

PU3116, PU4116, PU4416

Silicon NPN Epitaxial Planar Type

Power Amplifier, Switching

Complementary Pair with PU3216, PU4216, PU4516

Features

- High DC current gain (h_{FE}) and good linearity
- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- PU3116: 3 NPN elements
- PU4116: 4 NPN elements
- PU4416: 2 NPN elements $\times$ 2 (4 elements in total)

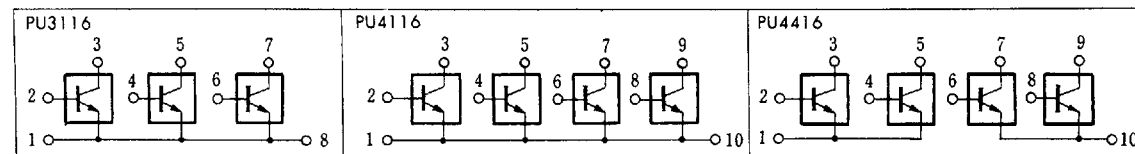
Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	200	V
Collector-emitter voltage	V_{CEO}	150	V
Emitter-base voltage	V_{EBO}	6	V
Peak collector current	I_{CP}	3	A
Collector current	I_C	2	A
Power dissipation	P_D	15	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

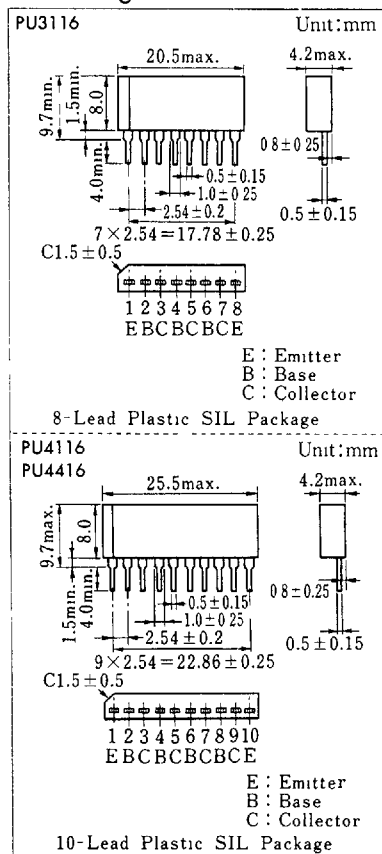
Electrical Characteristics ($T_c=25^\circ\text{C}$)

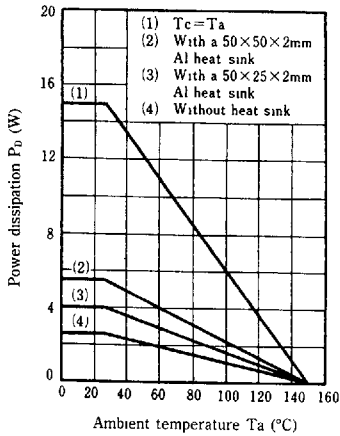
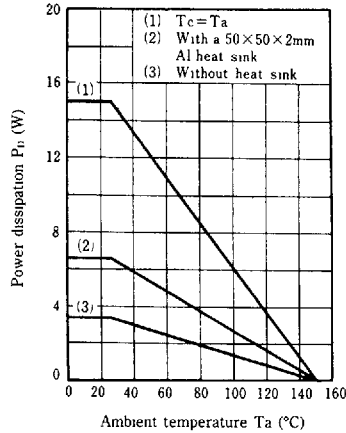
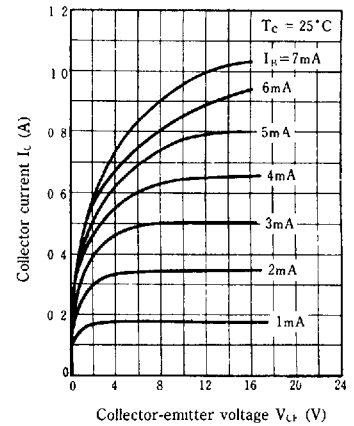
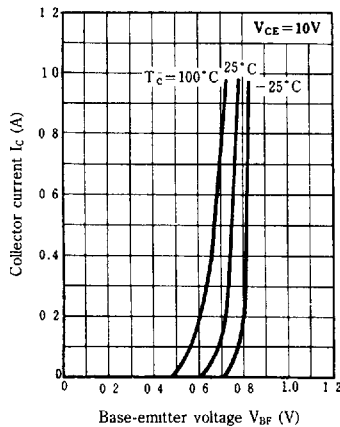
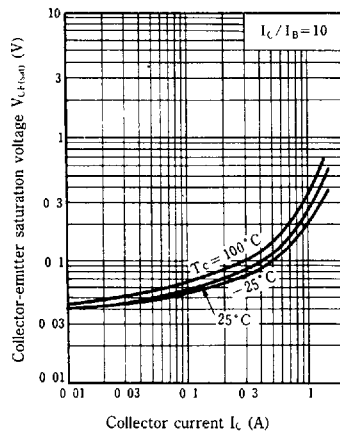
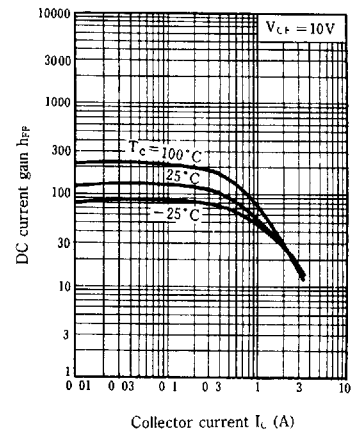
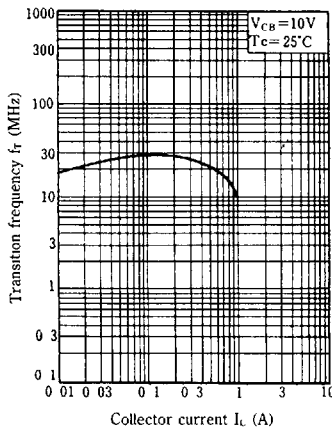
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=200\text{V}, I_E=0$			50	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			50	μA
Collector-base voltage	V_{CBO}	$I_C=500\mu\text{A}, I_E=0$	200			V
Collector-emitter voltage	V_{CEO}	$I_C=5\text{mA}, I_B=0$	150			V
Emitter-base voltage	V_{EBO}	$I_E=500\mu\text{A}, I_C=0$	6			V
DC current gain	h_{FE1}	$V_{CE}=10\text{V}, I_C=150\text{mA}$	60		240	
	h_{FE2}	$V_{CE}=10\text{V}, I_C=400\text{mA}$	50			
Base-emitter voltage	V_{BE}	$V_{CE}=10\text{V}, I_C=400\text{mA}$			1	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=1\text{MHz}$		20		MHz

Inner Circuit



Package Dimensions



$P_D - T_a$ (PU3116) $P_D - T_a$ (PU4116, PU4416) $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_C$ 

Area of safe operation (ASO)

