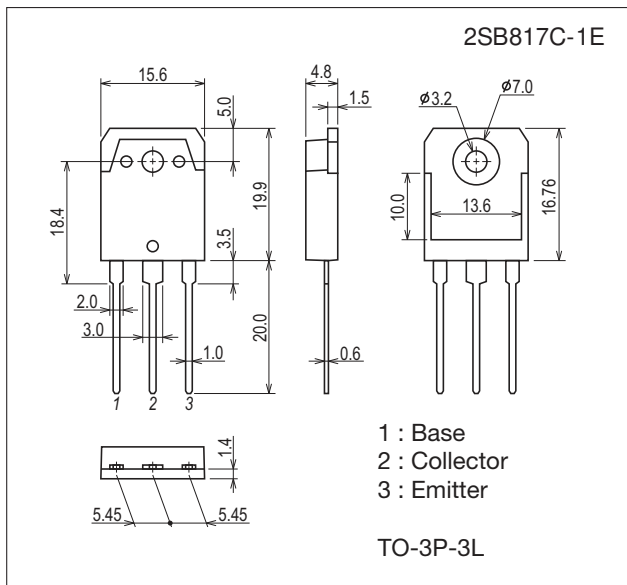
Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	$V_{CBO}$		-160	V
Collector to Emitter Voltage	$V_{CEO}$		-140	V
Emitter to Base Voltage	$V_{EBO}$		-6	V
Collector Current	$I_C$		-12	A
Collector Current (Pulse)	$I_{CP}$		-20	A
Collector Dissipation	$P_C$		2.5	W
		$T_c=25^\circ\text{C}$	120	W
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### Package Dimensions

unit : mm (typ)

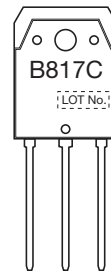
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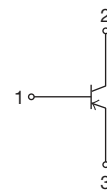
### Product & Package Information

- Package : TO-3P-3L
- JEITA, JEDEC : SC-65, TO-247, SOT-199
- Minimum Packing Quantity : 30 pcs./tube

### Marking



### Electrical Connection

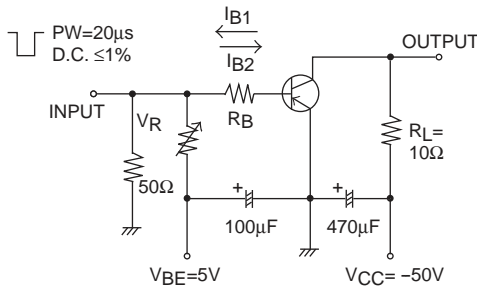


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## Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> =-160V, I <sub>E</sub> =0A			-0.1	mA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> =-4V, I <sub>C</sub> =0A			-0.1	mA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-1A	100		200	
	h <sub>FE2</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-5A	35			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-1A		10		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, f=1MHz		280		pF
Base to Emitter Voltage	V <sub>BE</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-5A			-1.5	V
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-5A, I <sub>B</sub> =-0.5A		-0.3	-2.0	V
Collector to Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-5mA, I <sub>E</sub> =0A	-160			V
Collector to Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-50mA, R <sub>BE</sub> =∞	-140			V
Emitter to Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-5mA, I <sub>C</sub> =0A	-6			V
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit.		0.45		μs
Storage Time	t <sub>stg</sub>			1.75		μs
Fall Time	t <sub>f</sub>			0.25		μs

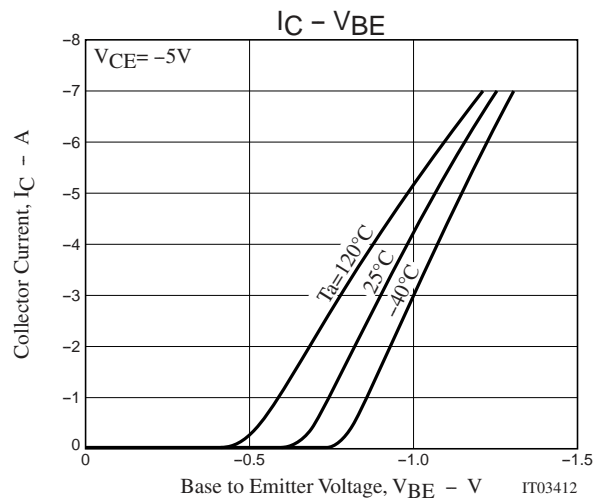
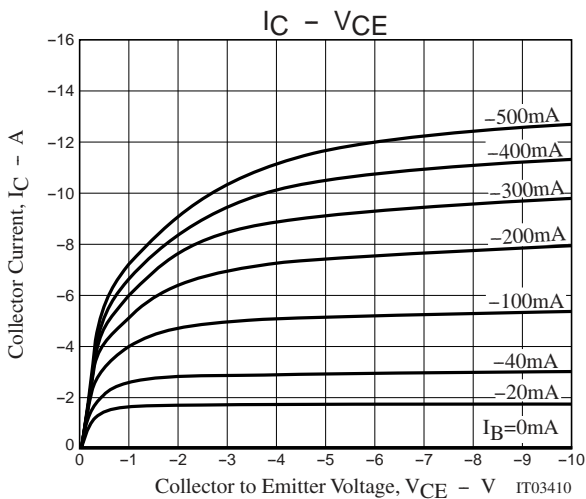
## Switching Time Test Circuit



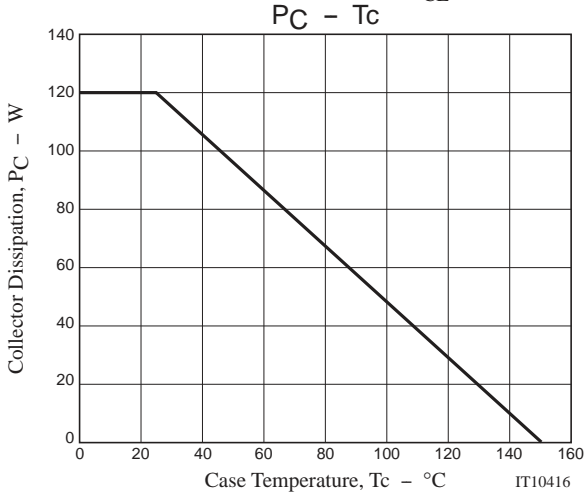
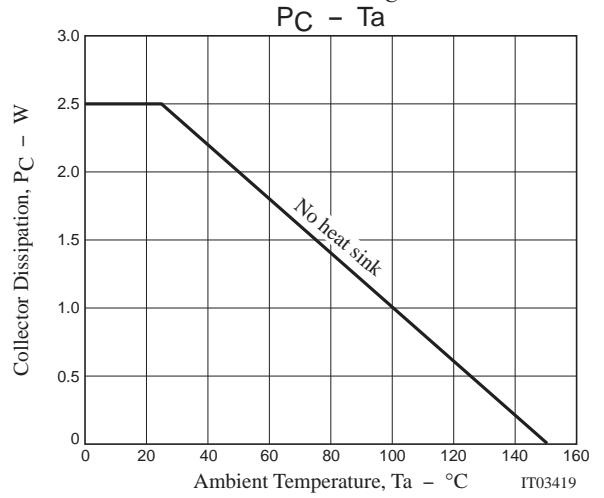
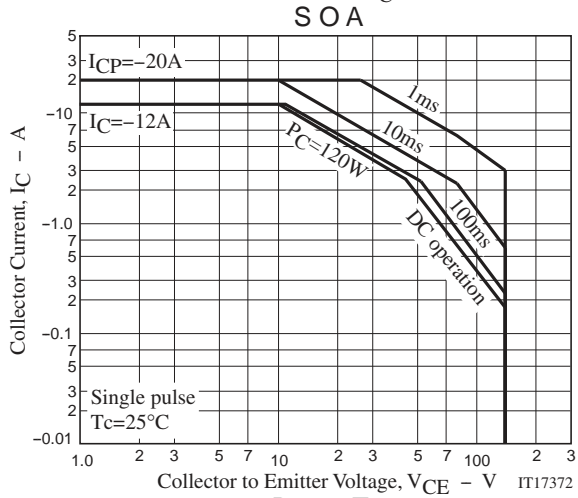
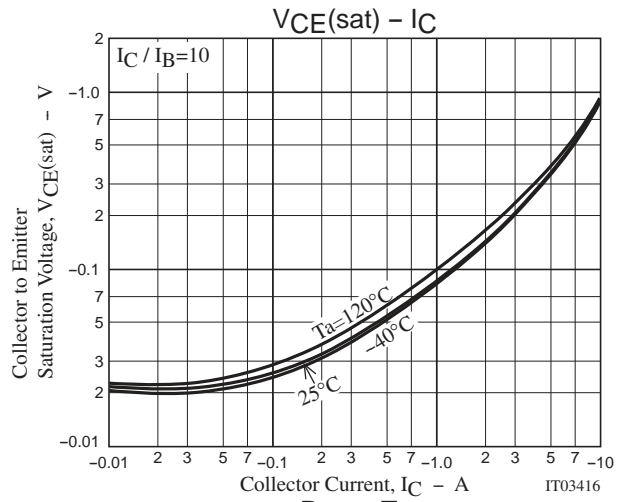
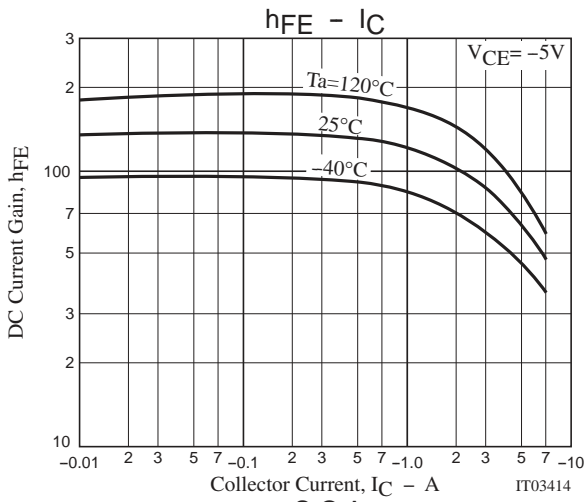
$$I_C = -10I_{B1} = 10I_{B2} = -5A$$

## Ordering Information

Device	Package	Shipping	memo
2SB817C-1E	TO-3P-3L	30pcs./tube	Pb-Free



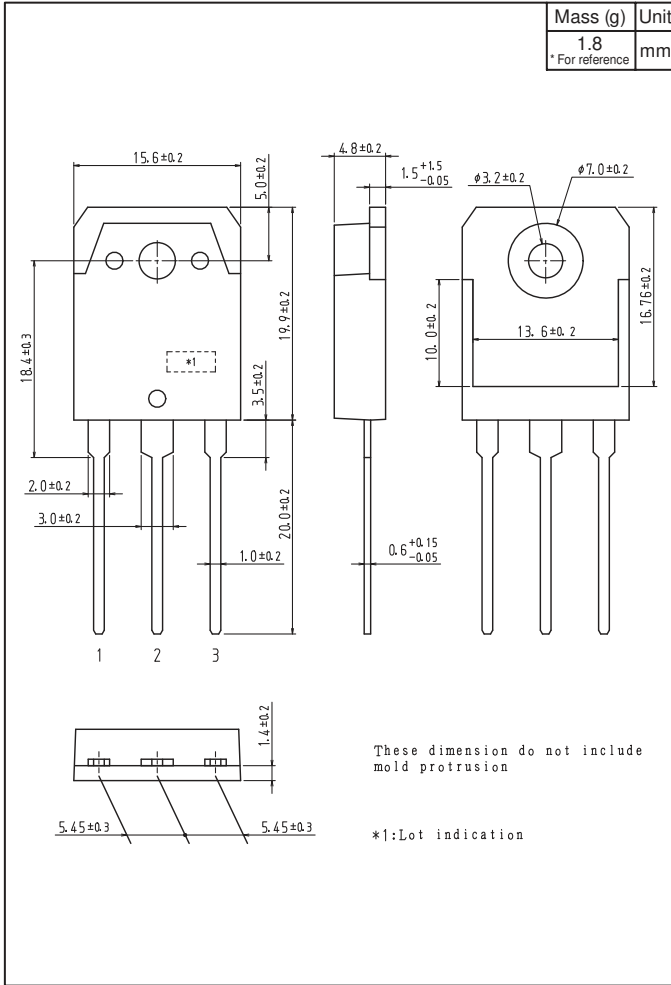
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## Outline Drawing

2SB817C-1E



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