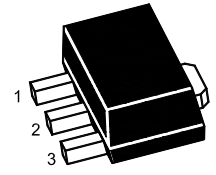


2SB1386U

PNP Silicon Epitaxial Planar Transistor

Low frequency transistor



1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

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

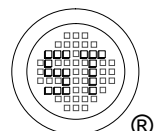
Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{\text{CBO}}$	30	V
Collector Emitter Voltage	$-V_{\text{CEO}}$	20	V
Emitter Base Voltage	$-V_{\text{EBO}}$	6	V
Collector Current - DC	$-I_{\text{C}}$	5	A
Collector Current - Pulse ¹⁾	$-I_{\text{CP}}$	10	A
Collector Power Dissipation	P_{C}	0.5 2 ²⁾	W
Junction Temperature	T_{j}	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ Single pulse, $P_{\text{w}} = 10$ ms.

²⁾ When mounted on a 40 x 40 x 0.7 mm ceramic board.

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{\text{CE}} = 2$ V, $-I_{\text{C}} = 500$ mA	Current Gain Group P Q R	h_{FE}	82	180	-
		h_{FE}	120	270	-
		h_{FE}	180	390	-
Collector Base Cutoff Current at $-V_{\text{CB}} = 20$ V	$-I_{\text{CBO}}$	-	-	500	nA
Emitter Base Cutoff Current at $-V_{\text{EB}} = 5$ V	$-I_{\text{EBO}}$	-	-	500	nA
Collector Base Breakdown Voltage at $-I_{\text{C}} = 50$ μA	$-V_{(\text{BR})\text{CBO}}$	30	-	-	V
Collector Emitter Breakdown Voltage at $-I_{\text{C}} = 1$ mA	$-V_{(\text{BR})\text{CEO}}$	20	-	-	V
Emitter Base Breakdown Voltage at $-I_{\text{E}} = 50$ μA	$-V_{(\text{BR})\text{EBO}}$	6	-	-	V
Collector Emitter Saturation Voltage at $-I_{\text{C}} = 4$ A, $-I_{\text{B}} = 100$ mA	$-V_{\text{CE(sat)}}$	-	-	1	V
Transition Frequency at $-V_{\text{CE}} = 6$ V, $I_{\text{E}} = 50$ mA, $f = 100$ MHz	f_{T}	-	120	-	MHz
Output Capacitance at $-V_{\text{CB}} = 20$ V, $I_{\text{E}} = 0$, $f = 1$ MHz	C_{ob}	-	60	-	pF



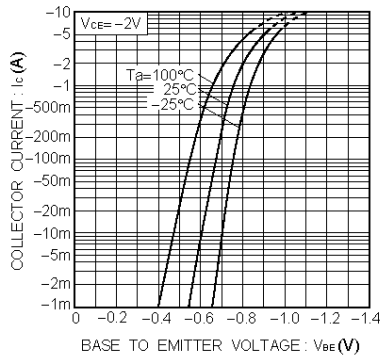


Fig.1 Grounded emitter propagation characteristics

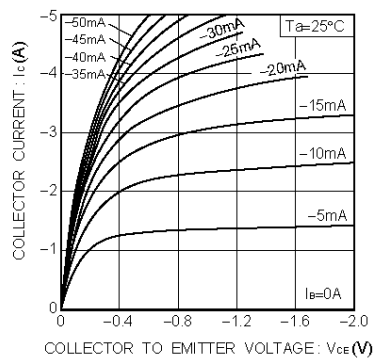


Fig.2 Grounded emitter output characteristics

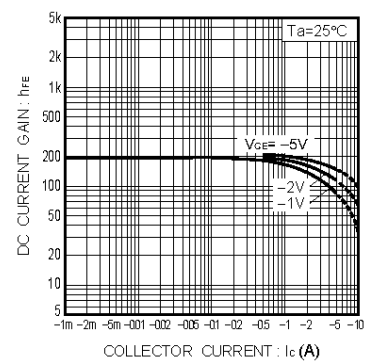


Fig.3 DC current gain vs. collector current (I)

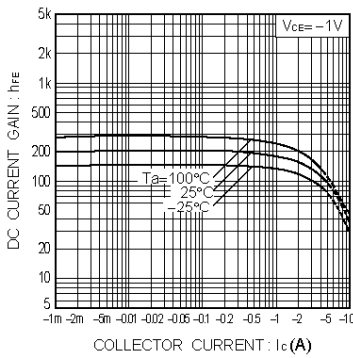


Fig.4 DC current gain vs. collector current (II)

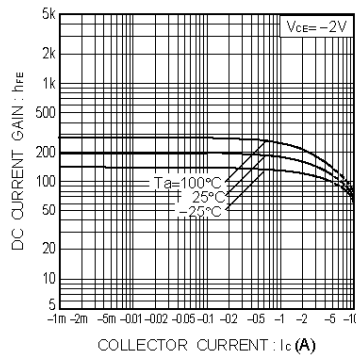


Fig.5 DC current gain vs. collector current (III)

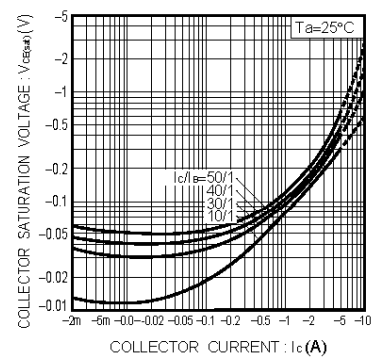


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

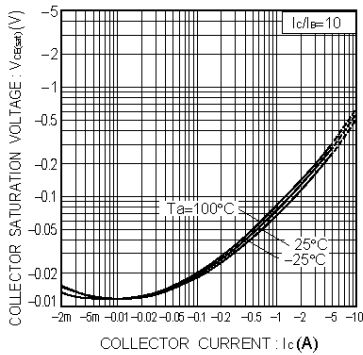


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

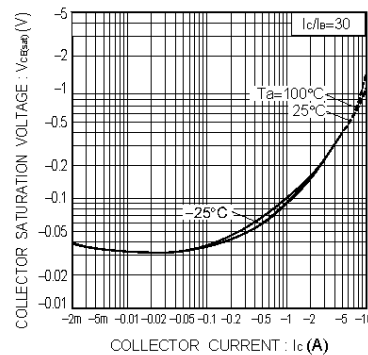


Fig.8 Collector-emitter saturation voltage vs. collector current (III)

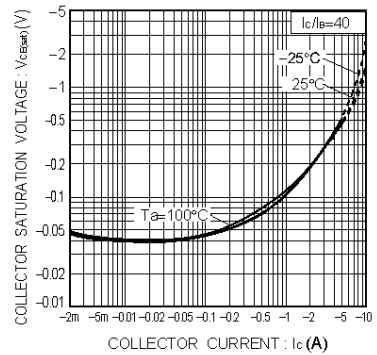
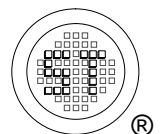


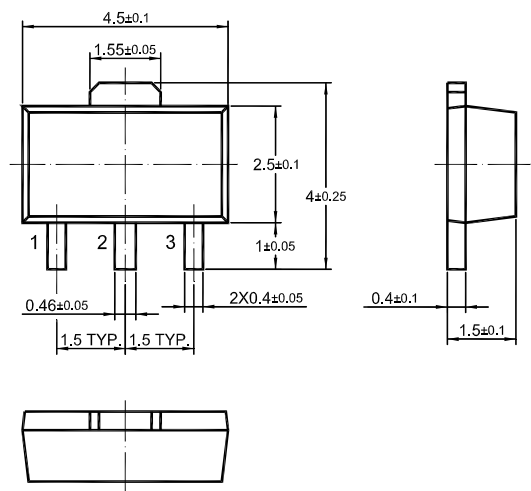
Fig.9 Collector-emitter saturation voltage vs. collector current (IV)



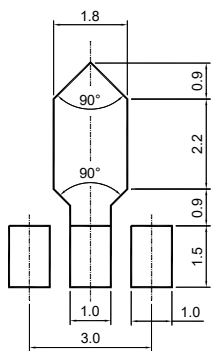
2SB1386U

Package Outline (Dimensions in mm)

SOT-89



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-89	12	8 ± 0.1	0.315 ± 0.004	178	7	1,000
				330	13	4,000

Marking information

" 2SD1386*U " = Part No. (" ** " = HFE grouping Code)

"YM" = Date Code Marking

"Y" = Year

"M" = Month

Font type: Arial

