

PU4319

Silicon NPN/PNP Planar Darlington Type

Power Amplifier, Switching

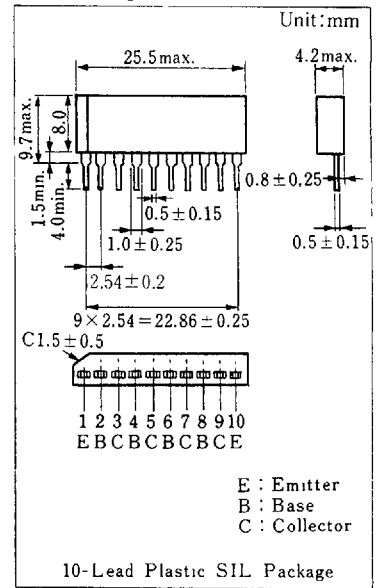
■ Features

- High DC current gain (h_{FE})
- High speed switching
- 2 NPN elements + 2 PNP elements

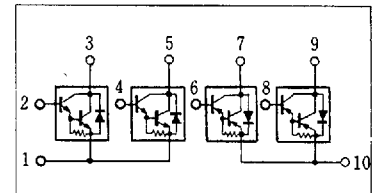
■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	± 60	V
Collector-emitter voltage	V_{CEO}	± 60	V
Emitter-base voltage	V_{EBO}	± 5	V
Peak collector current	I_{CP}	± 4	A
Collector current	I_C	± 2	A
Power dissipation	P_D	15	W
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{sig}	$-55 \sim +150$	$^\circ\text{C}$

■ Package Dimensions



■ Inner Circuit



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

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = \pm 60\text{V}, I_E = 0$			± 1	mA
	I_{CEO}	$V_{CE} = \pm 30\text{V}, I_B = 0$			± 2	mA
Emitter cutoff current	I_{EBO}	$V_{EB} = \pm 5\text{V}, I_C = 0$			± 2	mA
Collector-emitter voltage	V_{CEO}	$I_C = \pm 30\text{mA}, I_B = 0$	60			V
DC current gain	h_{FE1}	$V_{CE} = \pm 4\text{V}, I_C = \pm 1\text{A}$	1000			
	h_{FE2}^*	$V_{CE} = \pm 4\text{V}, I_C = \pm 2\text{A}$	1000		10000	
Base-emitter voltage	V_{BE}	$V_{CE} = \pm 4\text{V}, I_C = \pm 2\text{A}$			± 2.8	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = \pm 2\text{A}, I_B = \pm 8\text{mA}$			± 2.8	V
Transition frequency	f_T	$V_{CE} = 10\text{V}, I_C = 0.5\text{A}, f = 1\text{MHz}$		20		MHz
Turn-on time	t_{on}	$I_C = \pm 2\text{A}, I_{B1} = \pm 8\text{mA}, I_{B2} = \mp 8\text{mA}$	(typ.) NPN: 0.5, PNP: 0.4			μs
Storage time	t_{stg}		(typ.) NPN: 4, PNP: 1.5			μs
Fall time	t_f		(typ.) NPN: 1, PNP: 0.5			μs

* h_{FE2} Classifications

Class	Free	Q	P
h_{FE2}	1000~10000	1000~5000	2000~10000

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