

# PU3212, PU4212, PU4512 ■ Package Dimensions

## Silicon NPN Epitaxial Planar Type

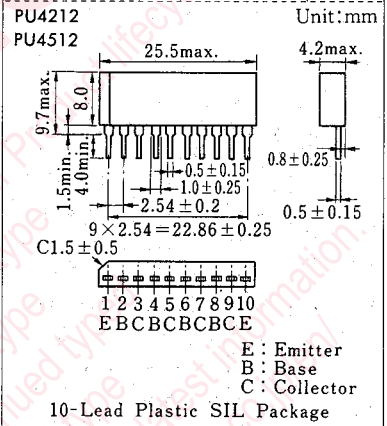
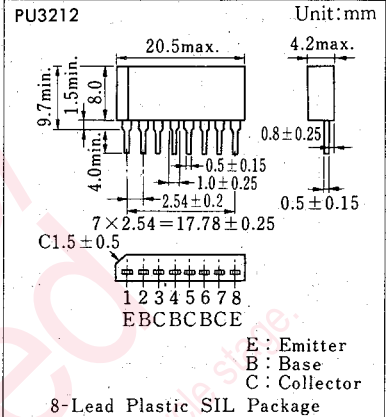
Power Amplifier, Switching  
Complementary Pair with PU3112, PU4112, PU4412

### ■ Features

- Low collector-emitter saturation voltage ( $V_{CE(sat)}$ )
- Good linearity of DC current gain ( $h_{FE}$ )
- High collector current ( $I_C$ )
- PU3212: 3 NPN elements
- PU4212: 4 NPN elements
- PU4512: 2 NPN elements  $\times$  2 (4 elements in total)

### ■ Absolute Maximum Ratings ( $T_c=25^\circ\text{C}$ )

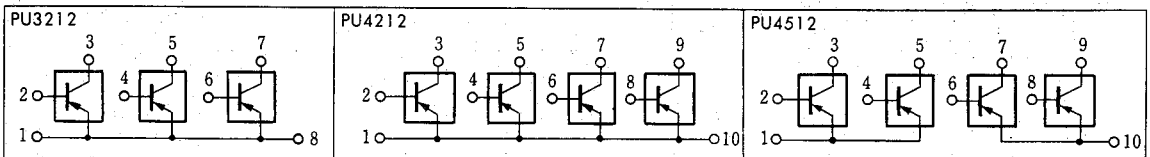
Item	Symbol	Value	Unit
Collector-base voltage	$V_{CBO}$	-130	V
Collector-emitter voltage	$V_{CEO}$	-80	V
Emitter-base voltage	$V_{EBO}$	-7	V
Peak collector current	$I_{CP}$	-6	A
Collector current	$I_C$	-3	A
Power dissipation	$P_D$	15	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$

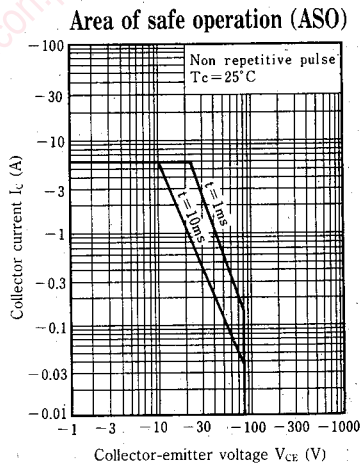
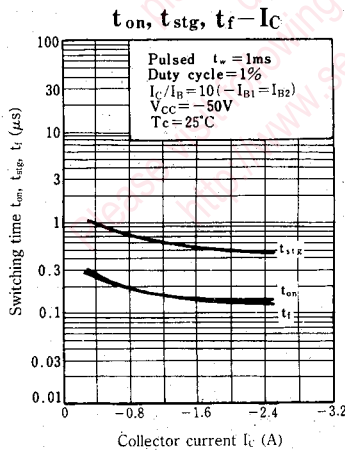
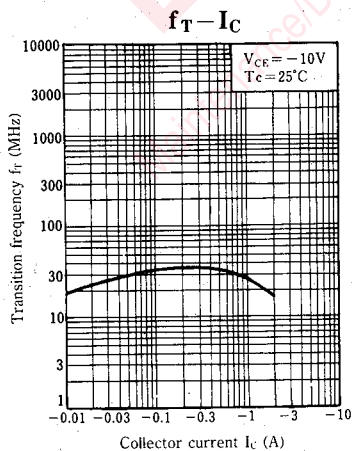
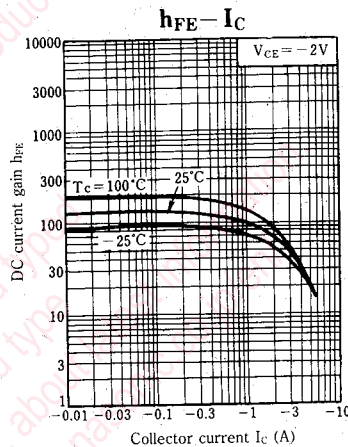
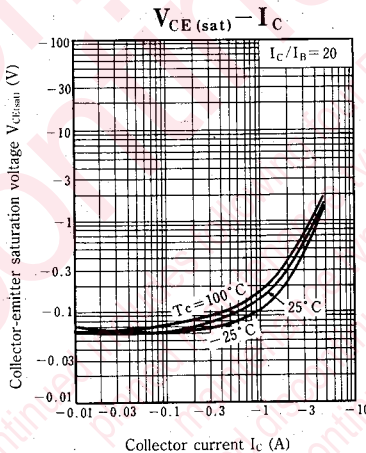
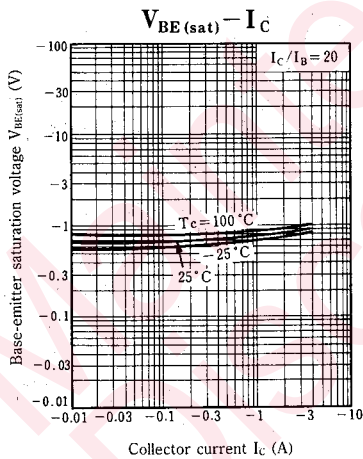
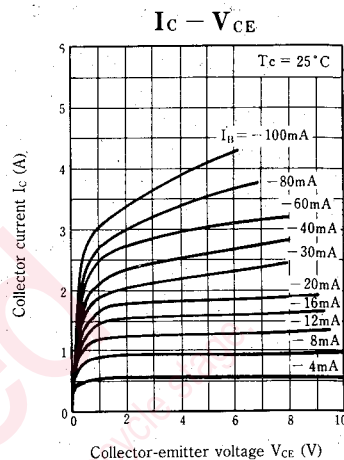
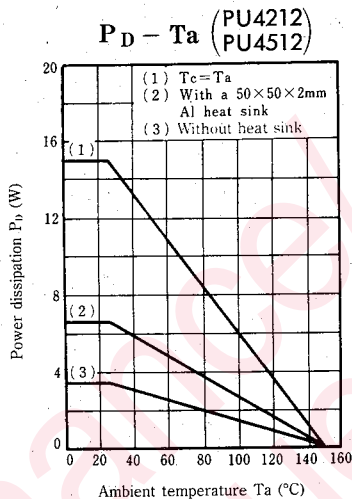
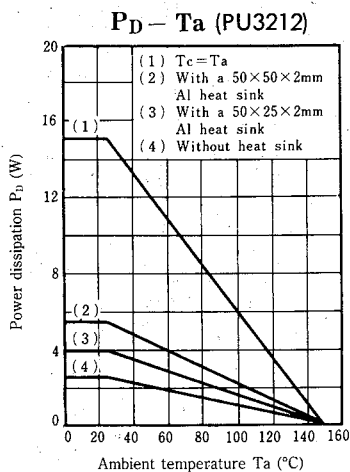


### ■ Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -100\text{V}, I_E = 0$			-10	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$			-50	$\mu\text{A}$
Collector-emitter voltage	$V_{CEO}$	$I_C = -10\text{mA}, I_B = 0$	-80			$\mu\text{A}$
DC current gain	$h_{FE1}$	$V_{CE} = -2\text{V}, I_C = -0.1\text{A}$	45			
	$h_{FE2}$	$V_{CE} = -2\text{V}, I_C = -0.5\text{A}$	60		260	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2\text{A}, I_B = -0.1\text{A}$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -2\text{A}, I_C = -0.1\text{A}$			-1.5	V
Transition frequency	$f_T$	$V_{CE} = -10\text{V}, I_C = -0.5\text{A}, f = 10\text{MHz}$		30		MHz
Turn-on time	$t_{on}$	$I_C = -0.5\text{A}, I_{B1} = -50\text{mA}, I_{B2} = 50\text{mA}$		0.3		$\mu\text{s}$
Storage time	$t_{stg}$			1.1		$\mu\text{s}$
Fall time	$t_f$			0.3		$\mu\text{s}$

### ■ Inner Circuit





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