

PUA3111 (PU3111)

Silicon NPN triple diffusion planar type

For power amplification/switching

Complementary to PUA3211 (PU3211)

■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- NPN 3 elements

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

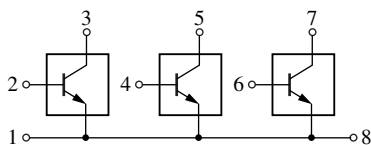
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	60	V
Collector-emitter voltage (Base open)	V_{CEO}	60	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	4	A
Peak collector current	I_{CP}	8	A
Collector power dissipation	P_C	15	W
	$T_a = 25^\circ\text{C}$	2.4	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

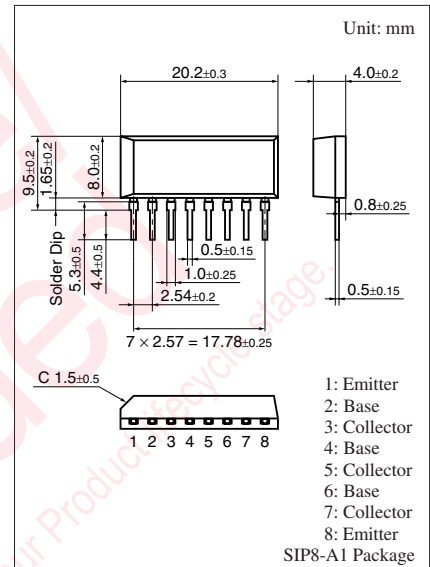
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 30\text{ mA}, I_B = 0$	60			V
Base-emitter voltage	V_{BE}	$V_{CE} = 4\text{ V}, I_C = 3\text{ A}$			2.0	V
Collector-emitter current (E-B short)	I_{CES}	$V_{CE} = 60\text{ V}, V_{BE} = 0$			400	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = 30\text{ V}, I_B = 0$			700	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$			1	mA
Forward current transfer ratio	h_{FE1}	$V_{CE} = 4\text{ V}, I_C = 1\text{ A}$	40		250	—
	h_{FE2}	$V_{CE} = 4\text{ V}, I_C = 3\text{ A}$	15			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 4\text{ A}, I_B = 0.4\text{ A}$			1.5	V
Transition frequency	f_T	$V_{CE} = 10\text{ V}, I_C = 0.1\text{ A}, f = 1\text{ MHz}$		20		MHz
Turn-on time	t_{on}	$I_C = 4\text{ A}$		0.3		μs
Storage time	t_{stg}	$I_{B1} = 0.4\text{ A}, I_{B2} = -0.4\text{ A}$		1.2		μs
Fall time	t_f	$V_{CC} = 50\text{ V}$		0.4		μs

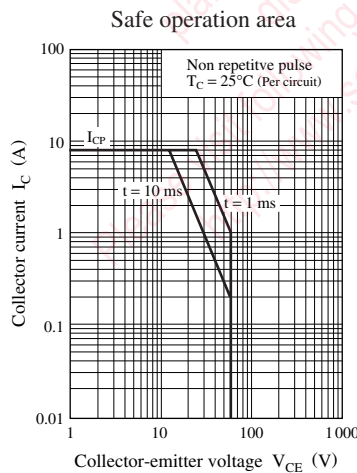
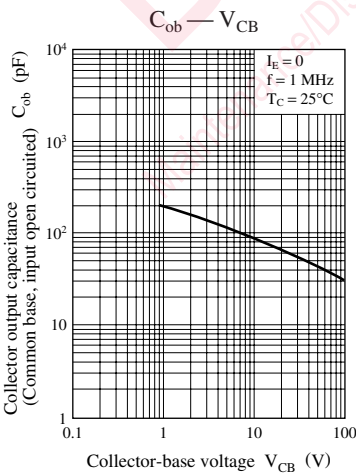
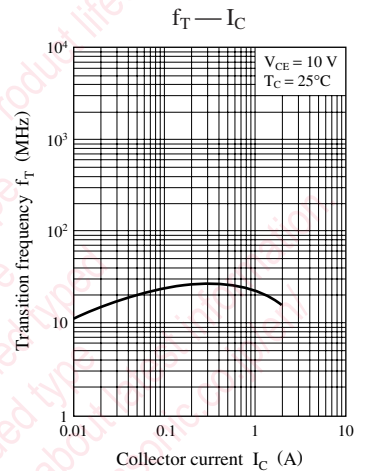
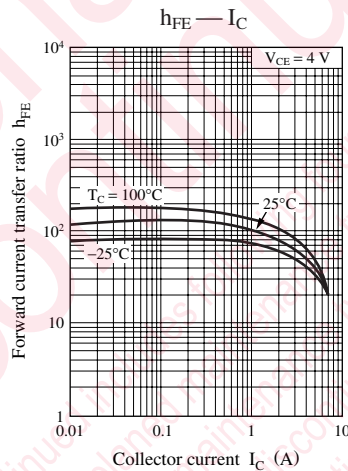
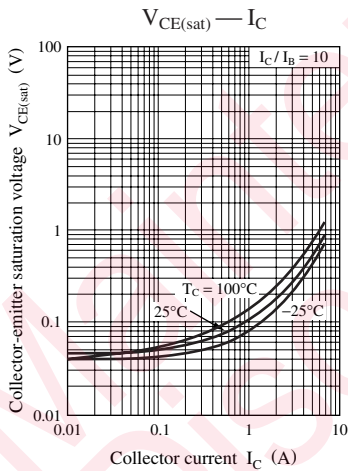
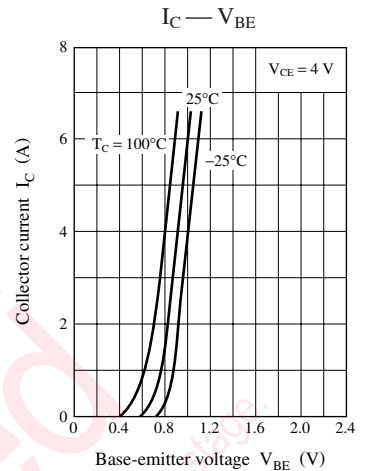
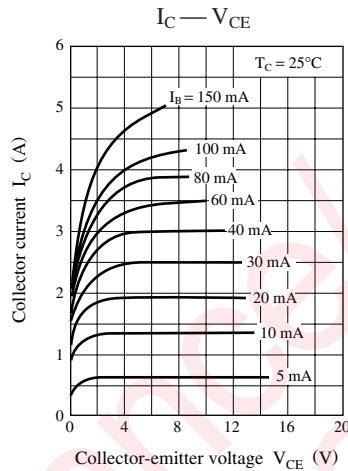
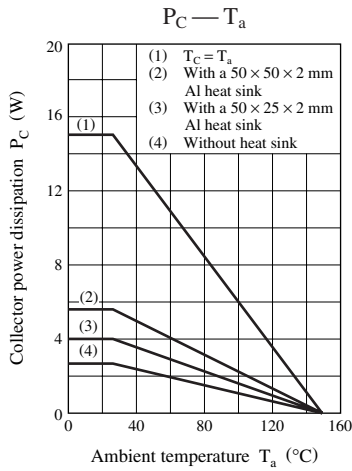
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

■ Internal Connection



Note) The part number in the parenthesis shows conventional part number.





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