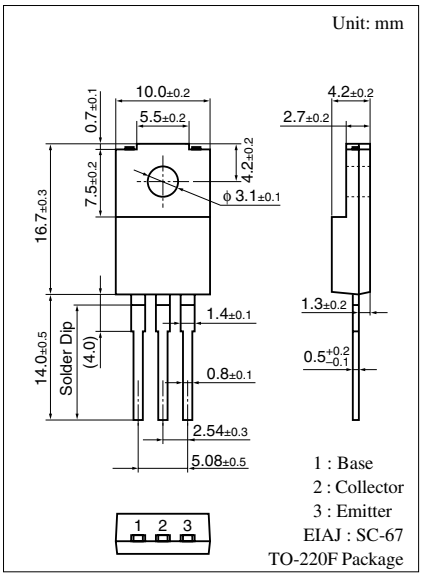
2SB0942, 2SB0942A (2SB942, 2SB942A)

Silicon PNP epitaxial planar type

For low-frequency power amplification

Complementary to 2SD1267 and 2SD1267A



■ 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 $T_C = 25°C$

Parameter		Symbol	Rating	Unit
Collector to base voltage	2SB0942	V_{CBO}	−60	V
	2SB0942A		−80	
Collector to emitter voltage	2SB0942	V_{CEO}	−60	V
	2SB0942A		−80	
Emitter to base voltage		V_{EBO}	−5	V
Peak collector current		I_{CP}	−8	A
Collector current		I_C	−4	A
Collector power dissipation	$T_C = 25°C$	P_C	40	W
	$T_a = 25°C$		2	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

■ Electrical Characteristics $T_C = 25°C$

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	2SB0942	I_{CES}	$V_{CE} = -60$ V, $V_{BE} = 0$			−400	μA
	2SB0942A		$V_{CE} = -80$ V, $V_{BE} = 0$			−400	
Collector cutoff current	2SB0942	I_{CEO}	$V_{CE} = -30$ V, $I_B = 0$			−700	μA
	2SB0942A		$V_{CE} = -60$ V, $I_B = 0$			−700	
Emitter cutoff current		I_{EBO}	$V_{EB} = -5$ V, $I_C = 0$			−1	mA
Collector to emitter voltage	2SB0942	V_{CEO}	$I_C = -30$ mA, $I_B = 0$	−60			V
	2SB0942A			−80			
Forward current transfer ratio		h_{FE1} *	$V_{CE} = -4$ V, $I_C = -1$ A	70		250	
		h_{FE2}	$V_{CE} = -4$ V, $I_C = -3$ A	15			
Base to emitter voltage		V_{BE}	$V_{CE} = -4$ V, $I_C = -3$ A			−2	V
Collector to emitter saturation voltage		$V_{CE(sat)}$	$I_C = -4$ A, $I_B = -0.4$ A			−1.5	V
Transition frequency		f_T	$V_{CE} = -10$ V, $I_C = -0.1$ A, f = 10 MHz		30		MHz
Turn-on time		t_{on}	$I_C = -4$ A, $I_{B1} = -0.4$ A, $I_{B2} = 0.4$ A		0.2		μs
Storage time		t_{stg}			0.5		μs
Fall time		t_f			0.2		μs

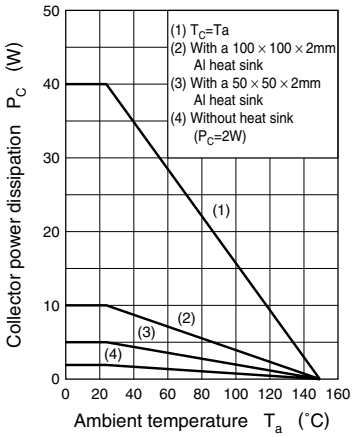
Note) *: Rank classification

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

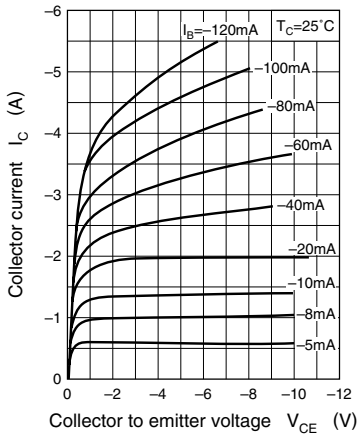
Ordering can be made by the common rank (PQ rank h_{FE1} = 70 to 250) in the rank classification.

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

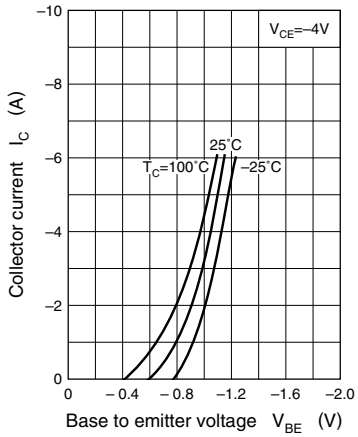
P_C — T_a



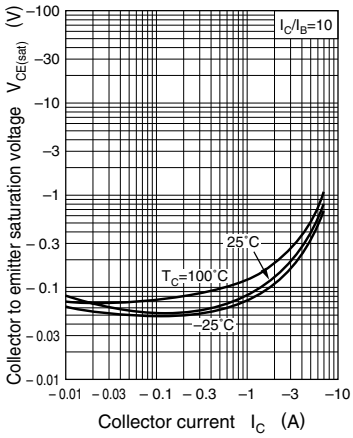
I_C — V_{CE}



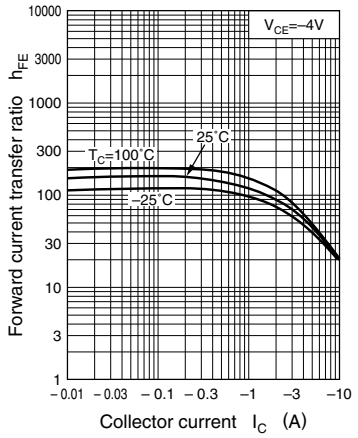
I_C — V_{BE}



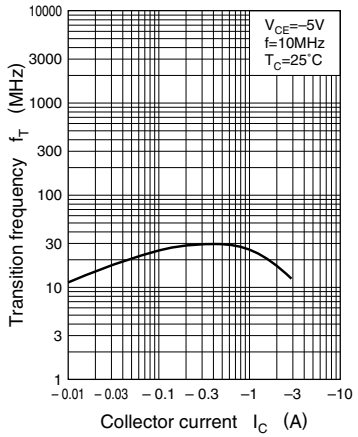
$V_{CE(sat)}$ — I_C



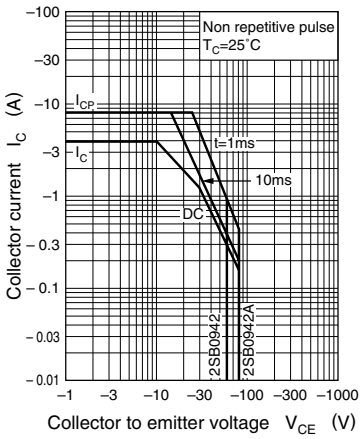
h_{FE} — I_C



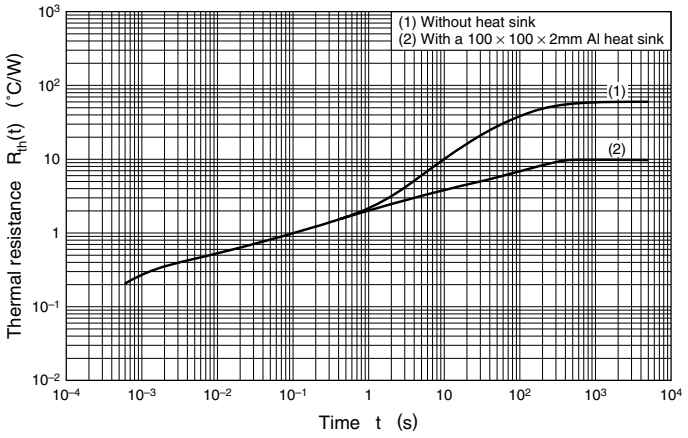
f_T — I_C



Area of safe operation (ASO)



$R_{th(t)}$ — t



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