

2SB941, 2SB941A

Silicon PNP epitaxial planar type

For low-frequency power amplification

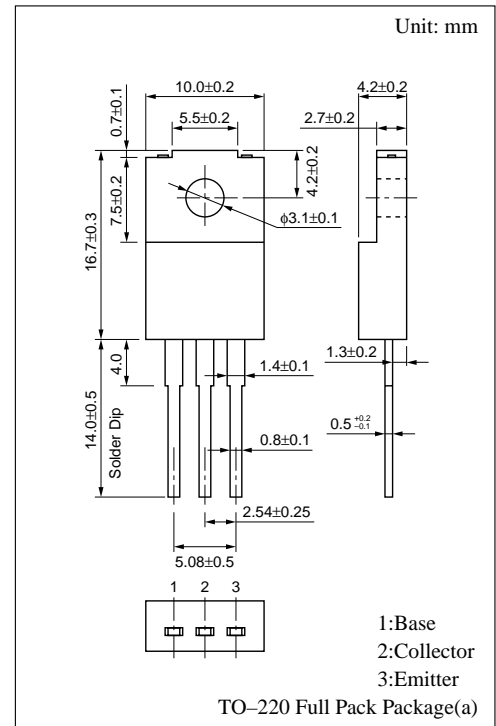
Complementary to 2SD1266 and 2SD1266A

Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Full-pack package which can be installed to the heat sink with one screw

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

Parameter	Symbol	Ratings	Unit	
Collector to base voltage	2SB941 2SB941A	V_{CBO}	-60 -80	V
Collector to emitter voltage	2SB941 2SB941A	V_{CEO}	-60 -80	V
Emitter to base voltage		V_{EBO}	-5	V
Peak collector current		I_{CP}	-5	A
Collector current		I_C	-3	A
Collector power dissipation	$T_C=25^\circ\text{C}$ $T_a=25^\circ\text{C}$	P_C	35 2	W
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature		T_{stg}	-55 to +150	$^\circ\text{C}$



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

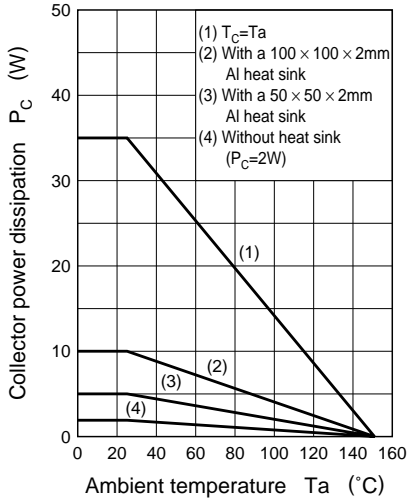
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	2SB941 2SB941A	I_{CES}	$V_{CE} = -60\text{V}, V_{BE} = 0$		-200	μA
			$V_{CE} = -80\text{V}, V_{BE} = 0$		-200	
Collector cutoff current	2SB941 2SB941A	I_{CEO}	$V_{CE} = -30\text{V}, I_B = 0$		-300	μA
			$V_{CE} = -60\text{V}, I_B = 0$		-300	
Emitter cutoff current		I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$		-1	mA
Collector to emitter voltage	2SB941 2SB941A	V_{CEO}	$I_C = -30\text{mA}, I_B = 0$	-60		V
				-80		
Forward current transfer ratio		h_{FE1}^*	$V_{CE} = -4\text{V}, I_C = -1\text{A}$	70		250
		h_{FE2}	$V_{CE} = -4\text{V}, I_C = -3\text{A}$	10		
Base to emitter voltage		V_{BE}	$V_{CE} = -4\text{V}, I_C = -3\text{A}$			-1.8
Collector to emitter saturation voltage		$V_{CE(sat)}$	$I_C = -3\text{A}, I_B = -0.375\text{A}$			-1.2
Transition frequency		f_T	$V_{CE} = -10\text{V}, I_C = -0.5\text{A}, f = 10\text{MHz}$		30	MHz
Turn-on time		t_{on}			0.5	μs
Storage time		t_{stg}	$I_C = -1\text{A}, I_{B1} = -0.1\text{A}, I_{B2} = 0.1\text{A}$		1.2	μs
Fall time		t_f			0.3	μs

* h_{FE1} Rank classification

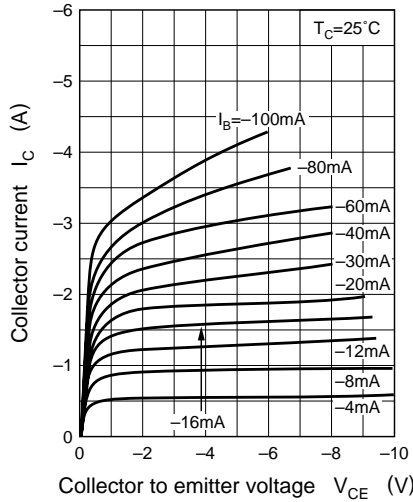
Rank	Q	P
h_{FE1}	70 to 150	120 to 250

Note: Ordering can be made by the common rank (PQ rank $h_{FE1} = 70$ to 250) in the rank classification.

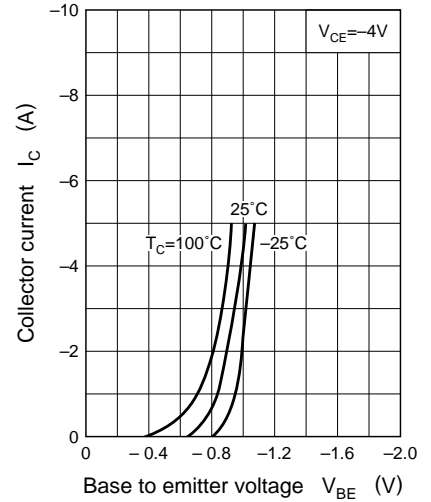
$P_C - T_a$



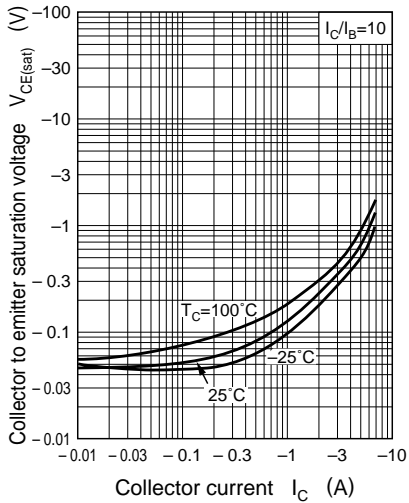
$I_C - V_{CE}$



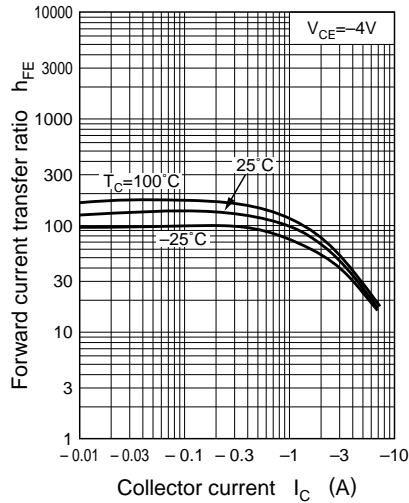
$I_C - V_{BE}$



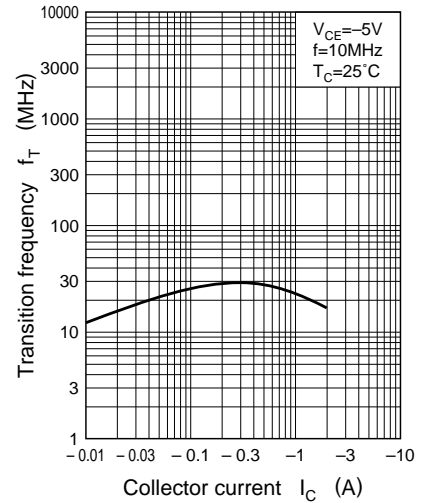
$V_{CE(sat)} - I_C$



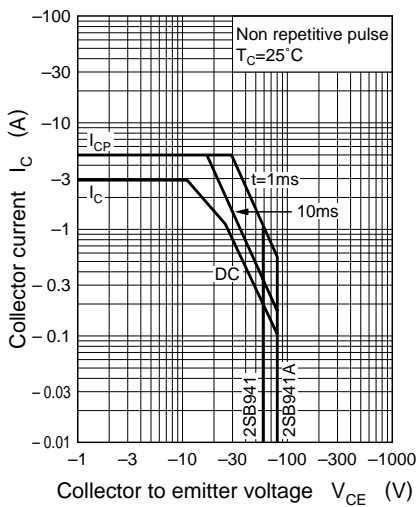
$h_{FE} - I_C$



$f_T - I_C$



Area of safe operation (ASO)



$R_{th(t)} - t$

