

# PU42C26

## Silicon NPN Epitaxial Planar Type

### Power Amplifier

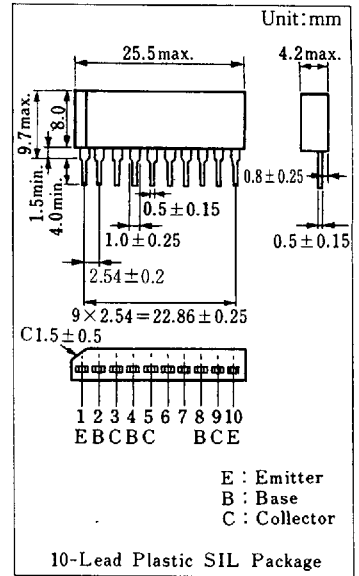
#### ■ Features

- High DC current gain ( $h_{FE}$ )
- Low collector-emitter saturation voltage ( $V_{CE(sat)}$ )
- 3 PNP elements

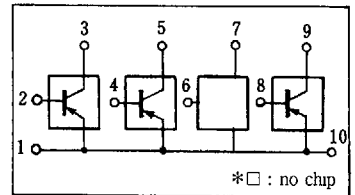
#### ■ Absolute Maximum Ratings ( $T_c=25^\circ\text{C}$ )

Item	Symbol	Value	Unit
Collector-base voltage	$V_{CBO}$	-60	V
Collector-emitter voltage	$V_{CEO}$	-60	V
Emitter-base voltage	$V_{EBO}$	-6	V
Peak collector current	$I_{CP}$	-4	A
Collector current	$I_C$	-2	A
power dissipation ( $T_c=25^\circ\text{C}$ )	$P_C$	15	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{str}$	-55 ~ +150	$^\circ\text{C}$

#### ■ Package Dimensions



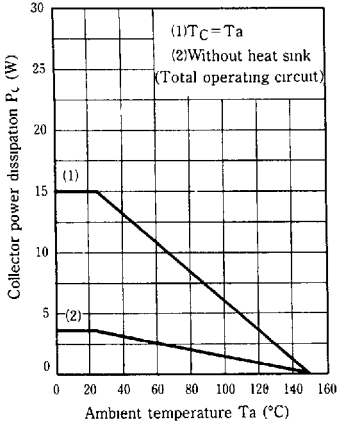
#### ■ Inner Circuit



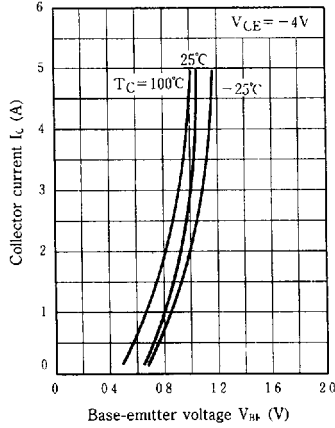
#### ■ Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	$I_{CFS}$	$V_{CE} = -60\text{V}, V_{BE} = 0$			-200	$\mu\text{A}$
Collector cutoff current	$I_{CEO}$	$V_{CE} = -30\text{V}, I_B = 0$			-300	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -6\text{V}, I_C = 0$			-1	mA
Collector-emitter voltage	$V_{CEO}$	$I_C = -30\text{mA}, I_B = 0$	-60			V
DC current gain	$h_{FE1}$	$V_{CE} = -4\text{V}, I_C = -0.1\text{A}$	35			
	$h_{FE2}$	$V_{CE} = -4\text{V}, I_C = -1\text{A}$	100		280	
Base-emitter voltage	$V_{BE}$	$V_{CE} = -4\text{V}, I_C = -1\text{A}$			-1.2	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2\text{A}, I_B = -0.2\text{A}$			-2.0	V
Transition frequency	$f_T$	$V_{CE} = -10\text{V}, I_C = -0.5\text{A}, f = 10\text{MHz}$		25		MHz
Turn-on time	$t_{on}$	$I_C = -1\text{A}$		0.1		$\mu\text{s}$
Storage time	$t_{stg}$	$I_{B1} = -0.1\text{A}, I_{B2} = 0.1\text{A}$		1.5		$\mu\text{s}$
Collector current fall time	$t_f$	$V_{CC} = -50\text{V}$		0.3		$\mu\text{s}$

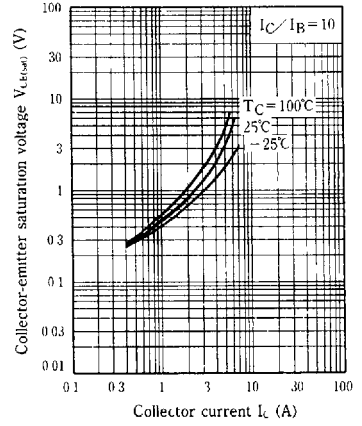
**$P_C - T_a$**



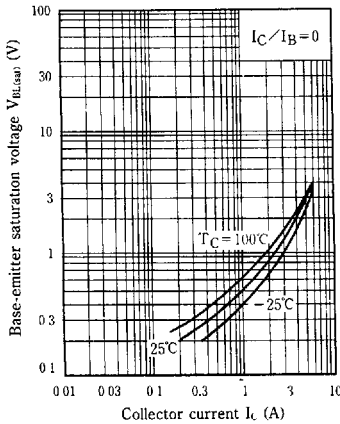
**$I_C - V_{BE}$**



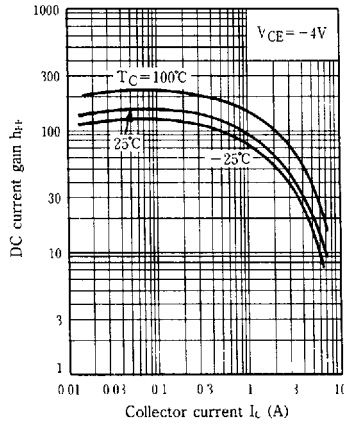
**$V_{CE(sat)} - I_C$**



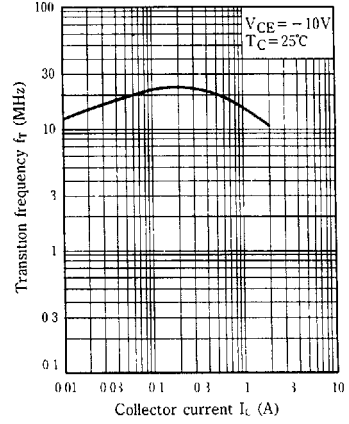
**$V_{BE(sat)} - I_C$**



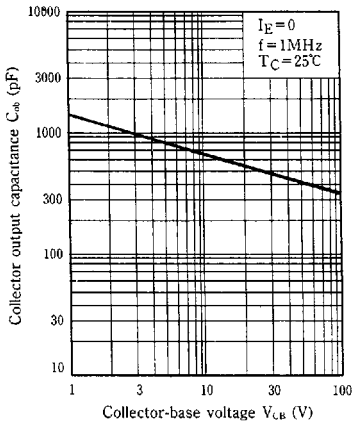
**$h_{FE} - I_C$**



**$f_T - I_C$**



**$C_{ob} - V_{CB}$**



**Safety operation area-forward bias (ASO)**

