

PUB4114 (PU4114)

Silicon NPN triple diffusion planar type

For power amplification and switching

Complementary to PUB4214 (PU4214)

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- High-speed switching
- Satisfactory linearity of forward current transfer ratio h_{FE}
- Large collector current I_C
- NPN 4 elements

■ Absolute Maximum Ratings $T_C = 25^\circ C$

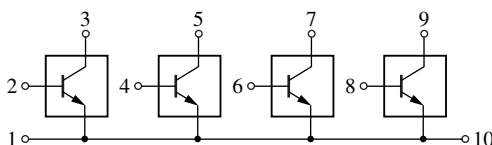
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	40	V
Collector-emitter voltage (Base open)	V_{CEO}	20	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	7	A
Peak collector current	I_{CP}	12	A
Collector power dissipation	P_C	15	W
		$T_a = 25^\circ C$	3.5
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

■ Electrical Characteristics $T_C = 25^\circ C \pm 3^\circ C$

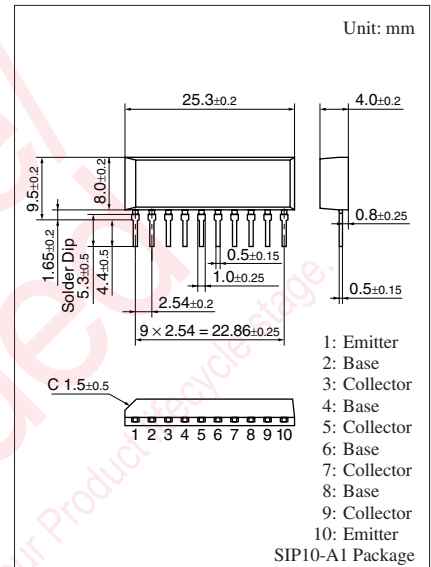
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 10 \text{ mA}, I_B = 0$	20			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 40 \text{ V}, I_E = 0$			50	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$			50	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = 2 \text{ V}, I_C = 0.1 \text{ A}$	45			—
	h_{FE2}	$V_{CE} = 2 \text{ V}, I_C = 2 \text{ A}$			260	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 5 \text{ A}, I_B = 0.16 \text{ A}$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 5 \text{ A}, I_B = 0.16 \text{ A}$			1.5	V
Transition frequency	f_T	$V_{CE} = 10 \text{ V}, I_C = 0.5 \text{ A}, f = 10 \text{ MHz}$		150		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		110		pF
Turn-on time	t_{on}	$I_C = 2 \text{ A}$		0.3		μs
Storage time	t_{stg}	$I_{B1} = 66 \text{ mA}, I_{B2} = -66 \text{ mA}$		0.3		μs
Fall time	t_f			0.1		μs

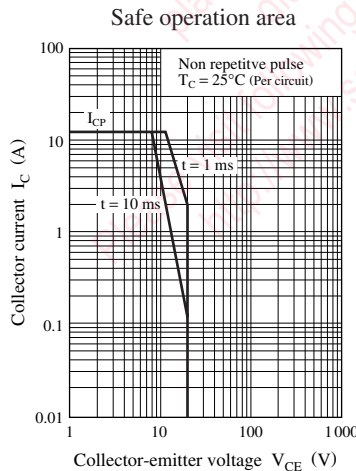
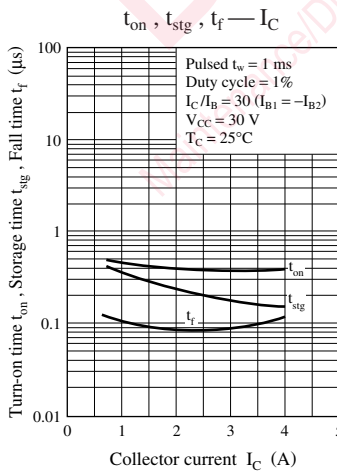
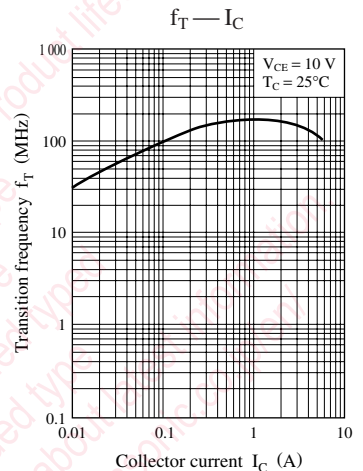
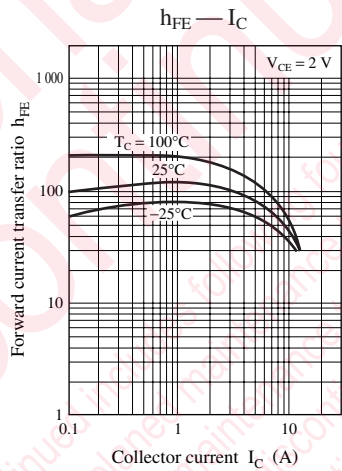
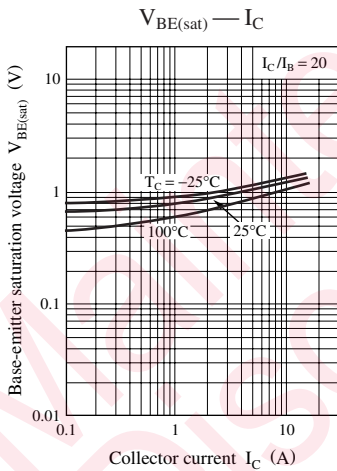
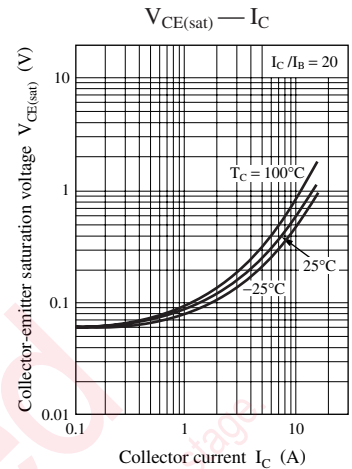
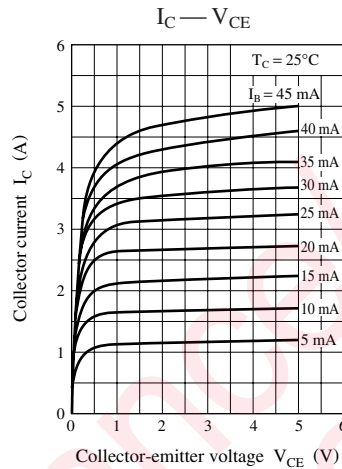
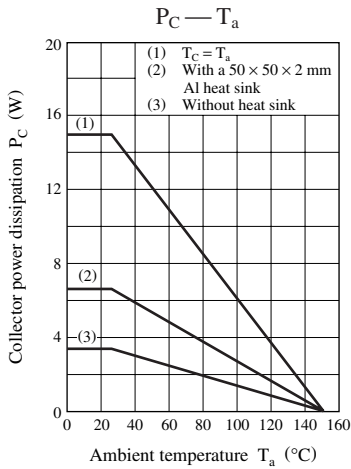
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

■ Internal Connection



Note) The part numbers in the parenthesis show conventional part number.





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