

PU4310

Silicon NPN/PNP Epitaxial Planar Type

Power Amplifier, Switching

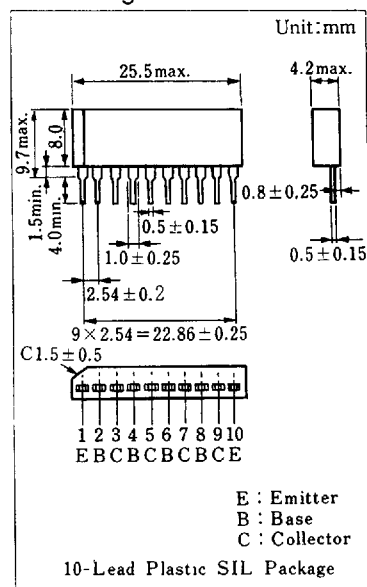
■ Features

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

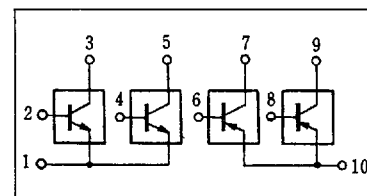
■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	± 60	V
Collector-emitter voltage	V_{CEO}	± 60	V
Emitter-base voltage	V_{EB0}	± 6	V
Peak collector current	I_{CP}	± 5	A
Collector current	I_C	± 3	A
Base current	I_B	± 1	A
Power dissipation	P_D	15	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

■ Package Dimensions

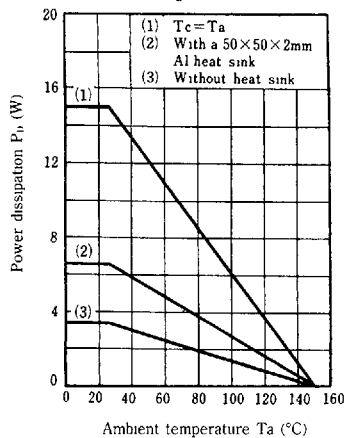
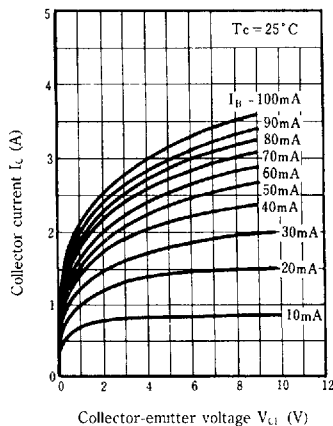
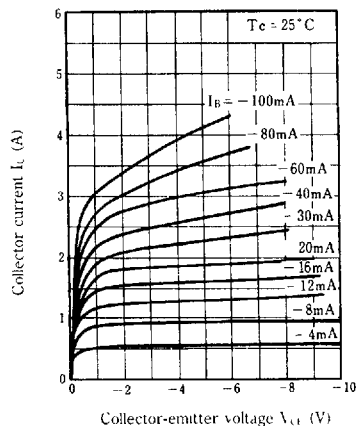
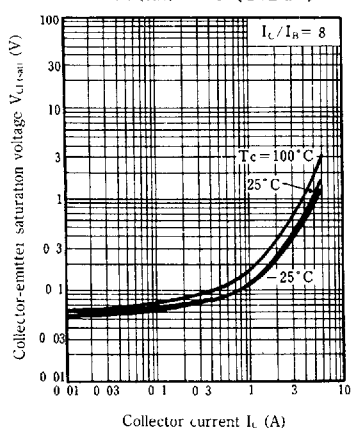
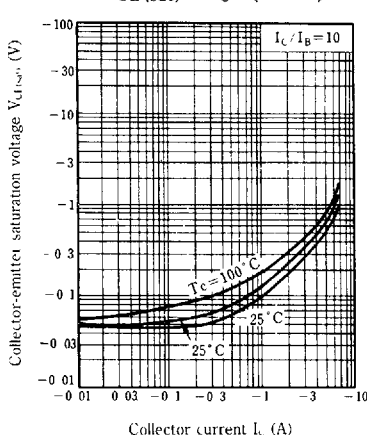
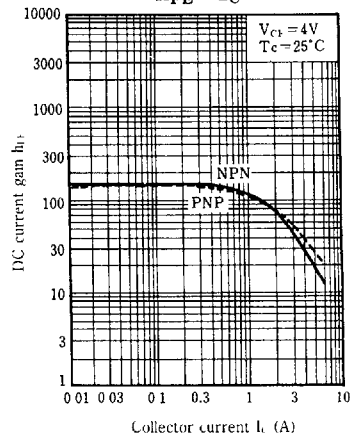
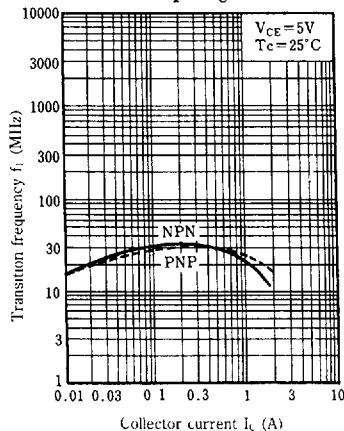
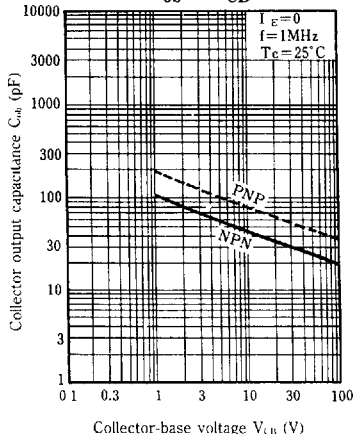


■ Inner Circuit



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

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

$P_C - T_a$  $I_C - V_{CE}$ (NPN) $I_C - V_{CE}$ (PNP) $V_{CE(sat)} - I_C$ (NPN) $V_{CE(sat)} - I_C$ (PNP) $h_{FE} - I_C$  $f_T - I_C$  $C_{ob} - V_{CB}$ 

Area of safe operation (ASO)

