

PU3211, PU4211, PU4511**Silicon NPN Epitaxial Planar Type**

Power Amplifier, Switching

Complementary Pair with PU3111, PU4111, PU4411

■ Features

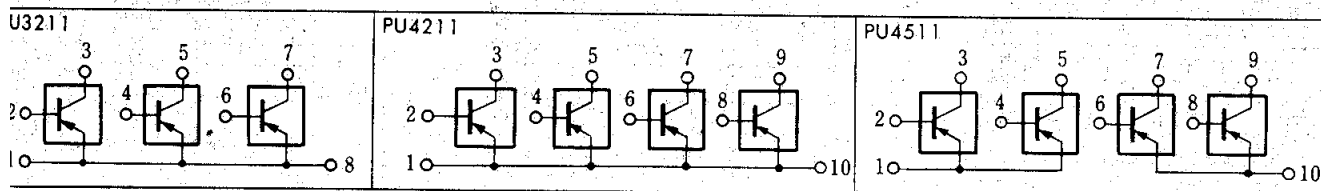
- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- Good linearity of DC current gain (h_{FE})
- High collector current (I_C)
- PU3211: 3 NPN elements
- PU4211: 4 NPN elements
- PU4511: 2 NPN elements (4 elements in total)

■ 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}	-8	A
Collector current	I_C	-4	A
Power dissipation	P_D	15	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

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

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CES}	$V_{CE} = -60\text{V}, V_{BE} = 0$			-400	μA
	I_{CEO}	$V_{CE} = -30\text{V}, I_B = 0$			-700	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-1	V
Collector-emitter voltage	V_{CEO}	$I_C = -30\text{mA}, I_B = 0$	-60			V
DC current gain	h_{FE1}	$V_{CE} = -4\text{V}, I_C = -1\text{A}$	70		250	
	h_{FE2}	$V_{CE} = -4\text{V}, I_C = -3\text{A}$	15			
Base-emitter voltage	V_{BE}	$V_{CE} = -4\text{V}, I_C = -3\text{A}$			-2	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -4\text{A}, I_B = -0.4\text{A}$			-1.5	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -0.1\text{A}, f = 1\text{MHz}$		20		MHz
Turn-on time	t_{on}	$I_C = -4\text{A}, I_{B1} = -0.4\text{A}, I_{B2} = 0.4\text{A}$		0.2		μs
Storage time	t_{stg}			0.5		μs
Fall time	t_f			0.2		μs

■ Inner Circuit**■ Package Dimensions**