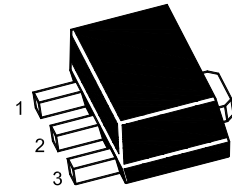


2SB350U

PNP Silicon Epitaxial Planar Transistor



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

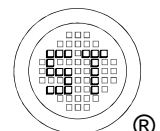
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CB0}$	50	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current Continuous	$-I_C$	3	A
Peak Pulse Current	$-I_{CM}$	5	A
Base Current	$-I_B$	0.5	A
Power Dissipation ¹⁾	P_{tot}	1	W
Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	125	$^\circ\text{C/W}$

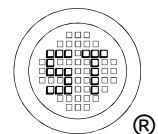
¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate.



2SB350U

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at $-V_{CE} = 2\text{ V}$, $-I_C = 0.1\text{ A}$	h_{FE}	200	-	-
at $-V_{CE} = 2\text{ V}$, $-I_C = 0.5\text{ A}$	h_{FE}	200	-	-
at $-V_{CE} = 2\text{ V}$, $-I_C = 1\text{ A}$	h_{FE}	200	450	-
at $-V_{CE} = 2\text{ V}$, $-I_C = 2\text{ A}$	h_{FE}	130	-	-
at $-V_{CE} = 2\text{ V}$, $-I_C = 3\text{ A}$	h_{FE}	80	-	-
Collector Base Cutoff Current at $-V_{CB} = 50\text{ V}$	$-I_{CBO}$	-	100	nA
Collector Base Cutoff Current at $-V_{CB} = 50\text{ V}$, $T_A = 150^\circ\text{C}$	$-I_{CBO}$	-	50	μA
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	100	nA
Collector Emitter Cutoff Current at $-V_{CE} = 50\text{ V}$	$-I_{CES}$	-	100	nA
Collector Base Breakdown Voltage at $-I_C = 100\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	50	-	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	$-V_{(BR)CEO}$	50	-	V
Emitter Base Breakdown Voltage at $-I_E = 100\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage				
at $-I_C = 0.5\text{ A}$, $-I_B = 50\text{ mA}$	$-V_{CE(SAT)}$	-	90	mV
at $-I_C = 1\text{ A}$, $-I_B = 50\text{ mA}$		-	180	
at $-I_C = 2\text{ A}$, $-I_B = 100\text{ mA}$		-	320	
at $-I_C = 2\text{ A}$, $-I_B = 200\text{ mA}$		-	270	
at $-I_C = 3\text{ A}$, $-I_B = 300\text{ mA}$		-	390	
Base Emitter Saturation Voltage				
at $-I_C = 2\text{ A}$, $-I_B = 100\text{ mA}$	$-V_{BE(SAT)}$	-	1.1	V
at $-I_C = 3\text{ A}$, $-I_B = 300\text{ mA}$		-	1.2	
Base Emitter Turn-on Voltage at $-V_{CE} = 2\text{ V}$, $-I_C = 1\text{ A}$	$-V_{BE(ON)}$	-	1.1	V
Gain Bandwidth Product at $-V_{CE} = 5\text{ V}$, $-I_C = 100\text{ mA}$, $f = 100\text{ MHz}$	f_T	100	-	MHz
Output Capacitance at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{obo}	-	35	pF



2SB350U

Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

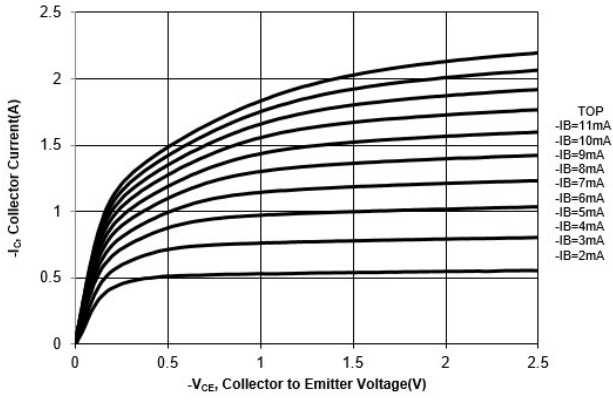


Fig. 2 Output Characteristics Curve

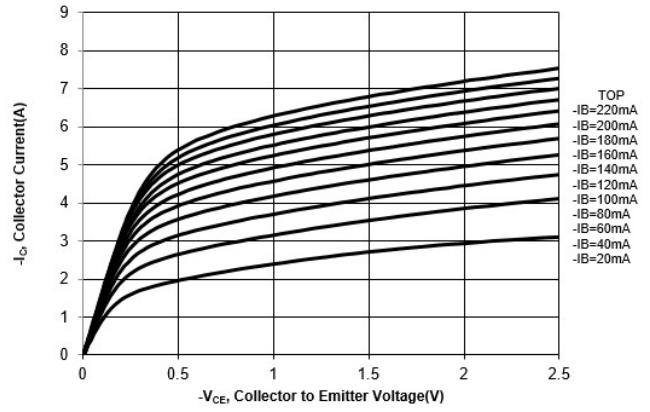


Fig. 3 Base to Emitter Voltage vs. Collector Current

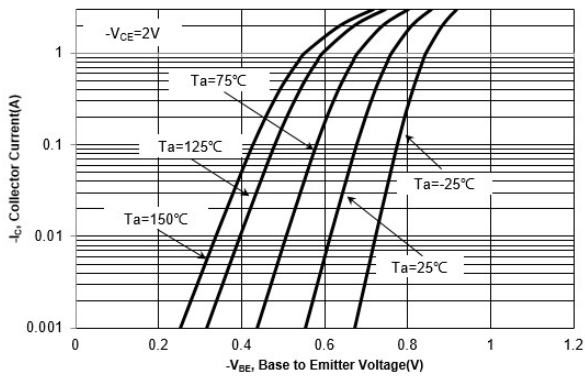
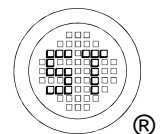
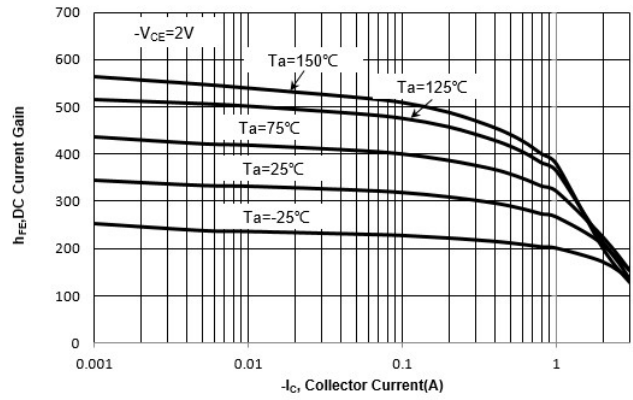


Fig. 4 $h_{FE,DC}$ Current Gain vs. Collector Current



2SB350U

Electrical Characteristics Curves

Fig. 5 $V_{BE(sat)}$ vs. Collector Current

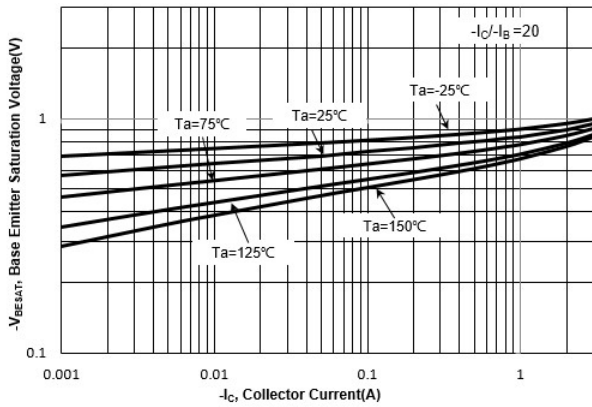


Fig. 6 $V_{CE(sat)}$ vs. Collector Current

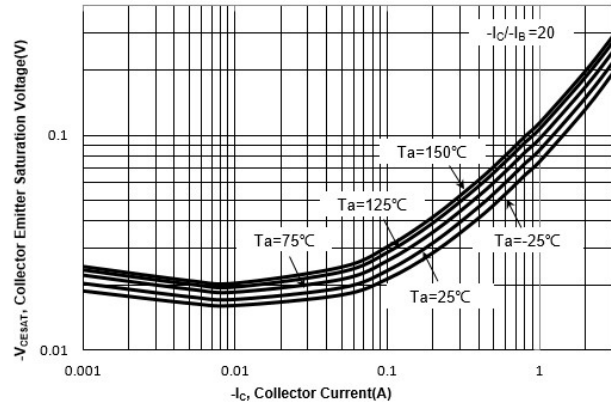


Fig. 7 Junction Capacitance

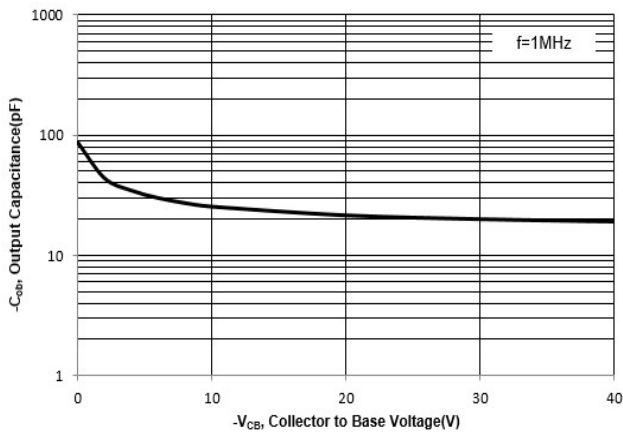
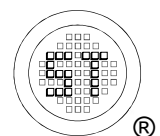
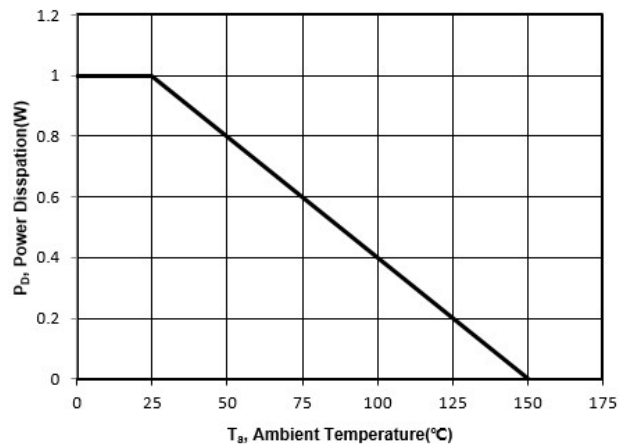


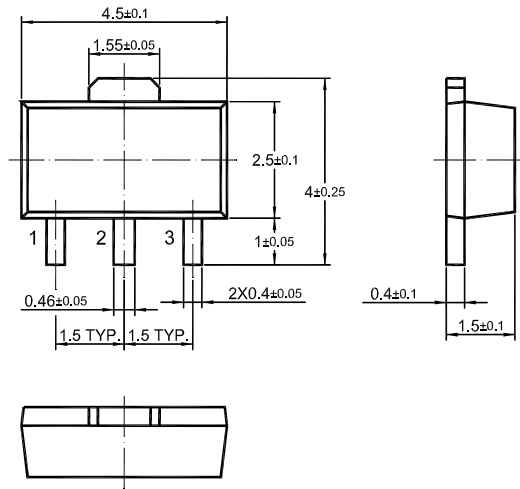
Fig. 8 Power Derating Curve



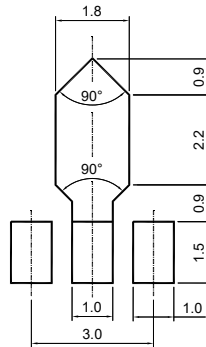
2SB350U

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

"2SB350U" = Part No.

"YM" = Date Code Marking

"Y" = Year

"M" = Month

Font type: Arial

