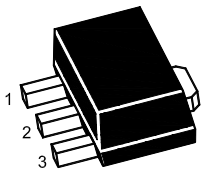
ST 2SB1386U

PNP Silicon Epitaxial Planar Transistor

Low frequency transistor



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

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	30	V
Collector Emitter Voltage	$-V_{CEO}$	20	V
Emitter Base Voltage	$-V_{EBO}$	6	V
Collector Current - DC Collector Current - Pulse [1]	$-I_C$ $-I_{CP}$	5 10	A
Collector Power Dissipation	P_C	0.5 2	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_S	- 55 to + 150	°C

[1] Single pulse, P_W = 10 ms.
[2] When mounted on a 40 X 40 X 0.7 mm ceramic board.

Characteristics at T_a = 25 °C

Parameter			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 2 V, $-I_C$ = 500 mA	Current Gain Group	P Q R	h_{FE} h_{FE} h_{FE}	82 120 180	- - -	180 270 390	- - -
Collector Base Cutoff Current at $-V_{CB}$ = 20 V			$-I_{CBO}$	-	-	0.5	µA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V			$-I_{EBO}$	-	-	0.5	µA
Collector Base Breakdown Voltage at $-I_C$ = 50 µA			$-V_{(BR)CBO}$	30	-	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 1 mA			$-V_{(BR)CEO}$	20	-	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 50 µA			$-V_{(BR)EBO}$	6	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 4 A, $-I_B$ = 100 mA			$-V_{CE(sat)}$	-	-	1	V
Transition Frequency at $-V_{CE}$ = 6 V, I_E = 50 mA, f = 100 MHz			f_T	-	120	-	MHz
Output Capacitance at $-V_{CB}$ = 20 V, I_E = 0, f = 1 MHz			C_{ob}	-	60	-	pF

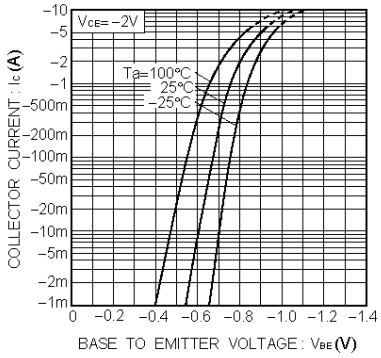


Fig.1 Grounded emitter propagation characteristics

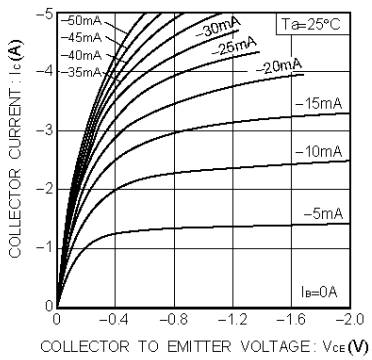


Fig.2 Grounded emitter output characteristics

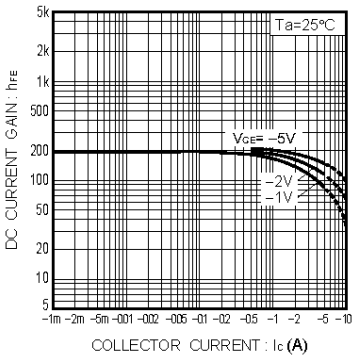


Fig.3 DC current gain vs. collector current (Ⅰ)

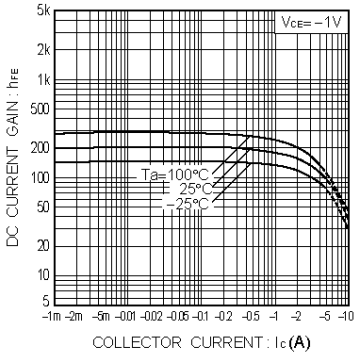


Fig.4 DC current gain vs. collector current (Ⅱ)

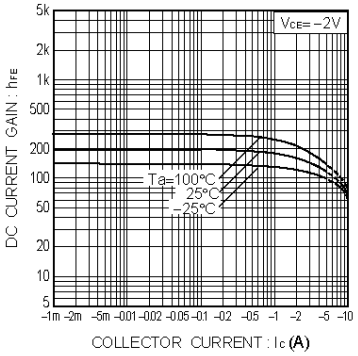


Fig.5 DC current gain vs. collector current (Ⅲ)

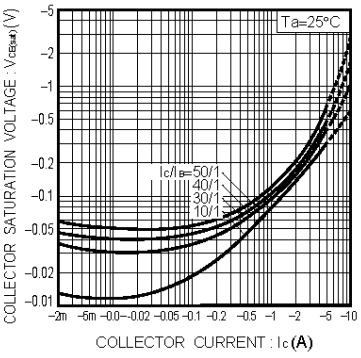


Fig.6 Collector-emitter saturation voltage vs. collector current (Ⅰ)

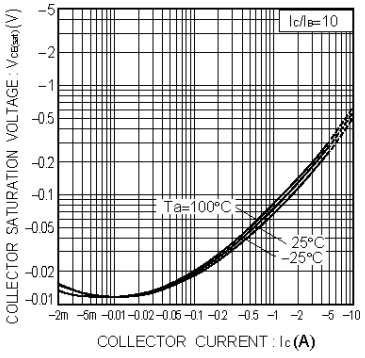


Fig.7 Collector-emitter saturation voltage vs. collector current (Ⅱ)

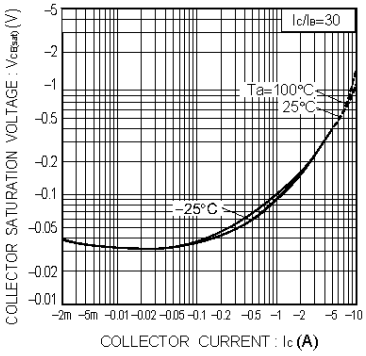


Fig.8 Collector-emitter saturation voltage vs. collector current (Ⅲ)

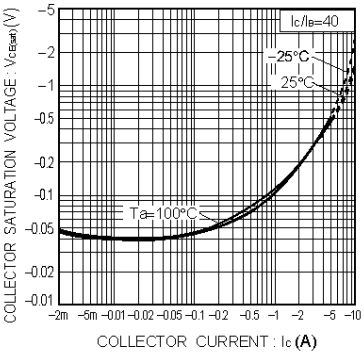
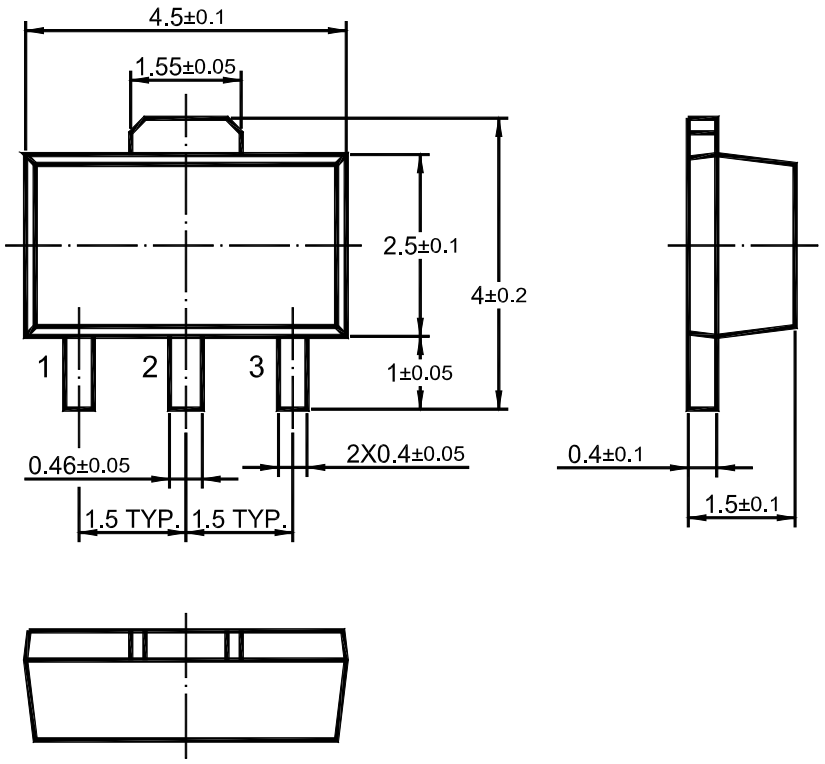


Fig.9 Collector-emitter saturation voltage vs. collector current (Ⅳ)

SOT-89 PACKAGE OUTLINE



Dimensions in mm