

# 2SB0941, 2SB0941A (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	Rating	Unit
Collector to base voltage	2SB0941	-60	V
	2SB0941A	-80	
Collector to emitter voltage	2SB0941	-60	V
	2SB0941A	-80	
Emitter to base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CP}$	-5	A
Collector current	$I_C$	-3	A
Collector power dissipation	$T_C = 25^\circ\text{C}$	35	W
	$T_a = 25^\circ\text{C}$	2	
Junction temperature	$T_J$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

### ■ Electrical Characteristics $T_C = 25^\circ\text{C}$

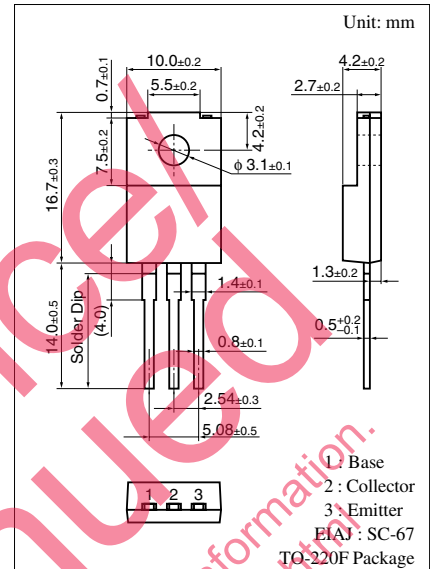
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	2SB0941	$V_{CE} = -60\text{ V}, V_{BE} = 0$			-200	$\mu\text{A}$
	2SB0941A					
Collector cutoff current	2SB0941	$V_{CE} = -30\text{ V}, I_B = 0$			-300	$\mu\text{A}$
	2SB0941A					
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -5\text{ V}, I_C = 0$			-1	mA
Collector to emitter voltage	2SB0941	$I_C = -30\text{ mA}, I_B = 0$	-60			V
	2SB0941A					
Forward current transfer ratio	$h_{FE1}^*$	$V_{CE} = -4\text{ V}, I_C = -1\text{ A}$	70		250	
		$V_{CE} = -4\text{ V}, I_C = -3\text{ A}$	10			
Base to emitter voltage	$V_{BE}$	$V_{CE} = -4\text{ V}, I_C = -3\text{ A}$			-1.8	V
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3\text{ A}, I_B = -0.375\text{ A}$			-1.2	V
Transition frequency	$f_T$	$V_{CE} = -10\text{ V}, I_C = -0.5\text{ A}, f = 10\text{ MHz}$		30		MHz
Turn-on time	$t_{on}$	$I_C = -1\text{ A}, I_{B1} = -0.1\text{ A}, I_{B2} = 0.1\text{ A}$		0.5		$\mu\text{s}$
Storage time	$t_{stg}$			1.2		$\mu\text{s}$
Fall time	$t_f$			0.3		$\mu\text{s}$

Note) \*: Rank classification

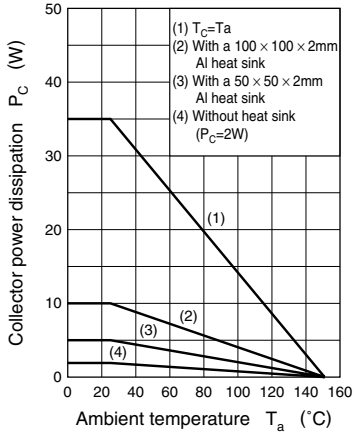
Rank	Q	P
$h_{FE1}$	70 to 150	120 to 250

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

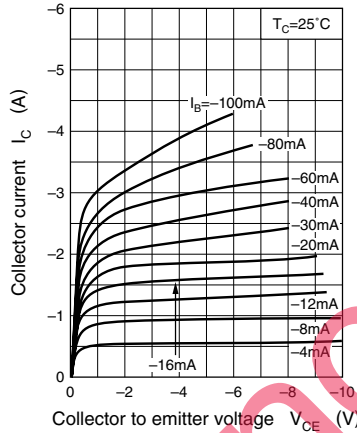
Note.) The Part numbers in the Parenthesis show conventional part number.



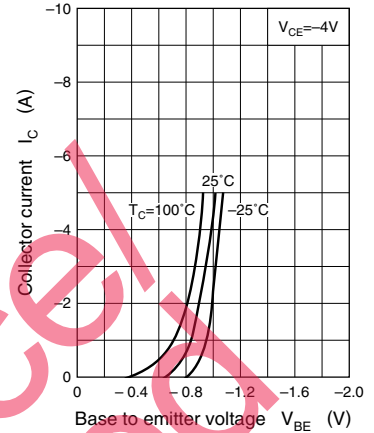
$P_C - T_a$



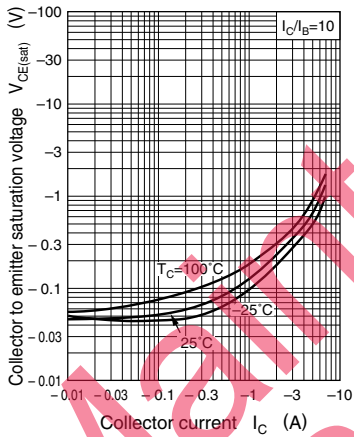
$I_C - V_{CE}$



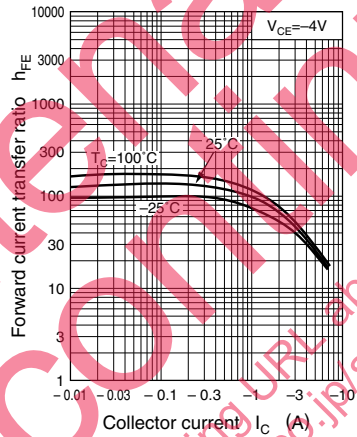
$I_C - V_{BE}$



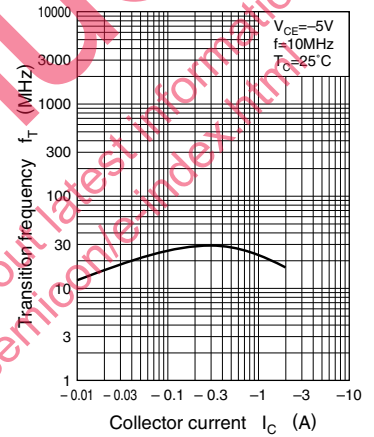
$V_{CE(sat)} - I_C$



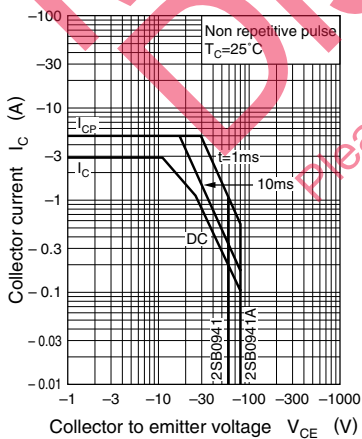
$h_{FE} - I_C$



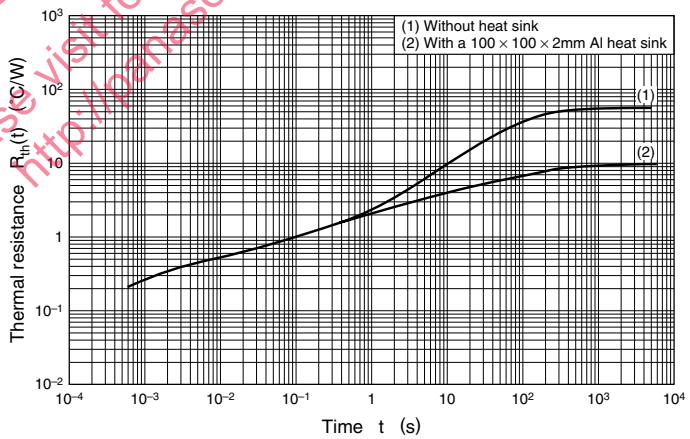
$f_T - I_C$



Area of safe operation (ASO)



$R_{th(t)} - t$



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