2SB1421

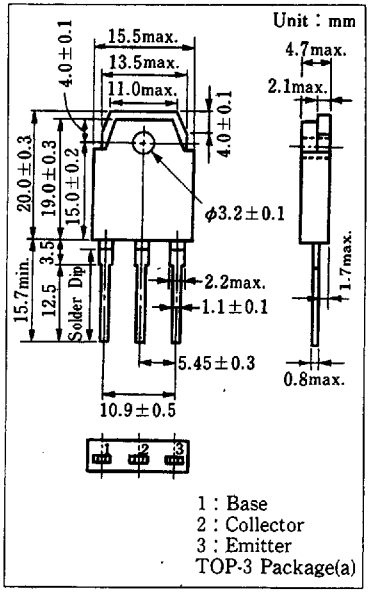
Silicon PNP Triple-Diffused Planar Type

High Power Amplifier
Complementary Pair with 2SD2140

■ Features

- Very good linearity of DC current gain (h_{FE})
- Wide area of safety operation (ASO)
- High transition frequency (f_T)
- Optimum for hi-fi audio amplifier output

■ Package Dimensions



■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage		V_{CBO}	−140	V
Collector-emitter voltage		V_{CEO}	−140	V
Emitter-base voltage		V_{EBO}	−5	V
Peak collector current		I_{CP}	−12	A
Collector current		I_C	−7	A
Collector power dissipation	T_C=25°C	P_C	80	W
	Ta=25°C		2.5	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55~+150	°C

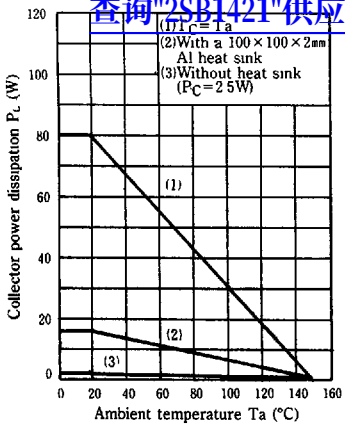
■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	V_{CB}=−140V, I_E=0			−50	μA
Emitter cutoff current	I_{EBO}	V_{EB}=−3V, I_C=0			−50	μA
DC current gain	h_{FE1}	V_{CE}=−5V, I_C=−20mA	20			
	h_{FE2}*	V_{CE}=−5V, I_C=−1A	60		200	
	h_{FE3}	V_{CE}=−5V, I_C=−5A	20			
Base-emitter voltage	V_{BE}	V_{CE}=−5V, I_C=−5A			−1.8	V
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C=−5A, I_B=−0.5A			−2.0	V
Transition frequency	f_T	V_{CE}=−5V, I_C=−0.5A, f=1MHz		15		MHz
Collector output capacitance	C_{ob}	V_{CB}=−10V, I_E=0, f=1MHz		200		pF

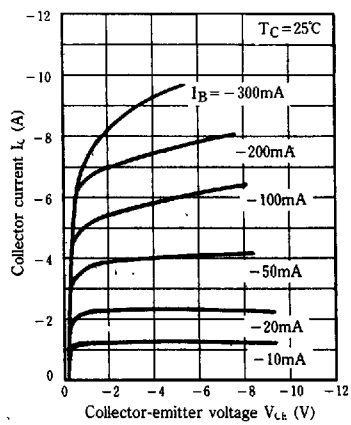
*h_{FE2} Classifications

Class	Q	S	P
h_{FE2}	60~120	80~160	100~200

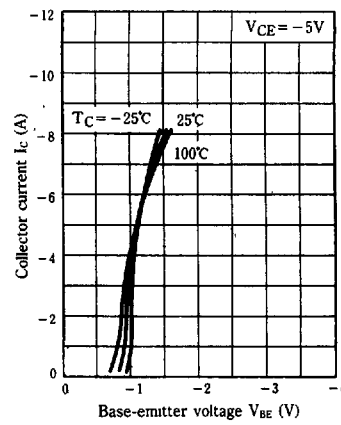
$P_C - Ta$



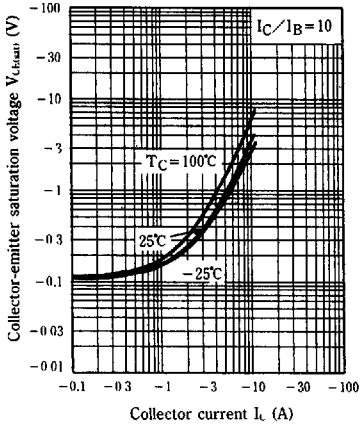
$I_C - V_{CE}$



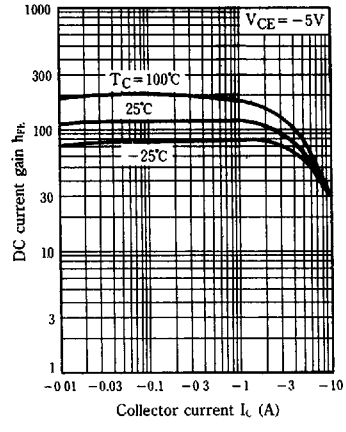
$I_C - V_{BE}$



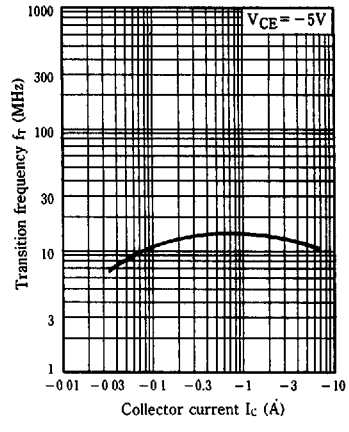
$V_{CE(sat)} - I_C$



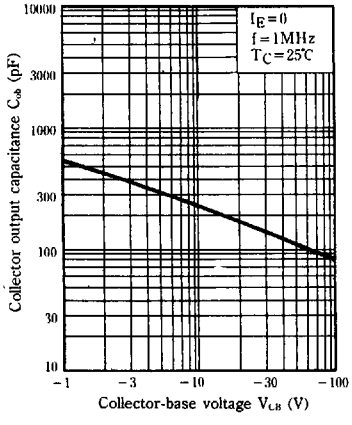
$h_{FE} - I_C$



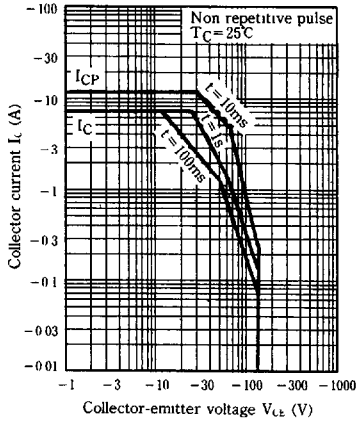
$f_T - I_C$



$C_{ob} - V_{CB}$



Safety operation area-forward bias (ASO)



$R_{th(t)}-t$