PU3220, PU4220, PU4520

Silicon NPN Epitaxial Planar Darlington Type

Power Amplifier, Switching
Complementary Pair with PU3120, PU4120, PU4420

■ Features

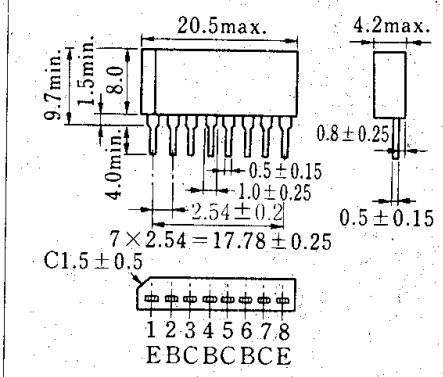
- High DC current gain (h_{FE})
- High speed switching
- PU3220: 3 NPN elements
- PU4220: 4 NPN elements
- PU4520: 2 NPN elements (4 elements in total)

■ Absolute Maximum Ratings (Tc=25°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}	−8	A
Collector current	I_C	−4	A
Power dissipation	P_D	15	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55~+150	°C

■ Package Dimensions

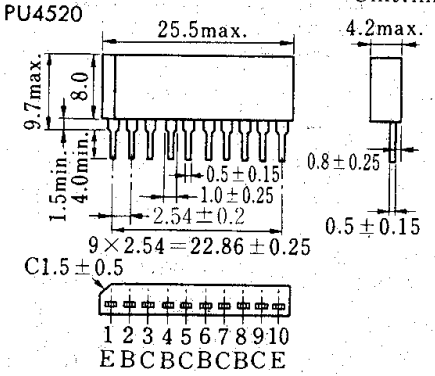
PU3220 Unit:mm



E : Emitter
B : Base
C : Collector

8-Lead Plastic SIL Package

PU4220
PU4520 Unit:mm



E : Emitter
B : Base
C : Collector

10-Lead Plastic SIL Package

■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	V_{CB}=−60V, I_E=0			−200	μA
	I_{CEO}	V_{CE}=−30V, I_B=0			−500	μA
Emitter cutoff current	I_{EBO}	V_{EB}=−5V, I_C=0			−2	mA
Collector-emitter voltage	V_{CEO}	I_C=−30mA, I_B=0	−60			V
DC current gain	h_{FE1}	V_{CE}=−3V, I_C=−0.5A	1000			
	h_{FE2}*	V_{CE}=−3V, I_C=−3A	1000		10000	
Base-emitter voltage	V_{BE}	V_{CE}=−3V, I_C=−3A			−2.5	V
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C=−3A, I_B=−12mA			−2	V
Transition frequency	f_T	V_{CE}=−10V, I_C=−0.5A, f=1MHz		15		MHz
Turn-on time	t_{on}	I_C=−3A, I_{B1}=−12mA, I_{B2}=12mA		0.3		μs
Storage time	t_{stg}			2		μs
Fall time	t_f			0.5		μs

h_{FE2} Classifications

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