

PU3118, PU4118, PU4418

Silicon NPN Triple-Diffused Planar Type

Power Amplifier, Switching
Complementary Pair with PU3218, PU4218, PU4518

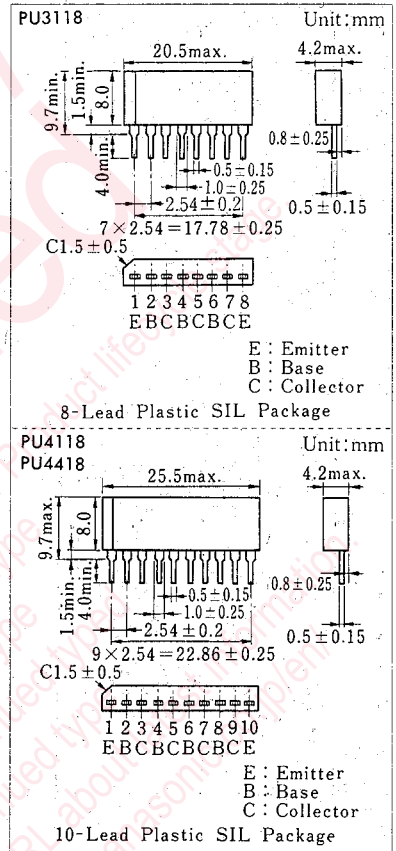
■ Features

- High DC current gain (h_{FE})
- Good linearity of DC current gain (h_{FE})
- PU3118: 3 NPN elements.
- PU4118: 4 NPN elements.
- PU4418: 2 NPN elements \times 2 (4 elements in total)

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

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	200	V
Collector-emitter voltage	V_{CEO}	150	V
Emitter-base voltage	V_{EBO}	6	V
Peak collector current	I_{CP}	2.5	A
Collector current	I_C	1	A
Power dissipation	P_D	15	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

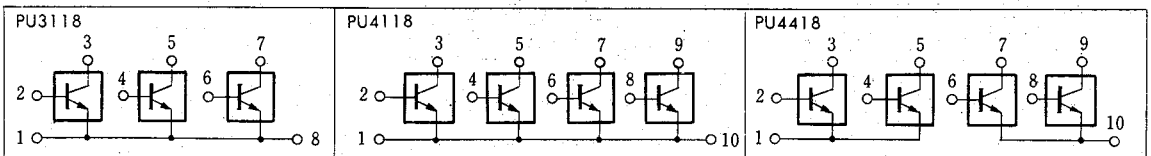
■ Package Dimensions



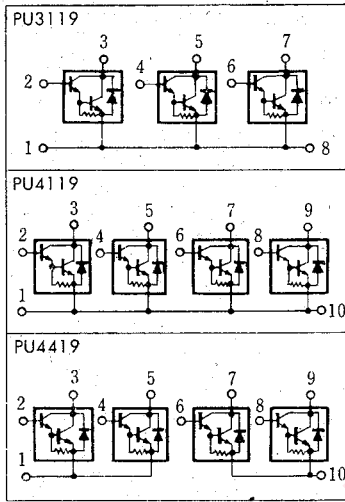
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=200\text{V}, I_F=0$			100	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$			100	μA
Collector-emitter voltage	V_{CEO}	$I_C=25\text{mA}, I_B=0$	150			V
DC current gain	h_{FE}	$V_{CE}=4\text{V}, I_C=0.2\text{A}$	500		2000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=0.5\text{A}, I_B=0.02\text{A}$			1	V
Transition frequency	f_T	$V_{CE}=4\text{V}, I_C=0.1\text{A}, f=10\text{MHz}$		25		MHz

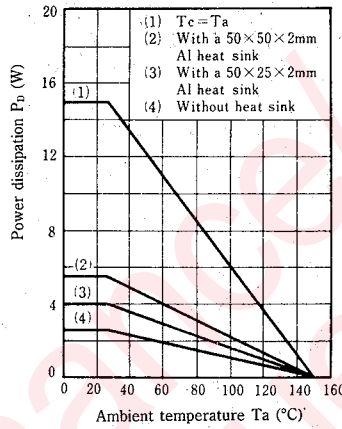
■ Inner Circuit



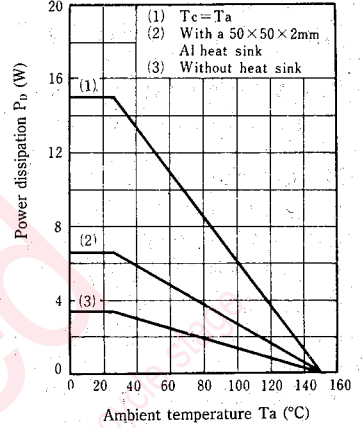
■ Inner Circuit



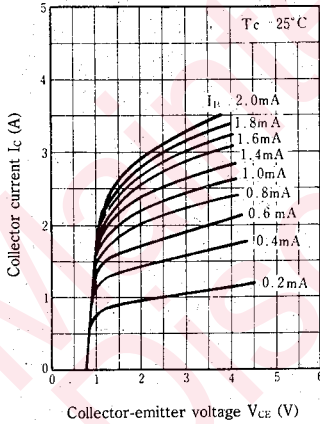
$P_D - T_a$ (PU3119)



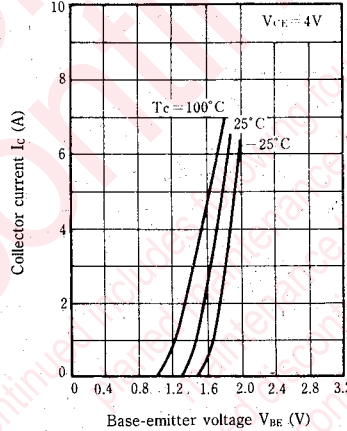
$P_D - T_a$ (PU4119, PU4419)



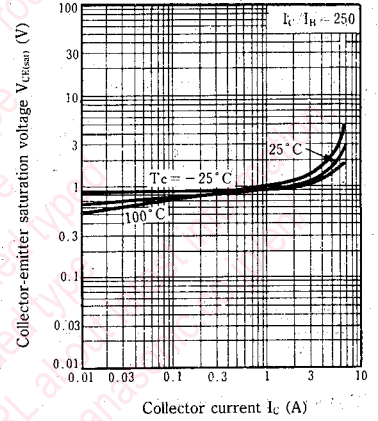
$I_C - V_{CE}$



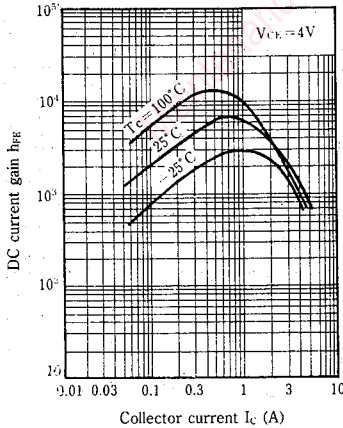
$I_C - V_{BE}$



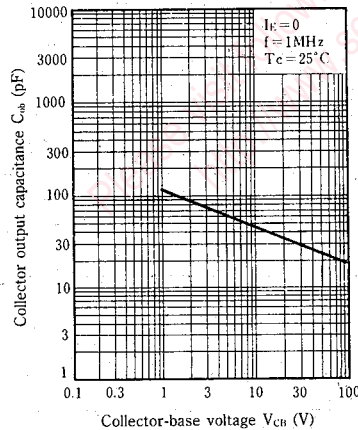
$V_{CE(sat)} - I_C$



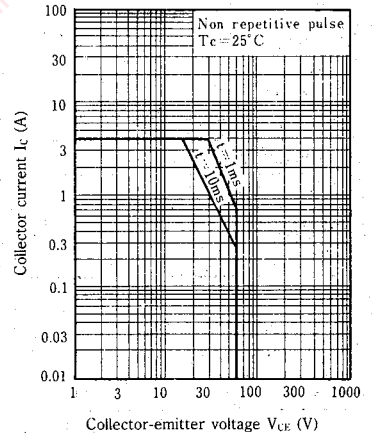
$h_{FE} - I_C$



$C_{ob} - V_{CB}$



Area of safe operation (ASO)



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