

# PUA3119 (PU3119)

Silicon NPN triple diffusion planar type darlington

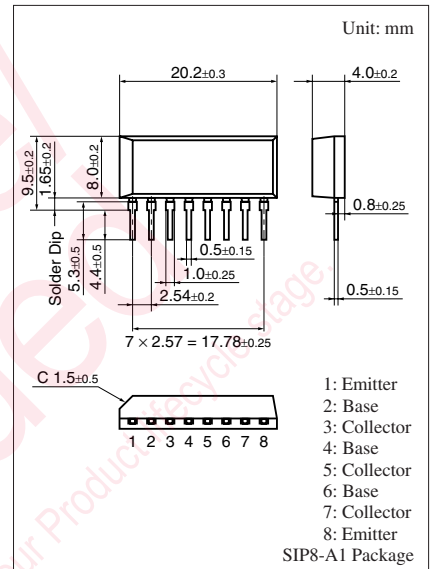
For power amplification/switching  
Complementary to PUA3219 (PU3219)

**■ Features**

- High forward current transfer ratio  $h_{FE}$
- High-speed switching
- NPN 3 elements

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

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	$I_C$	2	A
Peak collector current	$I_{CP}$	4	A
Collector power dissipation	$P_C$	15	W
		$T_a = 25^\circ C$	
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$



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

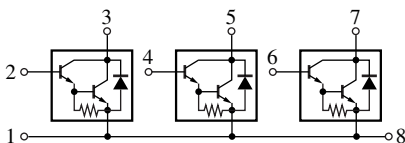
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 30\text{ mA}, I_B = 0$	60			V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 4\text{ V}, I_C = 2\text{ A}$			2.8	V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 60\text{ V}, I_E = 0$			1	mA
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = 30\text{ V}, I_B = 0$			2	mA
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$			2	mA
Forward current transfer ratio	$h_{FE1}$	$V_{CE} = 4\text{ V}, I_C = 1\text{ A}$	1000			—
	$h_{FE2}^*$	$V_{CE} = 4\text{ V}, I_C = 2\text{ A}$	1000		10000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2\text{ A}, I_B = 8\text{ mA}$			2.5	V
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 0.5\text{ A}, f = 1\text{ MHz}$		20		MHz
Turn-on time	$t_{on}$	$I_C = 2\text{ A}$		0.5		$\mu s$
Storage time	$t_{stg}$	$I_{B1} = 8\text{ mA}, I_{B2} = -8\text{ mA}$		4.0		$\mu s$
Fall time	$t_f$	$V_{CC} = 50\text{ V}$		1.0		$\mu s$

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

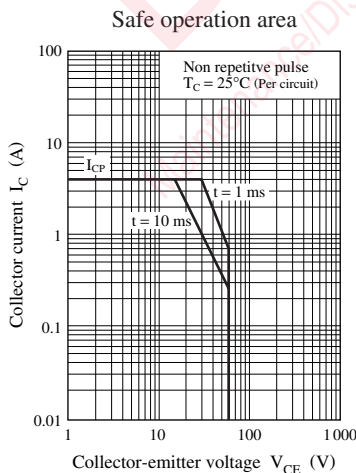
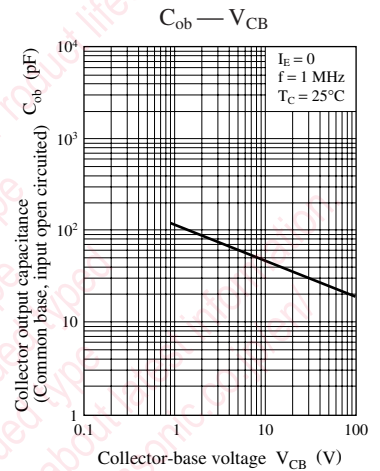
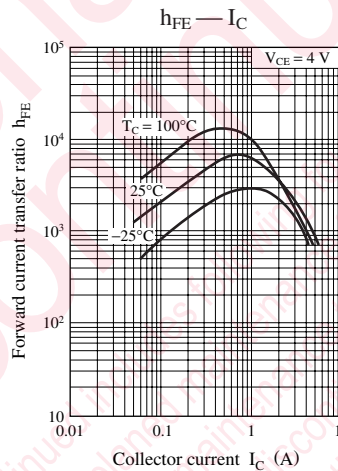
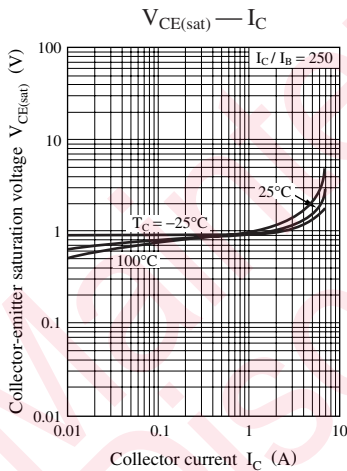
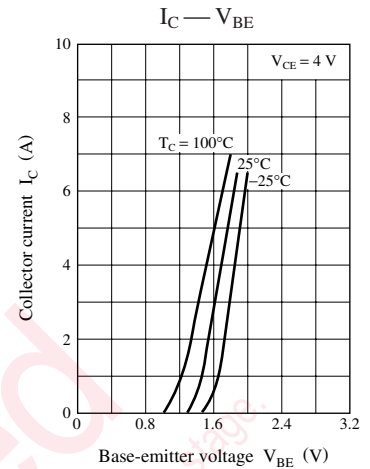
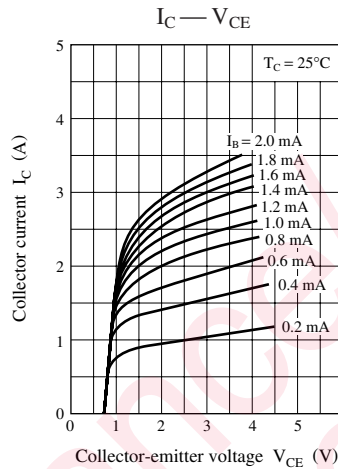
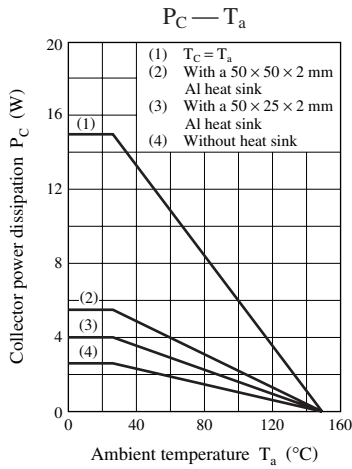
2. \*: Rank classification

Rank	Free	P	Q
$h_{FE}$	1 000 to 10 000	2 000 to 10 000	1 000 to 5 000

**■ Internal Connection**



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



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