

PU3110, PU4110, PU4410

Silicon NPN Triple-Diffused Planar Type

Power Amplifier, Switching

Complementary Pair with PU3210, PU4210, PU4510

Features

- High DC current gain (h_{FE}) and good linearity
- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- PU3110: 3 NPN elements
- PU4110: 4 NPN elements
- PU4410: 2 NPN elements

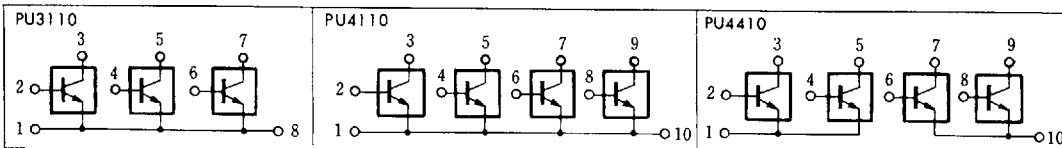
Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	60	V
Emitter-base voltage	V_{EBO}	6	V
Peak collector current	I_{CP}	5	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}	$-55 \sim +150$	$^\circ\text{C}$

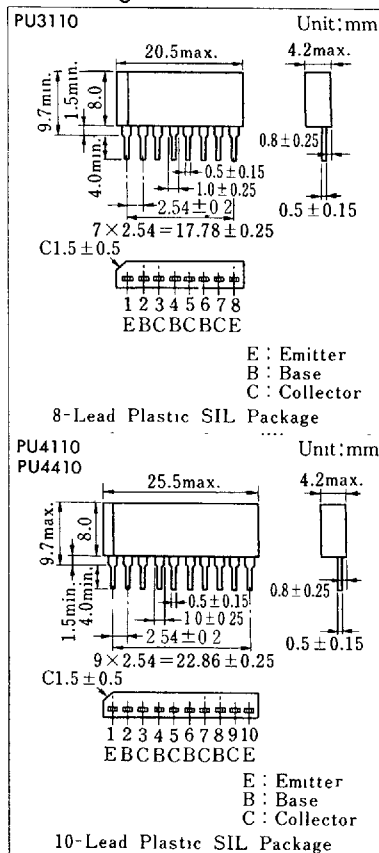
Electrical Characteristics ($T_c=25^\circ\text{C}$)

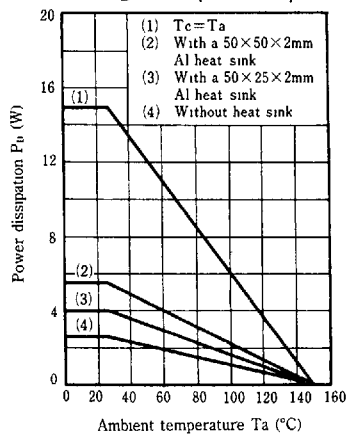
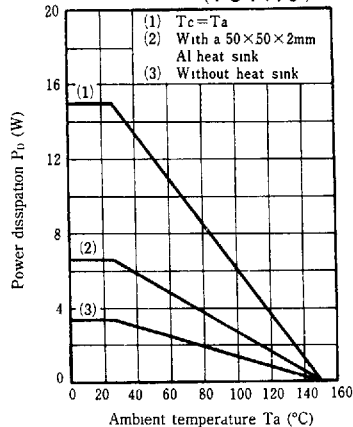
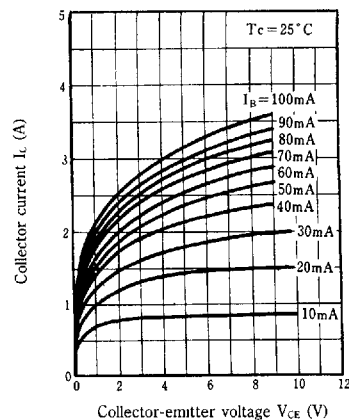
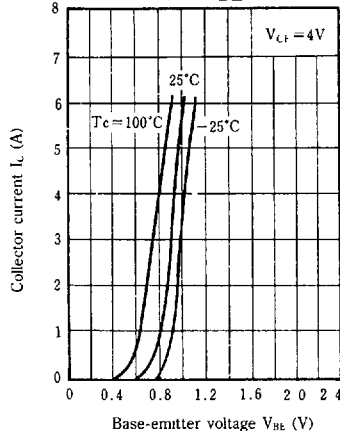
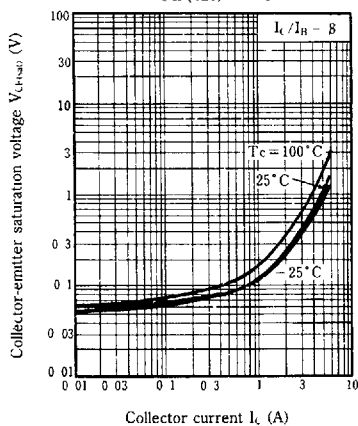
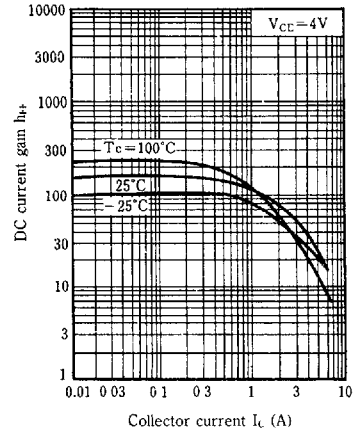
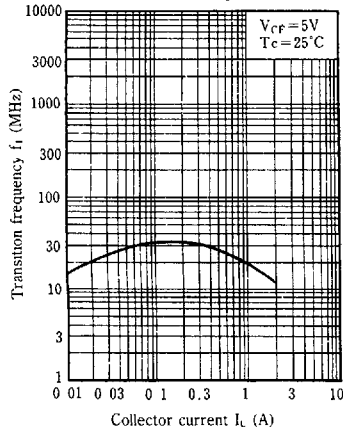
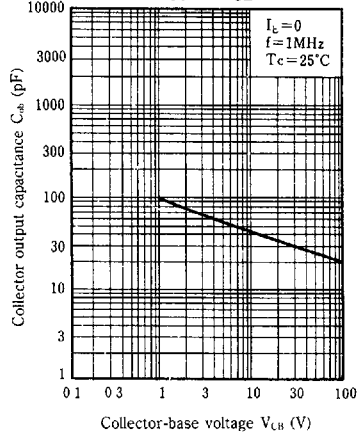
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CIS}	$V_{CE}=60\text{V}, V_{BE}=0$			200	μA
	I_{CEO}	$V_{CE}=30\text{V}, I_B=0$			300	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$			1	mA
Collector-emitter voltage	V_{CE0}	$I_C=30\text{mA}, I_B=0$	60			V
DC current gain	h_{FE1}	$V_{CE}=4\text{V}, I_C=1\text{A}$	70		250	
	h_{FE2}	$V_{CE}=4\text{V}, I_C=3\text{A}$	10			
Base-emitter voltage	V_{BE}	$V_{CE}=4\text{V}, I_C=3\text{A}$			1.8	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3\text{A}, I_B=0.375\text{A}$			1.2	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}	$I_C=1\text{A}, I_{B1}=0.1\text{A}, I_{B2}=-0.1\text{A}$		0.5		μs
Storage time	t_{stg}			2.5		μs
Fall time	t_f			0.4		μs

Inner Circuit



Package Dimensions



$P_D - T_a$ (PU3110) $P_D - T_a$ (PU4110, PU4410) $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_C$  $C_{ob} - V_{CB}$ 

Area of safe operation (ASO)

