

PNP Epitaxial Silicon Transistor

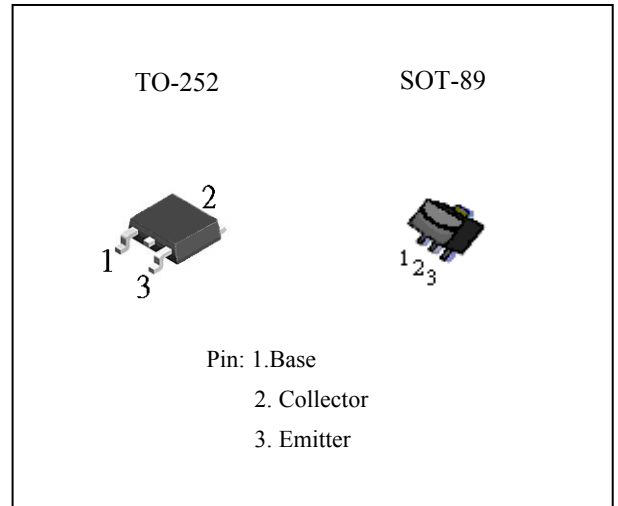
The PJB1386 is an epitaxial planar type PNP silicon transistor

FEATURES

- Excellent DC current gain characteristics
- Low $V_{CE(sat)}$
 $V_{CE(sat)} = -0.35V$ (Typ)
 $(I_C/I_B = -4A/-0.1A)$

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ C$)

- * 1. Single pulse, $P_w = 10ms$
- * 2. When mounted on a $40*40*0.7$ mm ceramic board.
 $(T_a = 25^\circ C, \text{ unless otherwise specified})$



Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CEO}	-20	V
Emitter-Bias Voltage	V_{EBO}	-6	V
Collector Current (DC)	I_C	-5	A
Collector Current (Pulse)*1	I_{CP}	-10	A
Collector Dissipation ($T_a = 25^\circ C$)	P_C	0.5	W
Collector Dissipation ($T_a = 25^\circ C$)*2	P_C	2	W
Junction Temperature	T_j	-	$^\circ C$
Storage Temperature	T_{STG}	-55~+150	$^\circ C$

ORDERING INFORMATION

Device	Operating Temperature	Package
PJB1386CY	0 $^\circ C$ ~ +70 $^\circ C$	SOT-89
PJB1386CP		TO-252

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

Characteristics	Symbol	Test condition	Min	Typ	Max	Unit
Collector base breakdown voltage	BV_{CBO}	$I_C = -50 \mu A$	-30	-	-	V
Collector emitter breakdown voltage	BV_{CEO}	$I_C = -1mA$	-20	-	-	V
Emitter base breakdown voltage	BV_{EBO}	$I_E = -50 \mu A$	-6	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = -20V$	-	-	-0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5V$	-	-	-0.5	μA
DC current transfer ratio	h_{FE}	$V_{CE} = -2V, I_C = -0.5A$	82	-	390	-
Current-emitter saturation voltage	$V_{CE(sat)}$	$I_C/I_B = -4A/-0.1A$	-	-	-0.1	V
Transition frequency	f_T	$V_{CE} = -6V, I_E = 50mA, f = 30MHz$	-	120	-	MHz
Output capacitance	C_{ob}	$V_{CB} = -20V, I_E = 0A, f = 1MHz$	-	60	-	pF

CLASSIFICATION OF h_{FE}

RANK	P	Q	R
RANGE	82-180	120-270	180-390

ELECTRICAL CHARACTERISTICS CURVES

Figure 1. Grounded Emitter Propagation Characteristics

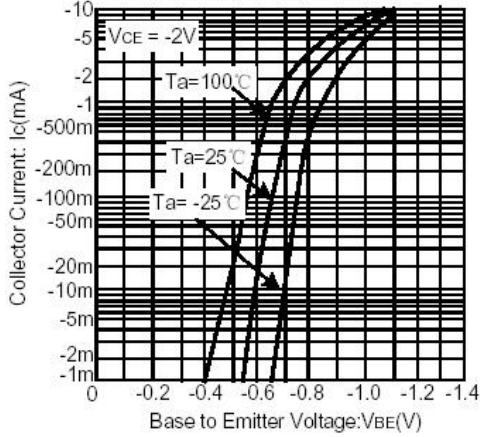


Figure 4. DC Current Gain vs. Collector Current (II)

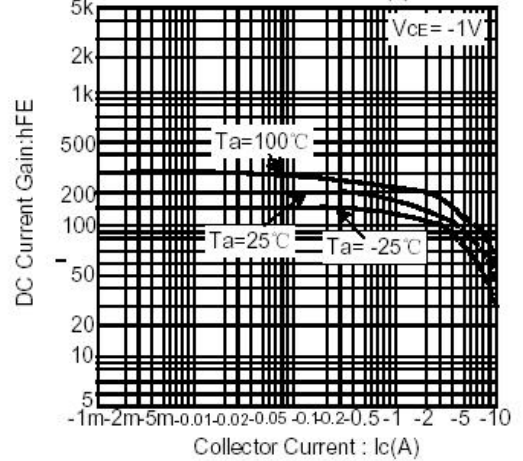


Figure 2. Grounded Emitter Output Characteristics

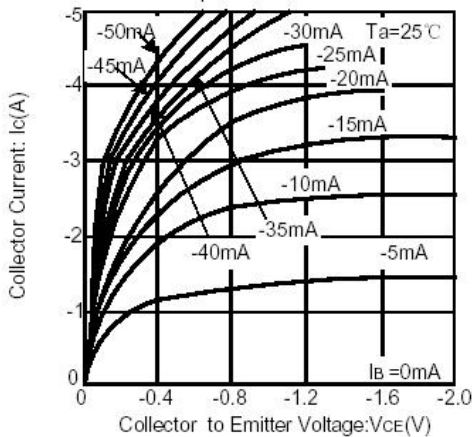


Figure 5. DC Current Gain vs. Collector Current (III)

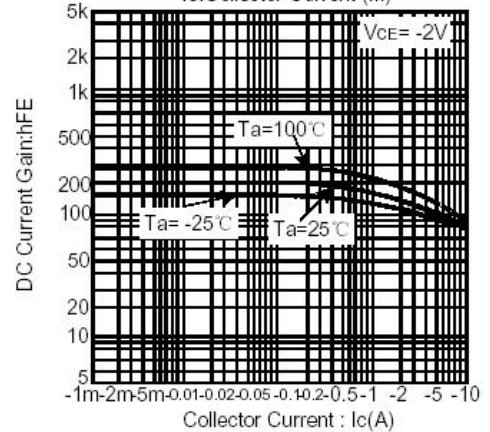


Figure 3. DC Current Gain vs. Collector Current (I)

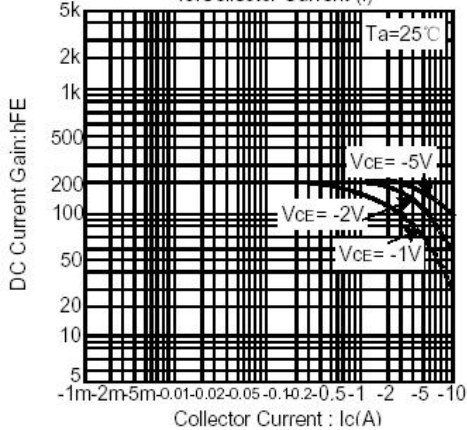
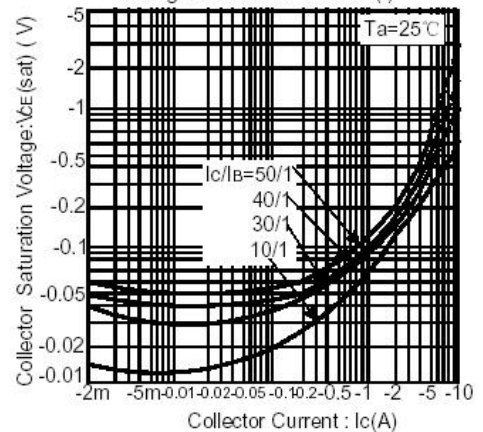


Figure 6. Collector-emitter Saturation Voltage vs. Collector Current (I)



ELECTRICAL CHARACTERISTICS CURVES

Figure 7. Collector-emitter Saturation Voltage vs. Collector Current (II)

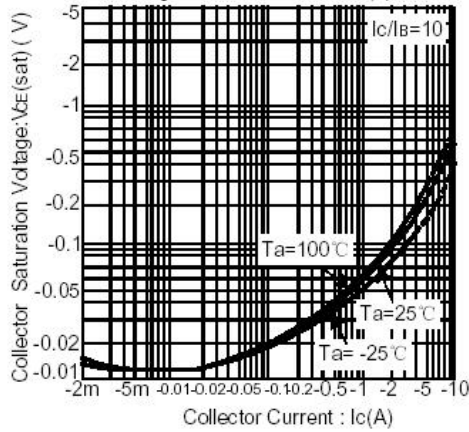


Figure 11 Gain Bandwidth Product vs. Emitter Current

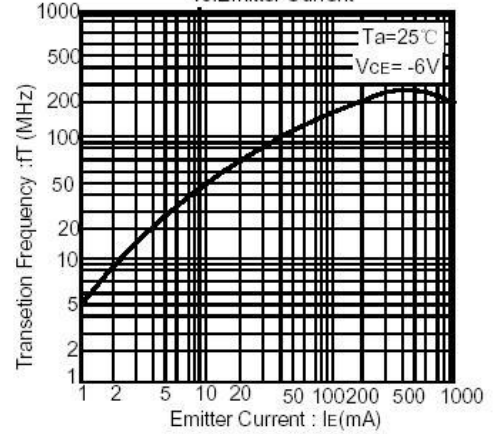


Figure 8. Collector-emitter Saturation Voltage vs. Collector Current (III)

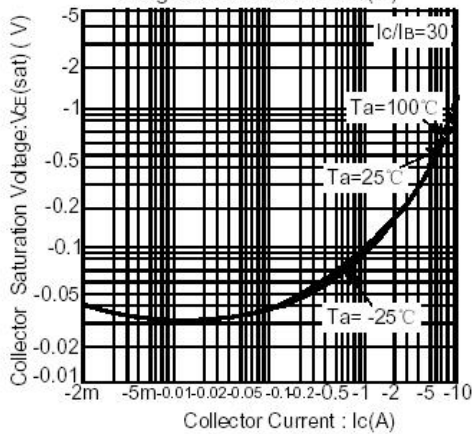


Figure 12. Collector Output Capacitance vs. Collector-Base Voltage

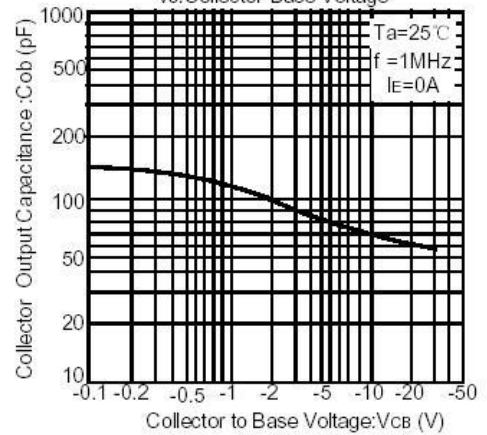


Figure 9. Collector-emitter Saturation Voltage vs. Collector Current (IV)

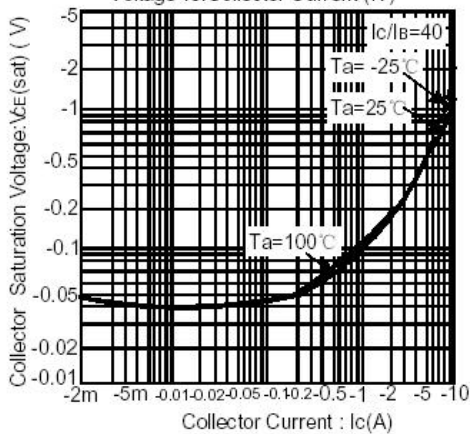
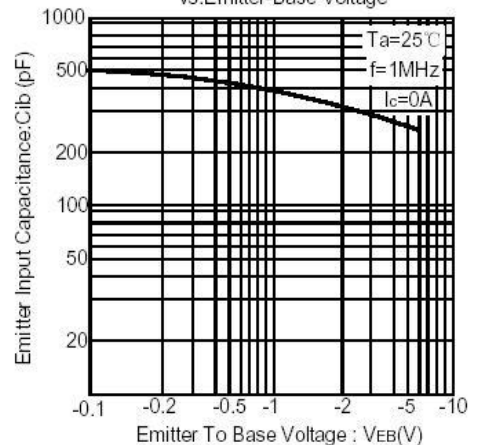
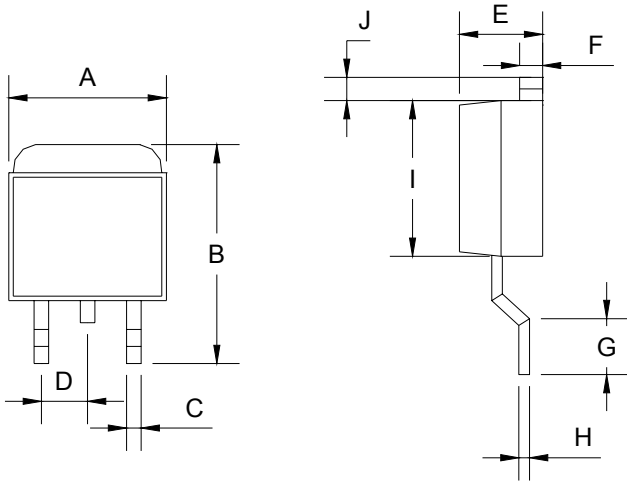


Figure 13. Emitter Input Capacitance vs. Emitter-Base Voltage

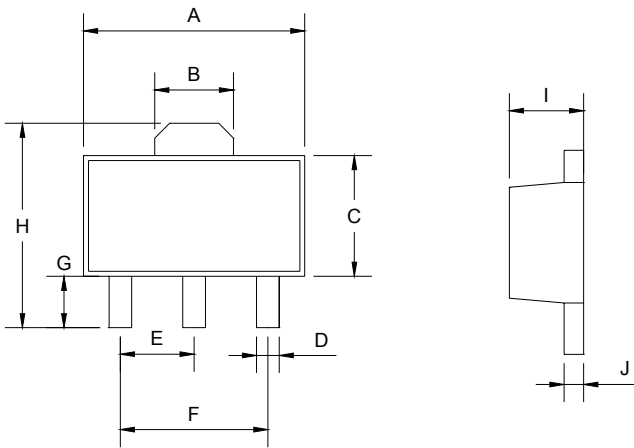


TO-252 Unit : mm



TO-252 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	6.57	6.84	0.259	0.269
B	9.25	10.40	0.364	0.409
C	0.62	0.76	0.024	0.030
D	2.56	2.67	0.101	0.105
E	2.30	2.39	0.090	0.094
F	0.49	0.57	0.019	0.022
G	1.46	1.58	0.057	0.062
H	0.52	0.57	0.020	0.022
I	5.34	5.55	0.210	0.219
J	1.46	1.64	0.057	0.065

TO-89 Unit : mm



SOT-89 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.4	4.6	0.173	0.181
B	1.5	1.7	0.059	0.070
C	2.30	2.60	0.090	0.102
D	0.40	0.52	0.016	0.020
E	1.50	1.50	0.059	0.059
F	3.00	3.00	0.118	0.118
G	0.89	1.20	0.035	0.047
H	4.05	4.25	0.159	0.167
I	1.4	1.6	0.055	0.063
J	0.35	0.44	0.014	0.017