

# PU4310

## Silicon NPN/PNP Epitaxial Planar Type

Power Amplifier, Switching

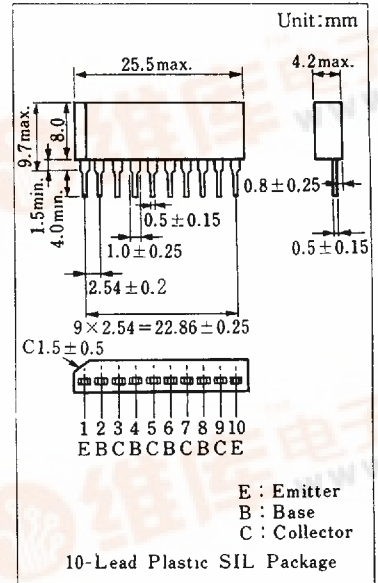
### ■ Features

- High DC current gain ( $h_{FE}$ ) and good linearity
- Low collector-emitter saturation voltage ( $V_{CE(sat)}$ )
- 2 NPN elements + 2 PNP elements

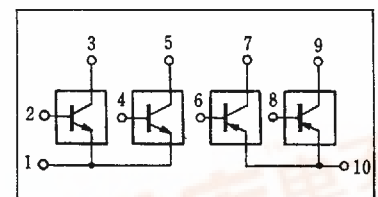
### ■ Absolute Maximum Ratings ( $T_c=25^\circ C$ )

Item	Symbol	Value	Unit
Collector-base voltage	$V_{CBO}$	$\pm 60$	V
Collector-emitter voltage	$V_{CEO}$	$\pm 60$	V
Emitter-base voltage	$V_{EBO}$	$\pm 6$	V
Peak collector current	$I_{CP}$	$\pm 5$	A
Collector current	$I_C$	$\pm 3$	A
Base current	$I_B$	$\pm 1$	A
Power dissipation	$P_D$	15	W
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^\circ C$

### ■ Package Dimensions



### ■ Inner Circuit



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

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	$I_{CES}$	$V_{CE} = \pm 60V, I_E = 0$			$\pm 200$	$\mu A$
	$I_{CEO}$	$V_{CE} = \pm 30V, I_B = 0$			$\pm 300$	$\mu A$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = \pm 6V, I_C = 0$			$\pm 1000$	$\mu A$
Collector-emitter voltage	$V_{CEO}$	$I_C = \pm 30mA, I_B = 0$	$\pm 60$			V
DC current gain	$h_{FE1}$	$V_{CE} = \pm 4V, I_C = \pm 1A$	70		250	
	$h_{FE2}$	$V_{CE} = \pm 4V, I_C = \pm 3A$	10			
Base-emitter voltage	$V_{BE}$	$V_{CE} = \pm 4V, I_C = \pm 3A$			$\pm 1.8$	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = \pm 3A, I_B = \pm 0.375A$			$\pm 1.2$	V
Transition frequency	$f_T$	$V_{CE} = \pm 5V, I_C = \pm 0.5A, f = 10MHz$		30		MHz
Turn-on time	$t_{on}$	$I_C = \pm 1A, I_{B1} = \pm 0.1A, I_{B2} = \mp 0.1A$			(typ.) NPN: 0.5, PNP: 0.5	$\mu s$
Storage time	$t_{stg}$				(typ.) NPN: 2.5, PNP: 1.2	$\mu s$
Fall time	$t_f$				(typ.) NPN: 0.4, PNP: 0.3	$\mu s$

