

# PU3110, PU4110, PU4410

## Package Dimensions

### Silicon NPN Triple-Diffused Planar Type

Power Amplifier, Switching

Complementary Pair with PU3210, PU4210, PU4510

#### Features

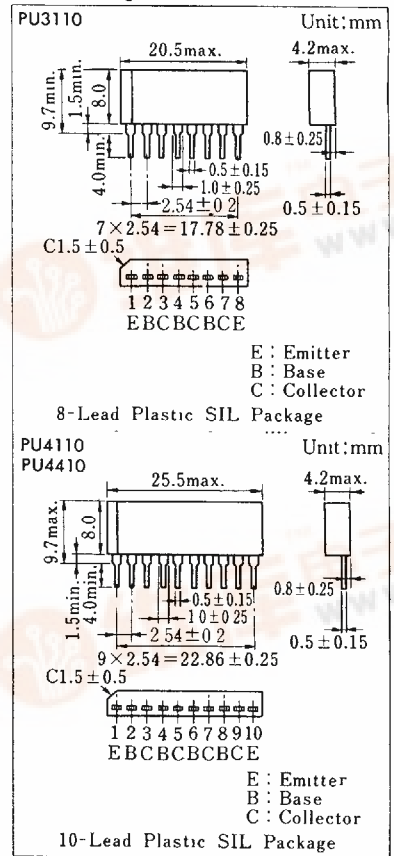
- High DC current gain ( $h_{FE}$ ) and good linearity
- Low collector-emitter saturation voltage ( $V_{CE(sat)}$ )
- PU3110: 3 NPN elements
- PU4110: 4 NPN elements
- PU4410: 2 NPN elements

#### 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 ~ +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	$\mu\text{A}$
	$I_{CEO}$	$V_{CE}=30\text{V}, I_B=0$			300	$\mu\text{A}$
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		$\mu\text{s}$
Storage time	$t_{stg}$			2.5		$\mu\text{s}$
Fall time	$t_f$			0.4		$\mu\text{s}$



#### Inner Circuit

