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2SB817C

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

Features

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

Specifications

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

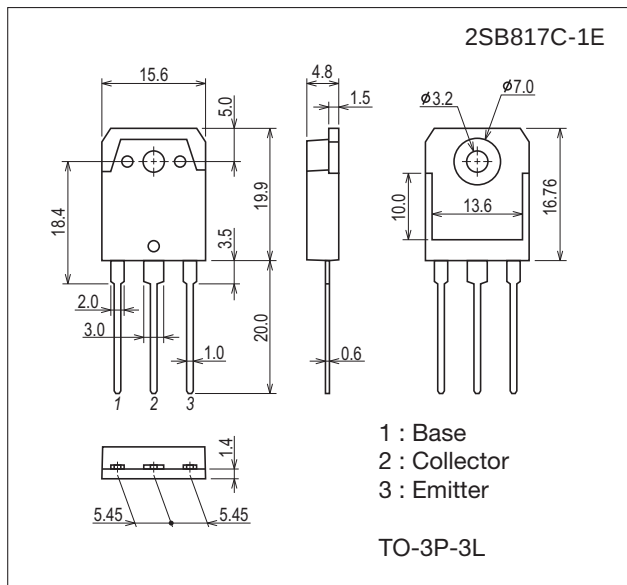
Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V_{CBO}		-160	V
Collector to Emitter Voltage	V_{CEO}		-140	V
Emitter to Base Voltage	V_{EBO}		-6	V
Collector Current	I_C		-12	A
Collector Current (Pulse)	I_{CP}		-20	A
Collector Dissipation	P_C		2.5	W
		$T_c=25^\circ\text{C}$	120	W
Junction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

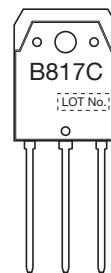
7539-001



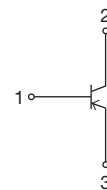
Product & Package Information

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

Marking



Electrical Connection

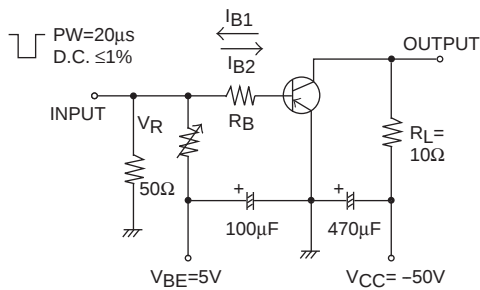


2SB817C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-160V, I_E=0A$			-0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4V, I_C=0A$			-0.1	mA
DC Current Gain	h_{FE1}	$V_{CE}=-5V, I_C=-1A$	100		200	
	h_{FE2}	$V_{CE}=-5V, I_C=-5A$	35			
Gain-Bandwidth Product	f_T	$V_{CE}=-5V, I_C=-1A$		10		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$		280		pF
Base to Emitter Voltage	V_{BE}	$V_{CE}=-5V, I_C=-5A$			-1.5	V
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-5A, I_B=-0.5A$		-0.3	-2.0	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-5mA, I_E=0A$	-160			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-50mA, R_{BE}=\infty$	-140			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-5mA, I_C=0A$	-6			V
Turn-ON Time	t_{on}	See specified Test Circuit.		0.45		μs
Storage Time	t_{stg}			1.75		μs
Fall Time	t_f			0.25		μs

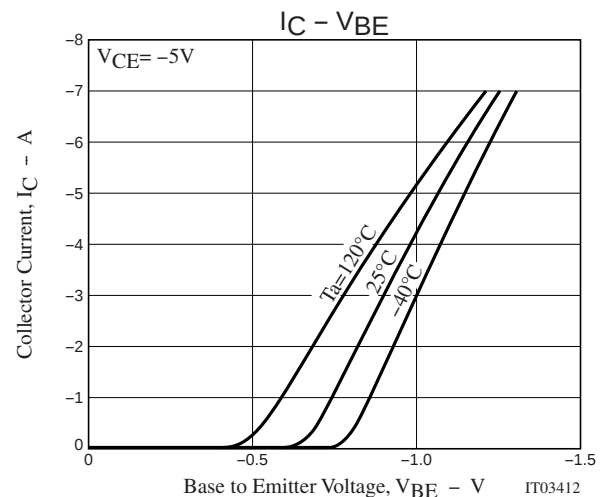
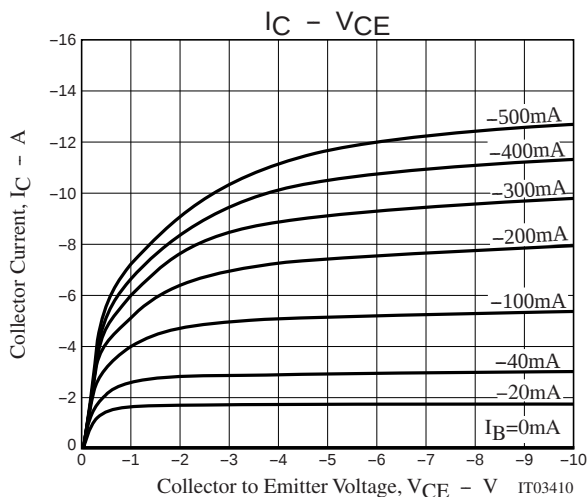
Switching Time Test Circuit

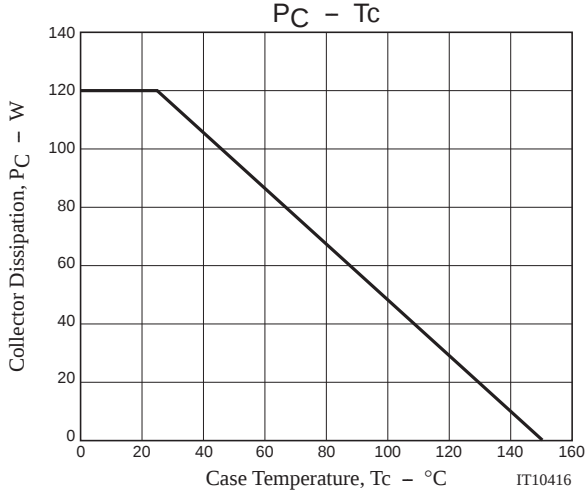
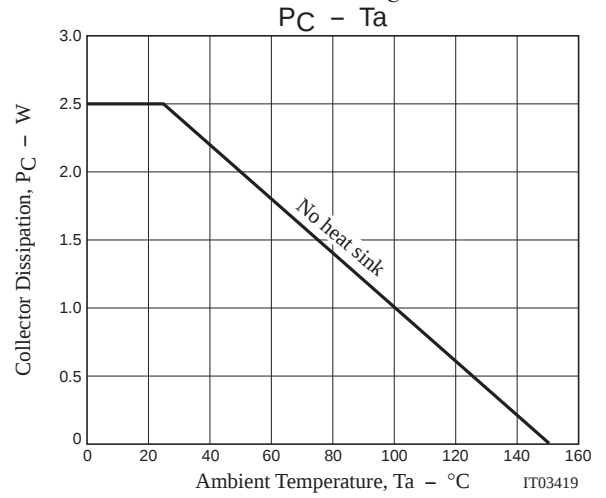
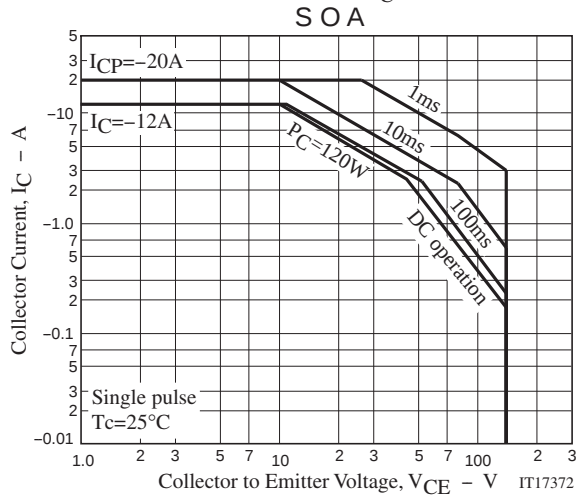
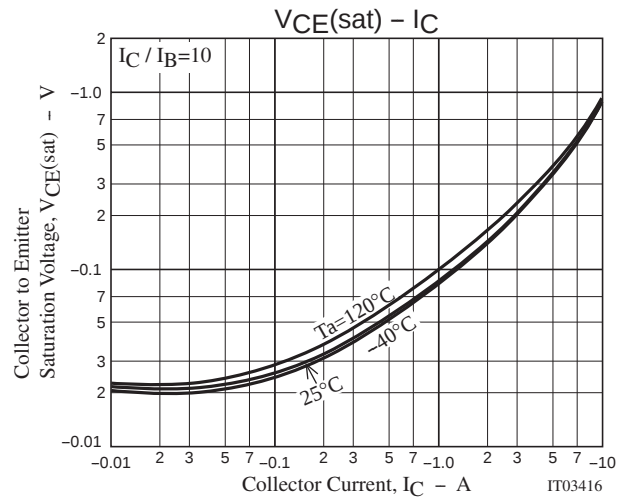
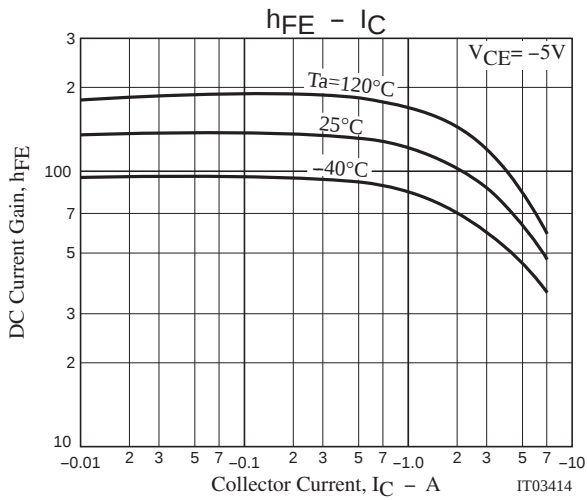


$$I_C = -10I_{B1} = 10I_{B2} = -5A$$

Ordering Information

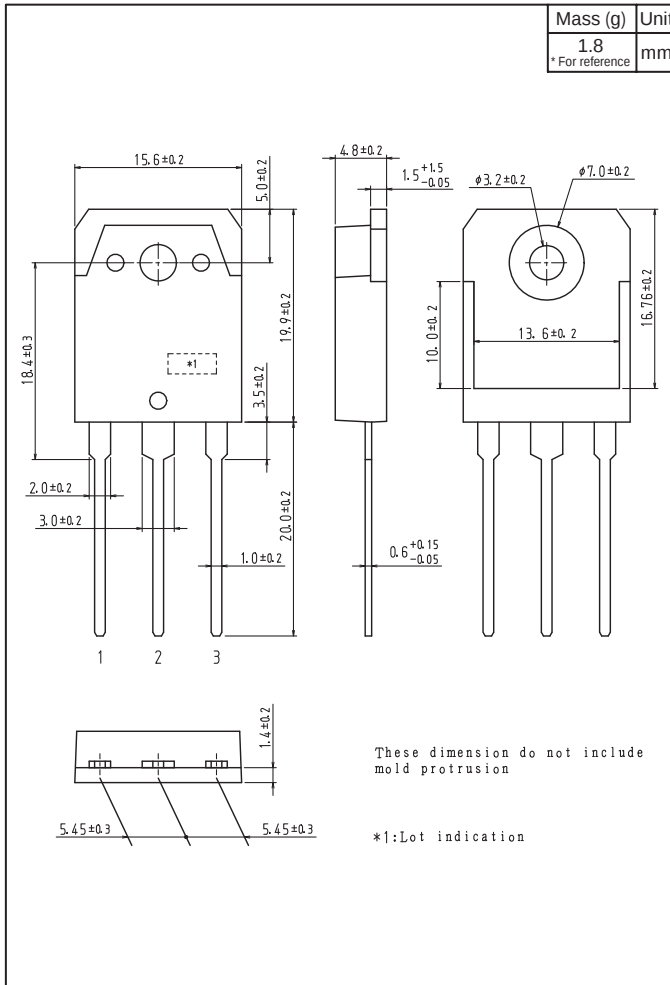
Device	Package	Shipping	memo
2SB817C-1E	TO-3P-3L	30pcs./tube	Pb-Free





Outline Drawing

2SB817C-1E



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