

PU3127, PU4127

Silicon NPN Triple-Diffused Planar Type

Power Amplifier, Switching

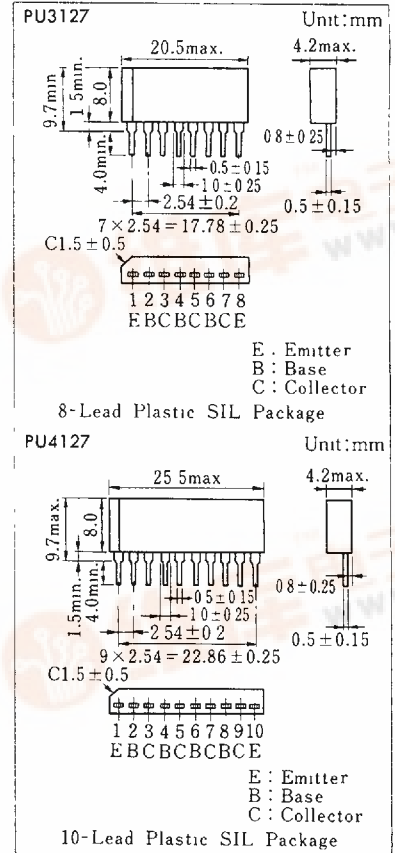
■ Features

- High DC current gain (h_{FE})
- Good linearity of DC current gain (h_{FE})
- PU3127: 3 NPN elements
- PU4127: 4 NPN elements

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

Item	Symbol	Value	Unit
Collector-base voltage	V_{CB0}	35 ± 5	V
Collector-emitter voltage	V_{CE0}	35 ± 5	V
Emitter-base voltage	V_{EB0}	6	V
Peak collector current	I_{CP}	6	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}	$-55 \sim +150$	$^\circ\text{C}$

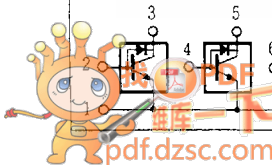
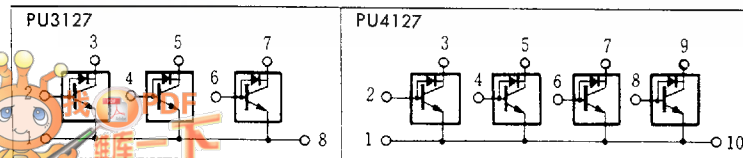
■ Package Dimensions



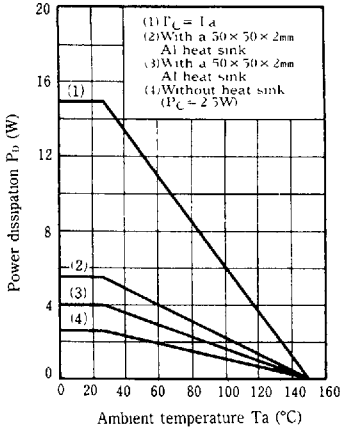
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$			100	μA
	I_{CEO}	$V_{CE}=30\text{V}, I_{B1}=0$			100	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$			100	μA
Collector-emitter voltage	V_{CF0}	$I_C=25\text{mA}, I_B=0$	30		40	V
DC current gain	h_{FE}	$V_{CE}=4\text{V}, I_C=0.5\text{A}$	500		2500	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2\text{A}, I_B=0.05\text{A}$			1	V
Transition frequency	f_T	$V_{CF}=12\text{V}, I_C=0.2\text{A}, f=10\text{MHz}$		50		MHz

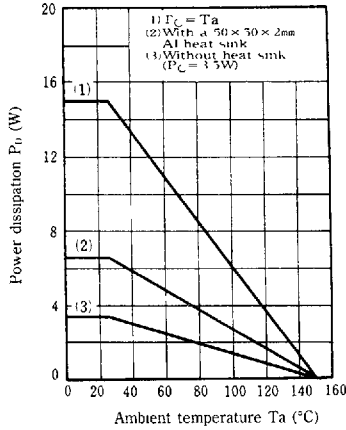
■ Inner Circuit



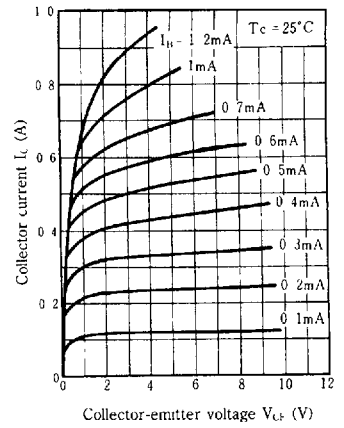
$P_D - T_a$ (PU3127)



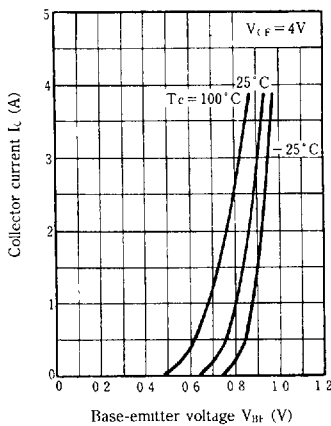
$P_D - T_a$ (PU4127)



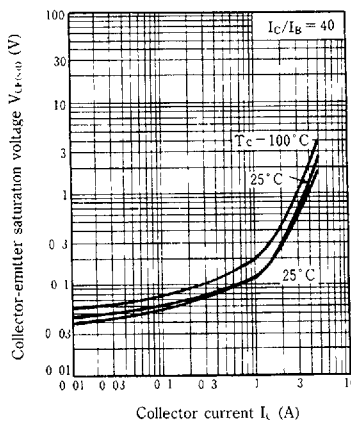
$I_C - V_{CE}$



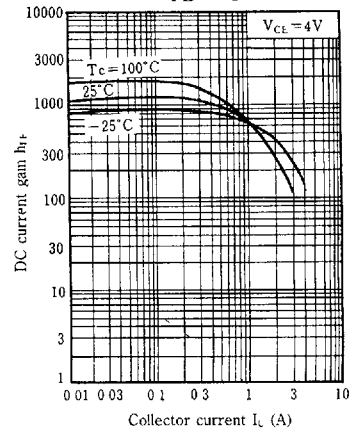
$I_C - V_{BE}$



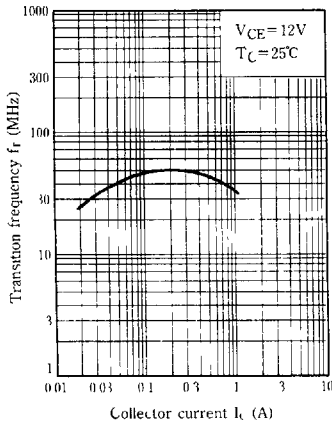
$V_{CE(sat)} - I_C$



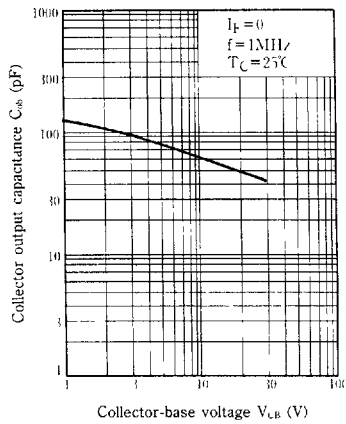
$h_{FE} - I_C$



$f_T - I_C$



$C_{ob} - V_{CB}$



Safety operation area-forward bias (ASO)

