

2SB1121

Continued from preceding page.

Parameter	Symbol	Conditions	Ratings	Unit
Collector Dissipation	P_C		500	mW
		When mounted on ceramic substrate (250mm ² ×0.8mm)	1.3	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°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.

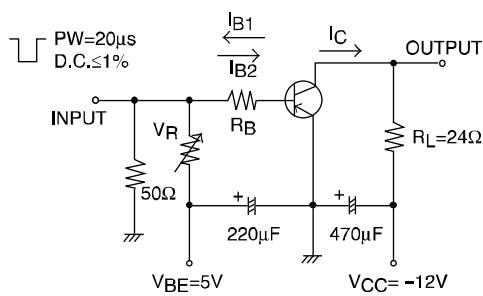
Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = -20\text{V}$, $I_E = 0\text{A}$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4\text{V}$, $I_C = 0\text{A}$			-0.1	μA
DC Current Gain	h_{FE1}	$V_{CE} = -2\text{V}$, $I_C = -100\text{mA}$	140*		400*	
	h_{FE2}	$V_{CE} = -2\text{V}$, $I_C = -1.5\text{A}$	65			
Gain-Bandwidth Product	f_T	$V_{CE} = -10\text{V}$, $I_C = -50\text{mA}$		150		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10\text{V}$, $f = 1\text{MHz}$		32		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1.5\text{A}$, $I_B = -75\text{mA}$		-0.35	-0.6	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1.5\text{A}$, $I_B = -75\text{mA}$		-0.85	-1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}$, $I_E = 0\text{A}$	-30			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}$, $R_{BE} = \infty$	-25			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}$, $I_C = 0\text{A}$	-6			V
Turn-ON Time	t_{on}	See specified Test Circuit		60		ns
Storage Time	t_{stg}			350		ns
Fall Time	t_f			25		ns

*: The 2SB1121 is classified by 100mA h_{FE} as follows:

Rank	S	T
h_{FE}	140 to 280	200 to 400

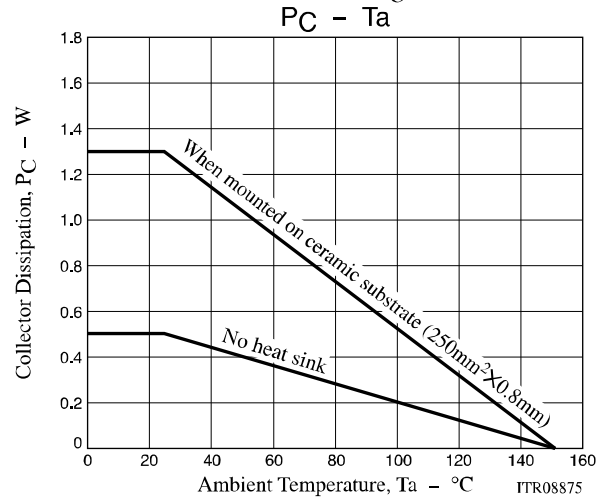
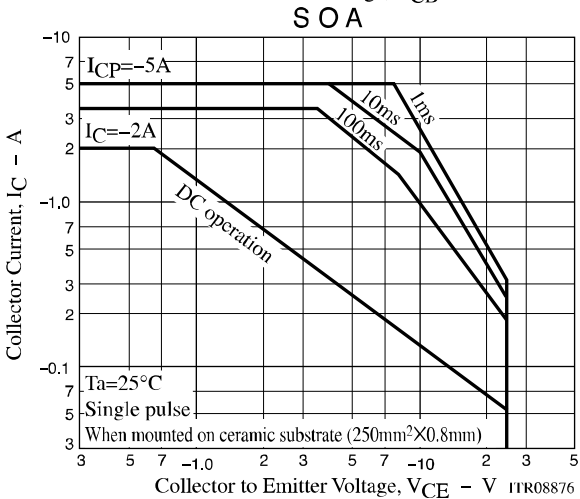
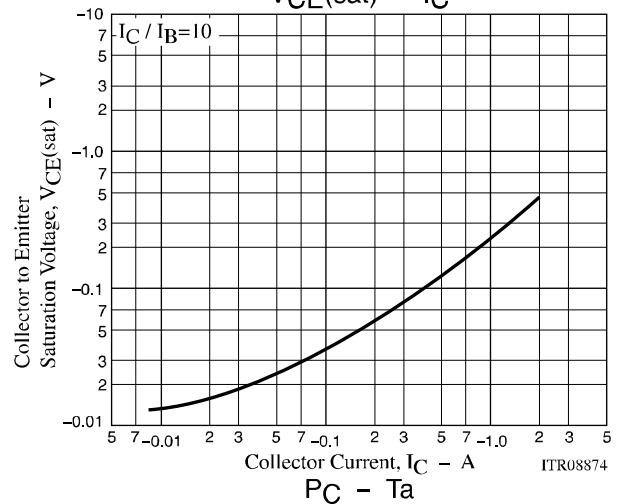
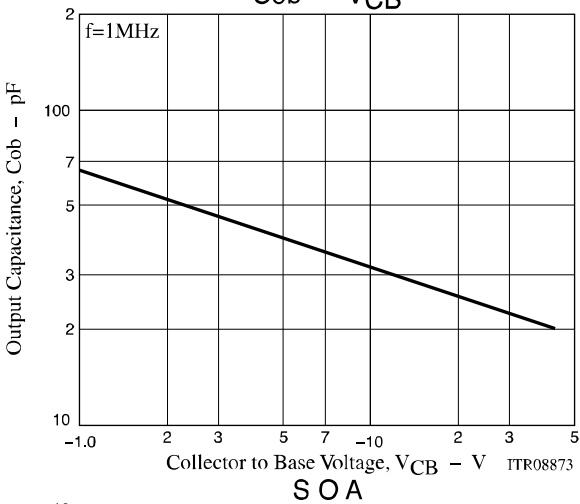
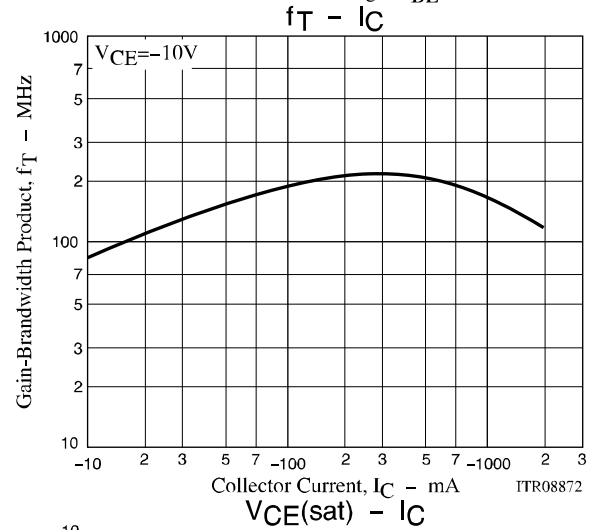
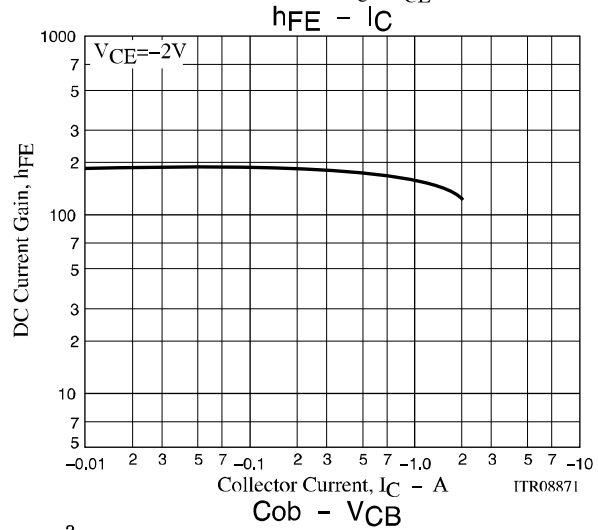
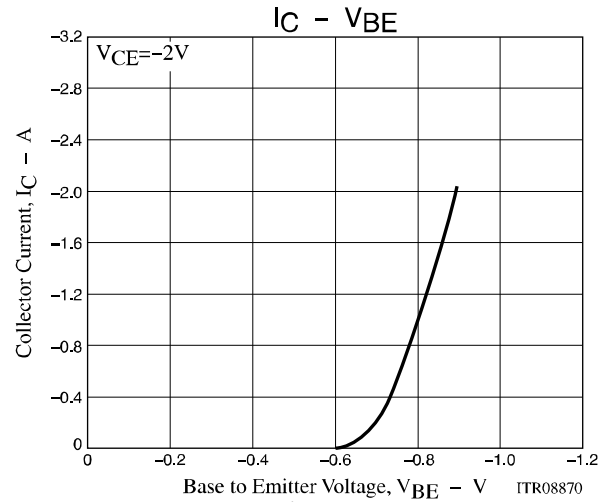
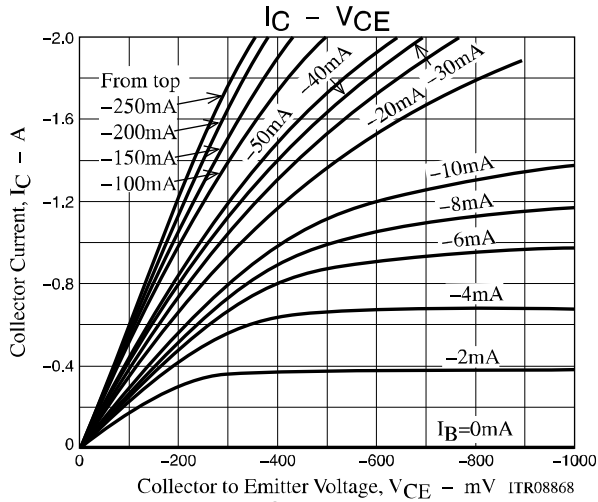
Switching Time Test Circuit



$$I_C = 20I_{B1} = -20I_{B2} = -0.5\text{A}$$

Ordering Information

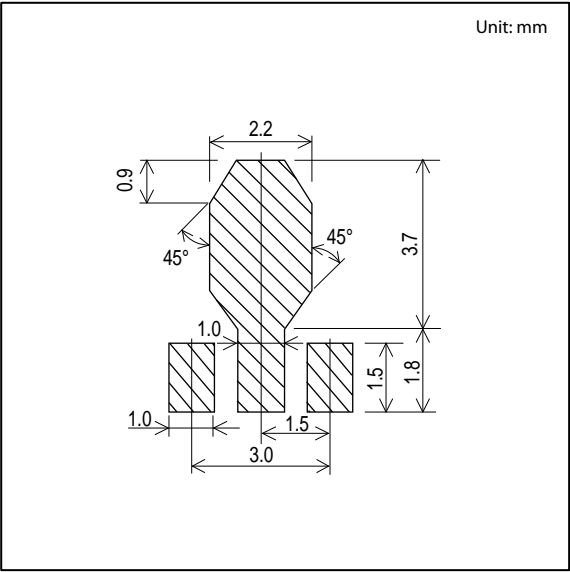
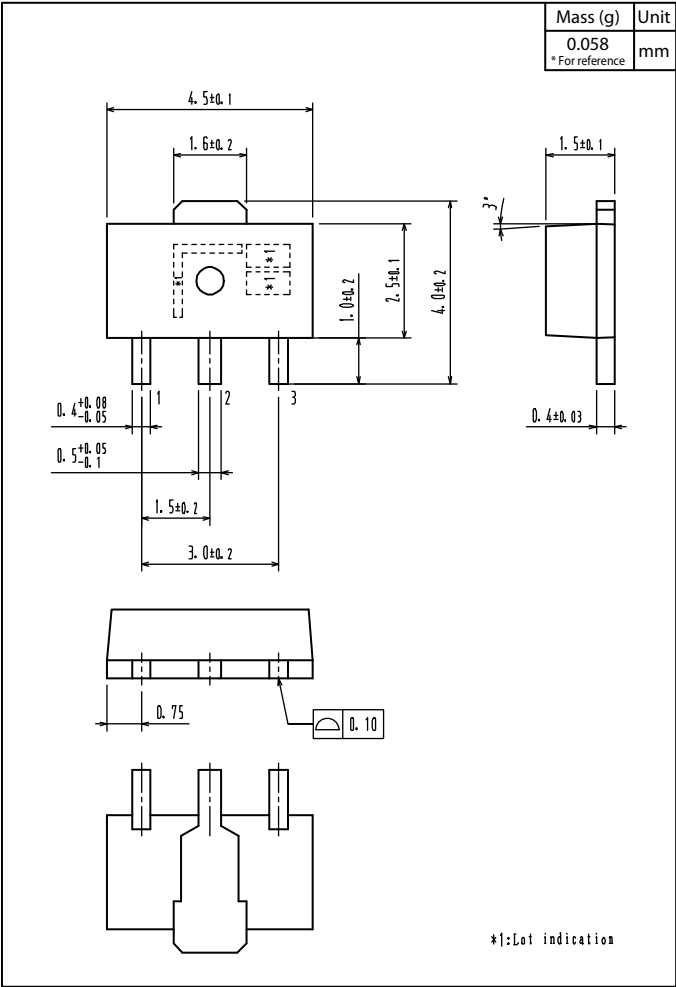
Device	Package	Shipping	Memo
2SB1121S-TD-E 2SB1121T-TD-E	PCP	1,000pcs./reel	Pb-Free



Outline Drawing

2SB1121S-TD-E
2SB1121T-TD-E

Land Pattern Example



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